TORRES STRAIT SCIENTIFIC ADVISORY COMMITTEE	**Meeting 45** **17 -18 June 2008**
TS FISHERY OVERVIEWS **Fisheries Management in the Torres Strait**	Agenda Item No. 2.1 **FOR NOTING**

RECOMMENDATION

2.1.1 The TSSAC **NOTE** the consultative framework for managing Torres Strait Fisheries.

BACKGROUND

PZJA consultative structure

The jurisdiction and management framework for commercial and traditional fishing in the Torres Strait is governed by the provisions of the Torres Strait Treaty, ratified in 1985, between Australia and PNG and the Torres Strait Fisheries Act 1984 (TSFA). This Treaty describes an area in the Torres Strait known as the Torres Strait Protected Zone (TSPZ). The principal purpose in establishing the TSPZ was to acknowledge and protect the traditional way of life and livelihood of the traditional inhabitants of the area, including their traditional fishing and traditional right of free movement between the two countries.

One of the main objectives of management in the Torres Strait fisheries is to reserve expansion of effort in each fishery for traditional inhabitants. When the current management arrangements for PZJA fisheries first came into place, transferable licences were granted to persons who were able to demonstrate the required prior history and commitment to fishing in Torres Strait. This led to transferable licences being granted principally to non-traditional inhabitants (TVH sector), and a smaller number of traditional inhabitants who operated larger vessels that were required to have a licence. Since then very few new licences have been granted to non-traditional inhabitants to fish, and in most fisheries the number of transferable licences have reduced.

Traditional inhabitants (TIB sector) who fished from small boats were able to continue to fish commercially (community fishing) without a licence in the tropical rock lobster, Spanish mackerel, and pearl shell fisheries, while Queensland granted community fishing licences to Community councils for the finfish, beche-de-mer and crab fisheries.

The Protected Zone Joint Authority (PZJA), established under the Torres Strait Fisheries Act 1984, is responsible for the management of PZJA fisheries. Its membership consists of the Commonwealth and Queensland Ministers responsible for fisheries and the chair of the Torres Strait Regional Authority (TSRA). To assist in the management of these fisheries, the PZJA has established a structure of advisory bodies with industry, traditional inhabitants and government representatives (Fig. 1).

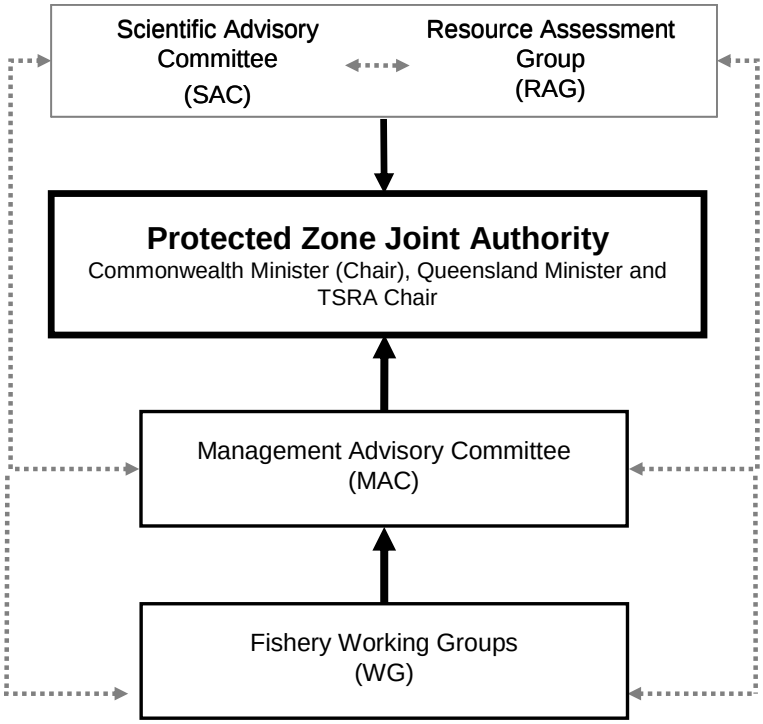

Fig. 1. The consultative structure of the Torres Strait Protected Zone Joint Authority and relevant advisory committees and working groups.

Catch reporting

Logbook reporting in the TSPZ for prawn, tropical rock lobster, Spanish mackerel and finfish fisheries is compulsory for most TVH endorsed operators where it is likely to be condition of the licence to complete a logbook. The exception to the rule is for licence holders operating a from a primary boat less than 7 metres in length. There are no compulsory reporting requirements for TIB fishers operating in vessels less than 7m in length.

In late 2003, a new docket book was introduced to Torres Strait seafood buyers and processors in an attempt to improve catch and effort data for the TIB sector for day-to-day fisheries management in Torres Strait. The Torres Strait Seafood Buyers and Processors Docket Book – TDB01 are basically modified receipt books that are used by seafood buyers to replace existing receipt/tax invoice paperwork.

Catch sharing with PNG

The Torres Strait Treaty recognises the rights of Australia and PNG to the commercial fisheries of the TSPZ. This recognition is implemented via the catch sharing provisions of Article 23 of the Treaty. Australia and PNG have agreed to share catches by apportioning fishing effort to the other country to provide the other country with the capacity to harvest its share of the allowable catch.

DISCUSSION

Members of the TSSAC should note the consultative framework for managing Torres Strait Fisheries, and in particular, how the TSSAC fits within this framework.

FINANCIAL IMPLICATIONS

Nil.

TORRES STRAIT SCIENTIFIC ADVISORY COMMITTEE	**Meeting 45** **17 -18 June 2008**
TS FISHERY OVERVIEWS **Tropical Rock Lobster Fishery**	Agenda Item No. 2.2 **FOR NOTING**

RECOMMENDATION

2.2.1 The TSSAC **NOTE** the overview provided on the current management arrangements and stock status of the Torres Strait Tropical Rock Lobster Fishery.

BACKGROUND

The commercial tropical rock lobster fishery in the Torres Strait began in the late 1960s. Torres Strait traditional inhabitants fish with smaller dinghies usually on day trips while a small fleet of predominantly non-traditional inhabitant freezer boats travel to the fishing grounds on trips lasting from a few days to several weeks. The tropical (or ornate) rock lobster (*Panulirus ornatus*) forms the basis of the Torres Strait commercial fishery. Lobsters from the Torres Strait stock are also fished in the Papua New Guinea area of jurisdiction in Torres Strait and to the north-east around Yule Island. The southern extension of the stock is fished commercially off the northeast Queensland coast as far south as 14°S.

In the Australian area of jurisdiction, fishing by free diving starts in December after a two-month (October to November) closure to commercial fishing. In 2001, the legal minimum length of lobsters was increased from 100 mm to 115 mm tail length and from 80 to 90 mm carapace length to better protect pre-recruits and newly recruited lobsters that are still relatively small (and hence have not reached their full yield potential). A closure was introduced in the early 1990s to prevent fishing during October–November using hookah gear; the closure was applied to all methods of commercial fishing from 2002; and the hookah closure was extended to October–January (starting in December 2001).

The Torres Strait Tropical Rock Lobster Fishery is the second most valuable commercial fishery in the Torres Strait and is very important to many Torres Strait traditional inhabitants. The Protected Zone Joint Authority (PZJA) made a decision (PZJA 18.1.1) at its 18th meeting in July 2005 to reallocate access to the Tropical Rock Lobster fishery between the non-traditional and traditional inhabitant commercial fishing sectors. The PZJA also decided to introduce a formal Plan of Management and a quota management system for the lobster fishery (PZJA 18.4.2).

A tender process was conducted in 2007 to reduce effort in the Australian non-traditional inhabitant commercial sector and allocate a greater share of the fishery to traditional inhabitants and secure PNG 25% entitlement. The tender resulted in the surrender of 13 boat licences and 29 associated non-islander licence tenders equating to 30% of the Australian allocation. Five percent of the effort has been reallocated to the traditional inhabitants sector, and the remaining 25 per cent has been secured for PNG in line with catch sharing obligations under the Treaty. There are currently, in the Australian jurisdiction, 13 non-traditional inhabitant primary vessel licences with 34 tenders attached and 369 traditional inhabitant licences endorsed to take lobster.

During 2006-07 the stock assessment of the fishery was updated using the 2006 mid-year survey abundance indices and the latest commercial catch data. A TAC for the 2007 fishing season was estimated based on the preseason survey data collected in November 2006 and the harvest control rule that was agreed on by the TRL Resource Assessment Group (RAG). This assessment is the second re-assessment of the condition of the fishery using current information since size limits were increased, the fishing season was shortened by two months and the period when hookah is prohibited was extended by two months. The assessment found that the lobster fishery has generally met the recently recommended biological reference point, which is the spawning stock size associated with maximum sustainable yield (SMSY) being allowed to escape.

The fishery was also reassessed by the then Department of the Environment and Water Resources (DEW) in August 2007 for continued export approval of product from the TS TRL Fishery (Attachment 2.2A). On 23 November 2007 the TS TRL Fishery was declared a Wildlife Trade Operation (WTO) for three years, until 23 November 2010 subject to the conditions and recommendations developed by DEW (Attachment 2.2B).

A harvest strategy and a three stage procedure for setting the TAC have been in development over the last three years by the TRLRAG. Trials carried out over the last two years show an accuracy of 10-20%. The output control system in single cohort fisheries requires scientists to forecast the stock abundance of the next season accurately and to set a TAC accordingly for the sustainability of the fishery.

Australian catch landed during the 2007 season was 461 tonnes (live weight) with a value of ~$13.3million

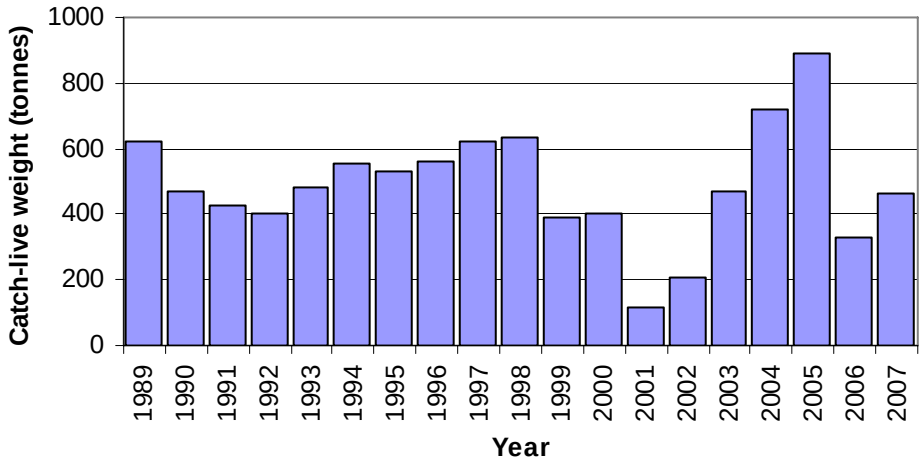

Fig 1. Catches of Tropical Rock Lobster (*Panulirus ornatus*) in the Torres Strait from 2001-07.

FINANCIAL IMPLICATIONS
Nil.

TORRES STRAIT SCIENTIFIC ADVISORY COMMITTEE	**Meeting 45** **17 -18 June 2008**
TS FISHERY OVERVIEWS **Prawn Fishery**	Agenda Item No. 2.3 **FOR NOTING**

RECOMMENDATION

2.3.1 The TSSAC **NOTE** the overview provided on the current management arrangements and stock status of the Torres Strait Prawn Fishery.

BACKGROUND

The Torres Strait Prawn Fishery is a multi-species prawn fishery (Endeavour, tiger and king prawns) that operates in the eastern part of the Torres Strait. This is the most valuable commercial fishery in the Strait with 1,145 tonnes of product valued at over $13 million taken in the 2007 fishing season.

Brown Tiger prawn (*Penaeus esculentus*) and the Blue Endeavour prawn (*Metapenaeus endeavouri*) are the key target species. The Red Spot King prawn (*Penaeus longistylus*) is essentially a by-product species. Prawn harvesting occurs at night, primarily using the otter trawl (quad) method which involves towing four trawl nets behind a vessel. The TSPF has restrictions on the type of gear and vessel that can be used during harvesting. Fishing is permitted in the TSPF from 1 March to 1 December each year and is limited by allocated fishing days.

Management arrangements

In 1993, the TSPF became an input controlled fishery that is regulated through limiting the number of fishing days per season. The initial effort cap for the fishery was 13,400 fishing days and each prawn trawler was allocated a limited number of days based on their catch history for the specified period, with an additional allocation for non-fishing time and breakdowns.

In November 2005, following scientific advice on the maximum sustainable effort level for the fishery, a total effort cap of 9,200 days was implemented via a 31.8% pro-rata effort reduction to TSPF entitlement holders reducing effective effort by 31.8%. Further, through a voluntary tender process, 2,333 fishing days and 16 licences were surrendered and held in trust to allow for PNGs catch sharing arrangements. Consequently, for the 2008 season, 6,867 fishing days are now available to Australian operators; 2,104 fishing days are available to PNG operators; and 263 days are held in trust by the Australian Government.

Access days can be transferred between operators in the fishery under conditions that facilitate the amalgamation of days and allow restructuring of the fleet.

Fishing days within the TSPF are regulated through an electronic Vessel Monitoring System (VMS). The VMS system contains an Automatic Location Communicator (ACL) which alerts the PZJA agencies to a vessel's movements and thus days when fishing operations are occurring. The information is transferred to a computer system that monitors the usage of allocated days by licensees. The Queensland Boating and

Fisheries Patrol (QB&FP) check all sightings of trawlers in the area of the fishery against this record.

The Prawn fishery is a cost recovered fishery. Cost recovery commenced on 1 July 1997 and was phased in over 3 years at 40 percent, 70 percent and 100 percent respectively.

Condition of the fishery: As of May 2008, there were 61 licences in the TSPF, of which 53 were active and 8 inactive (did not have a boat attached to it). There was a total allocation of 9,200 access days. If all of the allocated effort of 9,200 days in the fishery were utilised, the fishery would be considered fully exploited (E_{msy}). However, the fishery has historically operated at much less than the maximum effort allocated.

In the 2007 season, 66% of fishing days allocated to Australian operators were used, totaling around 5,253 of the available 7,965 days (N.B. 2,070 of the 9,200 days are reserved for PNG operators under catch sharing arrangements, however a number of these days were leased back to Australian operators for the 2007 season). The catch since 1999 has declined steadily from 2,200 to 1,145 tonnes in 2007 (Fig. 1).

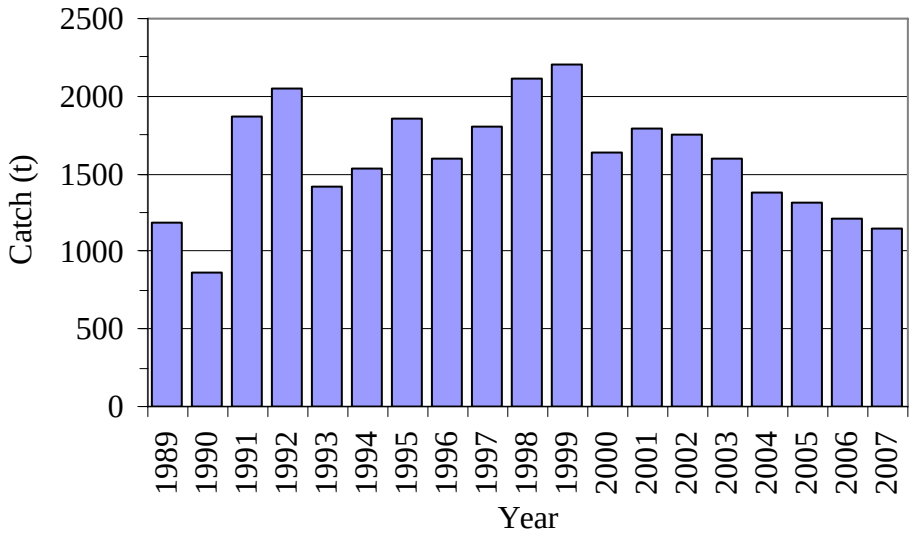

Fig. 1. Catches of prawn in the Torres Strait from 1989-2007.

Final catch data for the 2007 season (1 March to 1 December 2007) was as follows:

Prawn Species	**Tonnes**
Endeavour prawns	502
Tiger prawns	593
King prawns	49
Prawns (other)	5
Total	**1,145**

A By-catch Action Plan is in place for the Prawn Fishery. The primary aims of the Torres Strait Prawn Fishery By-catch Action Plan are to:

- eliminate to the greatest extent feasible, the catch of large animals such as turtles and stingrays; and

- reduce substantially the ratio of by-catch to prawns.

To achieve these aims, the By-catch Action Plan has adopted the following strategies:

- To modify fishing gear to minimise turtle and other bycatch;
- To ensure by-catch is monitored in the Torres Strait Prawn Fishery;
- To continue to make information regarding by-catch available to fishers and the community; and
- The BAP for the fishery is subject to periodic review.

Regulations currently in force in the Torres Strait Prawn Fishery include:

- closure of the entire fishery between 1 December and 1 March of the following year;
- possession ban for prawns in the entire fishery between 15 December and 1 March of the following year;
- closure of an area east of Warrior Reef between 1 March and 31 July each year;
- a permanent closure of the area west of Warrior Reef and an area around Murray and Darnley Islands;
- restrictions on the carriage of equipment in closures and through the Thursday Island-Cape York transit corridor;
- the compulsory carriage of a operational Vessel Monitoring System (VMS).
- restrictions on deployment of fishing gear for a limited period immediately before the opening and after the closure of the prawn fishery;
- restrictions on boat length, net length and size of mesh, and ground chain size;
- a requirement to submit logbooks and use of Turtle Excluder Devices and approved Bycatch Reduction Devices;
- limits on the quantity of byproduct including sharks, retained on board at any one time; plus,
- a prohibition on the take and retention of pearl shell and size restrictions on the take of morton bay bugs.

Management objectives

A plan of management is currently being developed for the Torres Strait Prawn Fishery and it is anticipated to be implemented before the 2009 season. Once the Plan has been determined, the following management objectives will be followed:

In addition to the objectives in the *Torres Strait Fisheries Act 1984*, the PZJA is to have regard to the following objectives for the TSPF:

Objective 1 Ensure the optimum utilisation of the fishery resources within the TSPF is consistent with the principles of ecologically sustainable development and the exercise of the precautionary principle.

Objective 2 Promote economic efficiency in the utilisation of the fisheries resources within the TSPF.

Objective 3 Ensure cooperative, efficient and cost effective management of the Fishery.

Objective 4 Manage the fishery's interaction with the marine environment including the incidental capture of non-target species and impacts on demersal habitats.

Under the EPBC Act, before the determination of a plan of management for a Torres Strait fishery can occur a strategic assessment must be undertaken and recommendations made by the Environment Minister must be considered. A re-assessment report for the Torres Strait Prawn Fishery (TSPF) was prepared by the Australian Fisheries Management Authority (AFMA) on behalf of the PZJA in November 2007 (Attachment 2.3A). The primary focus of the assessment was an evaluation of the proposed management arrangements in the prawn fishery, under a Plan of Management, against the *Guidelines for the ecologically sustainable management of fisheries*. Subsequently, DEWHA provided draft conditions and recommendations to AFMA on April 8, 2008 (Attachment 2.3B).

A harvest strategy is currently being developed for the fishery.

FINANCIAL IMPLICATIONS
Nil.

TORRES STRAIT SCIENTIFIC ADVISORY COMMITTEE	**Meeting 45** **17 -18 June 2008**
TS FISHERY OVERVIEWS **Finfish (Reef Line and Spanish Mackerel) Fisheries**	Agenda Item No. 2.4 **FOR NOTING**

RECOMMENDATION

2.4.1 The TSSAC **NOTE** the overview provided on the current management arrangements and stock status of the Torres Strait Finfish Fisheries.

BACKGROUND

The Torres Strait Finfish fishery is made up of a Spanish mackerel fishery and a Reef Line fishery. The fishery has recently undergone a restructure with a 100% buyout of all non-traditional inhabitant licences and reallocation of the fishery resource to TIB fishers and provision for entitlements for PNG under catch sharing arrangements. A plan of management including a TAC for Spanish mackerel and coral trout species is currently being developed. The TAC for both species will be set at average annual catch for the period 2001 – 2005.

Spanish mackerel Fishery

The Torres Strait Spanish mackerel fishery operates in the eastern Torres Strait, targeting the narrow-barred Spanish mackerel (*Scomberomorus commerson*) predominantly around Bramble Cay. The catch of Spanish mackerel in 2007 was approximately 94 tonnes (whole weight) (Fig. 1). The value of the 2007 catch was approximately $0.8 million. The quantity of mackerel taken for traditional purposes is also unknown.

Spanish mackerel are fished by trolling, generally from dories/dinghies operating either to a primary vessel or by themselves. The majority of the catch is taken by a small number of commercial operators. At 30 June 2007 there were 13 TVH-licensed primary vessels with 29 associated licensed tenders. Of these, six vessels reported catch in 2007. Spanish mackerel is generally not an important target species for Traditional Inhabitants, however there are a large number of Traditional Inhabitants who opportunistically take mackerel; there were 215 Traditional Inhabitant Boat (TIB) Licences current at 30 June 2007, however, only 28 fishers reported catch in the fishery.

Information available for the Torres Strait Spanish Mackerel Fishery indicates that the Spanish mackerel stock is fully exploited. While the catch has been relatively stable over a period of several decades a 2006 stock assessment indicated that the catch is likely near maximum sustainable levels.

Although the Spanish mackerel stocks in the Torres Strait were once thought to be migratory and to move between jurisdictions, more recent genetic evidence suggests that there is limited exchange between the Torres Strait and the Gulf of Carpentaria or Queensland east coast stocks.

The fishery underwent a strategic assessment process during 2005 and was formally declared a Wildlife Trade Operation in late November 2005 and will be reassessed in November 2008.

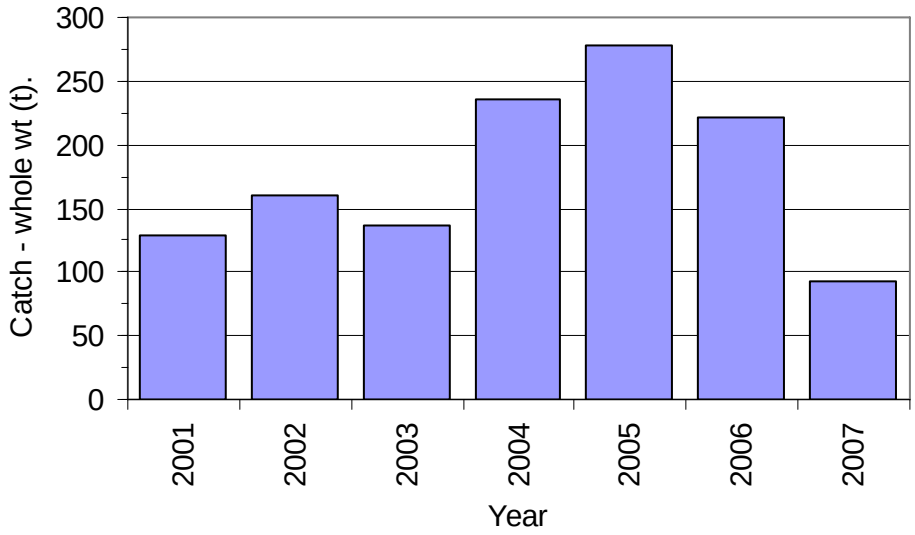

Fig. 1. Catches of Spanish Mackerel (*Scomberomorus commerson*) in the Torres Strait from 2001-07.

Reef Line Fishery

The Torres Strait Reef Line Fishery is a multi-species fishery targeting a range of reef fish species, primarily the highly valued coral trout (*Plectropomus* spp.), barramundi cod (*Cromileptes altivelis*), mixed reef fish (*Lutjanus* spp. and *Lethrinus* spp.), and numerous species of rock cods (*Epinephelus* spp.). Finfish are generally taken by hand lines.

The status of reef fish stocks in the TSPZ is uncertain at present. At 30 June 2007, there were six TVH-licensed primary vessels with 17 associated licensed tenders and 194 TIB Licences. However, during the 2007 season only four TVH operations and 47 TIB fishers reported catch in the fishery. However, as Traditional Inhabitants are not required to complete individual catch returns, information concerning the quantity of reef fish taken by Torres Strait Traditional Inhabitants under TIB licences, may be underestimated.

The level of Traditional Inhabitant commercial fishing in this fishery may increase in future due to the high value of the target species and the fact that this fishery provides an important economic development opportunity for Traditional Inhabitants in the eastern Torres Strait.

An unknown quantity of reef fish is also taken during the course of traditional fishing. The Torres Strait Reef Line Fishery is considered to be under exploited at the 2006 level of harvest.

Landings for coral trout 2007 is estimated at 46.6 tonnes, however this is a preliminary estimate given the voluntary nature of reporting for the TIB sector. Between 2001 and 2004 catches of coral trout were relatively stable at around 147

tonnes each year. Catches declined substantially since 2004 (Fig. 2), however, this should be considered in light of the numbers of vessels active in the fishery which has also declined. The 2007 season catch of coral trout had an estimated value of $0.75 million.

The current export approval (WTO) for the Reef Line Fishery expires on 25 November 2008. The fishery will be reassessed for export approval prior to this date.

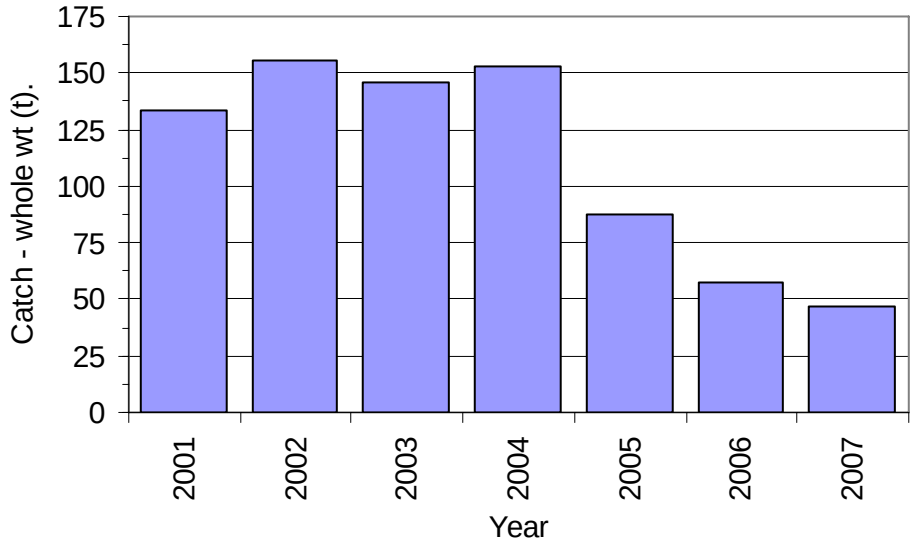

Fig. 2. Catches of Coral Trout (*Plectropomus* spp.) in the Torres Strait Reef Line Fishery from 2001-07.

Other

A barramundi (*Lates calcarifer*) fishery is provided for within the Torres Strait Finfish Fishery but is limited to the territorial waters adjacent to the six Australian islands in the north-west of the Torres Strait near the PNG coast: Saibai, Boigu, Moimi, Kaumag, Aubusi and Dauan. The barramundi fishery is only available for Traditional Inhabitant participation. Most of the fish taken in the communities are for subsistence and there are no records of commercial sales of this species outside of those few communities where barramundi occur.

FINANCIAL IMPLICATIONS

Nil.

TORRES STRAIT SCIENTIFIC ADVISORY COMMITTEE	**Meeting 45** **17 -18 June 2008**
TS FISHERY OVERVIEWS **Hand Collectable Fisheries**	Agenda Item No. 2.5 **FOR NOTING**

RECOMMENDATION

2.5.1 The TSSAC **NOTE** the overview provided on the current management arrangements and stock status of the Torres Strait Hand Collectable fisheries.

BACKGROUND

Torres Strait Hand Collectable Fisheries comprises trochus, beche-de-mer (sea cucumber), pearl, crab and sponge fisheries. The two largest fisheries, trochus and beche-de-mer had a combined GVP of $321,000 in 2005, are an important source of income for local Islander communities. Most Hand Collectable fisheries have been characterised by boom and bust cycles resulting from resource depletion or price fluctuations. Pearl, crab and sponge have had little fisheries activity over the past five years.

The first Torres Strait Hand Collectable Fisheries Working Group (TSHCWG) was held on the 11-12 October 2007. This working group was an opportunity for all representatives to discuss Hand Collectable Fisheries issues and prioritise research and management needs.

Trochus

The fishery for trochus in the Torres Strait is a small, single-species (*Trochus niloticus*) commercial fishery where the by-product (trochus meat) is valued and consumed by traditional inhabitants. The shell is used mainly for buttons, jewellery and fashion accessories sold in overseas markets. Activity in the fishery is largely as a result of changes in price stemming from overseas demand.

Participation in the fishery is restricted to traditional inhabitants. A minimum size limit of 80 mm and maximum size limit of 125 mm applies to commercial fishing. The total allowable catch (TAC) of trochus in the Torres Strait Protected Zone (TSPZ) is 150 t.

There is no stock assessment of trochus in Torres Strait, and its status is uncertain (Bureau of Rural Science, 2007). The Bureau of Rural Science and the Department of Environment Water Heritage and Arts have reported that the completion of sustainability assessments and analysis of the suitability of the 150 t TAC should be priorities for the future of this fishery.

The trochus fishery is currently operating under a Wildlife Trade Operation (WTO) accreditation enabling the export of product from the fishery, which will expire in November 2008. AFMA will submit a draft re-assessment report to DEWHA in early June 2008. DEWHA will provide AFMA with advice on the timing of the public consultation period shortly thereafter.

Bêche-de-mer

Activity in the Torres Strait bêche-de-mer fishery is understood to be relatively low. This is likely a consequence of zero TACs for three of the higher value species (sandfish, surf redfish and black teatfish), little market demand for lower-value species and the better profitability of alternate fisheries such as tropical rock lobster.

Participation in the bêche-de-mer fishery is limited to Torres Strait traditional inhabitants, with the exception of one long-term, non-traditional inhabitant who was active in the fishery before the April 1999 introduction of limited entry. Traditional fishers who wish to harvest bêche-de-mer commercially are required to hold a TIB licence.

Management measures include: hand collection only; a ban on using underwater breathing apparatus; minimum size limits; possession limits that apply to traditional fishing activities; and a boat-length limit of 7 m.

Sandfish (*Holothuria scabra*) have traditionally been a primary target species in the Torres Strait; however fishing pressure on these stocks caused a marked decline in numbers, resulting in a zero TAC for this species being introduced in 1998. Following the zero TAC for sandfish, fishers switched to the targeting of surf redfish (*Actinopyga mauritiana*, but most likely a mix of *Actinopyga species*) and black teatfish (*Holothuria whitmaei*), to the extent that TACs for these two species were set to zero in early 2003.

The most recent assessment of Torres Strait bêche-de-mer was published in 2006, based on survey data collected in 2004 and 2005 (Skewes et al., 2006). These surveys found that stocks of sandfish, surf redfish and black teatfish had not recovered. The density of sandfish had decreased, black teatfish were less abundant than stock levels in 2002, and no surf redfish were found during the 2005 survey. The assessment recommended maintaining zero TACs for these three species. Although there is zero recorded harvest of sandfish, black teatfish and surf redfish in docket books for 2007, the extent of illegal, unregulated or unreported (IUU) harvest of these stocks is unknown and so the stocks are also classified uncertain with regard to overfishing.

The bêche-de-mer fishery is currently operating under a Wildlife Trade Operation (WTO) accreditation enabling the export of product from the fishery, which will expire on 20 June 2008. AFMA submitted the draft re-assessment report to DEWHA in early April 2008 (Attachment 2.5A) and underwent a public consultation between 20 April and 21 May. DEWHA provided AFMA with recommendations for the successful submission of a WTO on the 26 May 2008 (Attachment 2.5B).

Pearl

The commercial take of Torres Strait pearl shell is relatively small with an annual harvest of less than 400 individual shells. The fishery focuses mainly on goldlip pearl shell (*Pinctada maxima*) and to a lessor extent, blacklip mother-of-pearl oyster (*P. margaritifera*). Shells are hand-collected by divers operating from dinghies on surface-supplied air, often while diving primarily for tropical rock lobster. The PZJA is responsible for management of pearl shell collection in the Torres Strait, while the farming of pearl shell is managed by the Queensland Government.

The pearling industry in Torres Strait has more than 100 years of history. After various market and stock related fluctuations and the development of pearl culture methods, the pearl-shell industry moved from purely wild capture production to the collection of live shells for farm use. The collection of live shells for farm use between 1990 and 1995 ranged from 13,000 to 39,000 shells.

Current management regulations require divers to harvest only live shells, and adhere to size limits of 130 mm minimum and 230 mm maximum for goldlip pearl oyster, and 90 mm minimum for blacklip pearl oyster. These measures aim to ensure that the most suitable shells are harvested for farming and that harvest practices afford some protection to young shells and spawning stocks. There is a ban on the taking of shell by any method other than collecting by hand.

There is no current stock assessment of Torres Strait pearl shell and the stock status remains uncertain although pearl abundance is reviewed in conjunction with annual tropical rock lobster surveys.

Crab

The fishery for crab in the Torres Strait is currently a small-scale community and traditional subsistence fishery that predominately targets mud crabs (*Scylla spp*.). Effort in the fishery is concentrated around the north-western section of Torres Strait; around Saibai, Boigu and Dauan islands; and further south around the northern tip of Cape York Peninsula. Regulations prohibit the commercial harvest or possession of female crabs; restrict the number of prescribed crab-apparatus units to less than 50; and prescribe a minimum size (carapace width) of 15 cm. These regulations do not apply to traditional fishing. There is no stock assessment of Torres Strait crab stocks and the status remains uncertain.

Sponge

A bath sponge aquaculture farm is in the final stages of implementation on Yorke Island. The aquaculture farm is to be owned and operated by the island community. The sponge that will be grown on Yorke Island in the initial stages is a *Coscinoderma* species. The farm will require a wild harvest of 500 sponges for the first two years of operation, after which sponges will be reseeded by farmed stocks. AFMA is in the process of granting a scientific permit for the initial wild harvest for a planned commencement in November 2008.

The PZJA is responsible for management of sponge collection in the Torres Strait, while the farming of sponge is managed by the Queensland Government. There is no record of a commercial sponge fishery in Torres Strait in the past.

FINACIAL IMPLICATIONS

Nil.

TORRES STRAIT SCIENTIFIC ADVISORY COMMITTEE	**Meeting 45** **17 -18 June 2008**
TS FISHERY OVERVIEWS **Traditional - Turtle and Dugong Fisheries**	Agenda Item No. 2.6 **FOR NOTING**

RECOMMENDATION

2.6.1 The TSSAC **NOTE** the overview provided on the current management arrangements and stock status of the Torres Strait Traditional (Turtle and Dugong) fisheries.

BACKGROUND

The turtle and dugong fisheries are traditional subsistence fisheries limited to Traditional Inhabitants of the Torres Strait and PNG Treaty villages. The current management arrangements for these fisheries exist under two Fisheries Management Notices and include:

- Restricted entry into the fishery (i.e. only Traditional Inhabitants can participate);
- Dugongs can only be hunted using a traditional spear (*wap*);
- Dugongs and turtles cannot be taken or carried in a commercially licensed fishing boat greater than 6 m in length (boats less than 6 m with a TIB licence are permitted to take and carry turtle and dugong).
- A dugong sanctuary in the south-western area of the Torres Strait where dugong hunting is prohibited.

In addition to the existing legislative arrangements, six draft community-based dugong and turtle management plans have been developed by Iama, Boigu, Mabuiag, Badu, Mer (Murray) and Erub (Darnley) Island communities as part of the NAILSMA funded project. These plans detail a range of management arrangements recommended by each community for the management of dugong and turtle fisheries and seek Australian and State agency endorsement and support for their implementation.

Recent meetings brought Government representatives, Scientists and Traditional Owners together to agree on future management arrangements to ensure the fisheries' sustainability. Representatives from the Department of Environment, Water, Heritage and the Arts (DEWHA), Australian Fisheries Management Authority, Torres Strait Regional Authority, Queensland Department of Primary Industries & Fisheries, Queensland Boating & Fisheries Patrol and James Cook University attended.

DISCUSSION

The population of dugongs in the Torres Strait has been estimated by aerial surveys conducted in 1987, 1991, 1996, 2001 and 2006. The most recent population estimate is 14,747 ± 2292. No current estimates exist for dugong harvest though monitoring has been undertaken in the past and in 2001 it was estimated that 619 ± 134 dugongs were caught by Traditional Inhabitants of the Torres Strait and PNG Treaty villages. These estimates, however, lack certainty due to the limitations of survey techniques and the reliability of harvest estimates.

There are no population estimates for turtle stocks in the Torres Strait however the monitoring of key turtle nesting sites in Queensland (e.g. Raine Island, Milman Island) has flagged concerns with respect to the green and hawksbill turtle populations. As a result there is growing awareness of the need to manage the traditional take of turtles and eggs to ensure their populations' long term viability. Like dugong catch, no current estimates of take exist for turtles either however the last monitoring program in 2001 estimated that 1,619 ± 574 turtles were caught by Traditional Inhabitants of the Torres Strait and PNG Treaty villages. Level of turtle egg harvest remains unknown.

Identified priorities for future management of the turtle and dugong fisheries include:

- Establishing baseline information on the status of the turtle populations within the Torres Strait;
- Establishing a catch monitoring program that monitors the catch of turtle and dugong, the collection of turtle eggs, the traditional use of these resources and the movement of meat to PNG and the Australian mainland; and
- Effort and catch reduction.

These priorities will be addressed through community-based management initiatives and the collaborative efforts of Traditional Owners, government and research institutions.

A strategic assessment (Attachment 2.6A) has been completed for the fishery and a submission is with the Minister for the Environment, Heritage and the Arts. Finalisation of this assessment has been delayed pending the development of a stronger framework that will support community-based management and ensure that adequate opportunities for funding are identified.

FINANCIAL IMPLICATIONS

Nil.