

Torres Strait Fisheries Management

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Introduction

The purpose of this address is to set out the management arrangements for fisheries resources in Torres Strait and the way in which those arrangements facilitate the sustainable development of those resources, whilst catering for the needs and desires of traditional inhabitants of the region.

The arrangements are extremely complex, reflecting not only the diverse participation in and dependence on those resources by local inhabitants, but also the involvement of State and Commonwealth Australian Governments and the international obligations of Australia in its border relationships with its close neighbour, Papua New Guinea.

Fisheries management arrangements now in place are governed by the provisions of a Treaty with Papua New Guinea ratified by both governments in February 1985, known as the Torres Strait Treaty (see Laffan, this volume). The fisheries themselves within Torres Strait gross some \$20-\$30 million per year, the prawn and crayfish (or tropical rock lobster) fisheries being the most valuable of those resources.

Three governments are involved in management of those resources:

- Australian Commonwealth;
- Queensland State;
- Papua New Guinea;

whilst four groups of fishermen use those resources, namely:

- Australian traditional inhabitants;
- Australian commercial fishermen;
- Papua New Guinea traditional fishermen;
- Papua New Guinea commercial fishermen.

Torres Strait Treaty

The Torres Strait Treaty has specific effects on management of fisheries in the region. The Treaty:

- defines an area called the Torres Strait Protected Zone (TSPZ) to be separately managed;
- allows for traditional fishing rights and free movement in the zone;
- defines commercial fishing rights but requires that those fisheries be managed in a way which will protect the traditional way of life;
- defines seabed jurisdiction between the two countries, Australia and Papua New Guinea, and;
- defines the fisheries jurisdiction between the two countries.

The Treaty also provides for the concept of "Outside but Near Areas" to enable management arrangements to apply to fisheries resources which are distributed beyond the limits of the Protected Zone.

These characteristics are detailed on the map on the following page. Note:

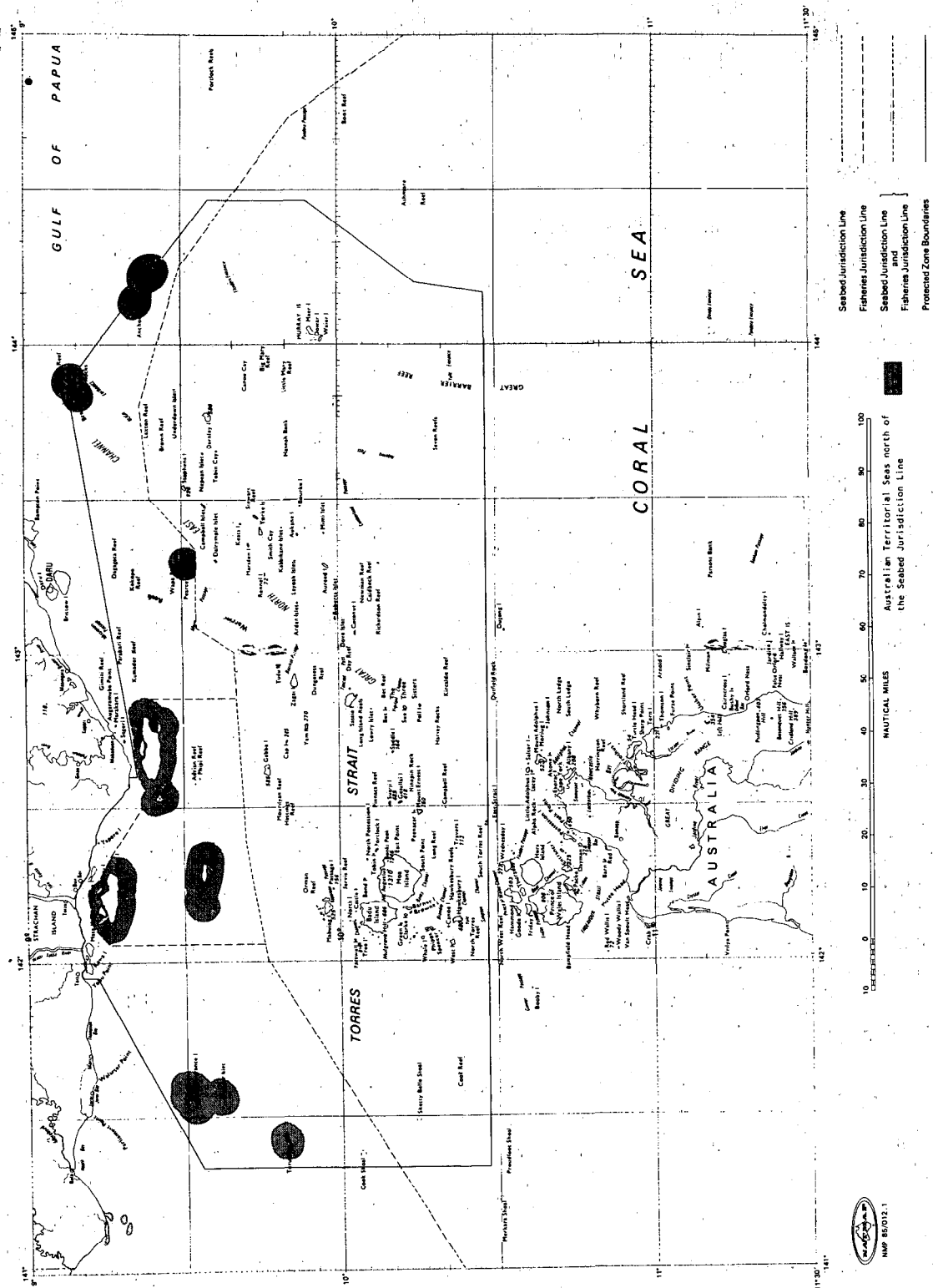
- the boundary of the TSPZ to which the thrust of all management measures apply;
- the seabed jurisdiction line, and;
- the fisheries jurisdiction line, both delineating the area of responsibility of each country.

In addition, Australian jurisdiction extends to a three mile territorial sea around all islands on the PNG side of those jurisdiction lines.

In the case of sedentary animals for example Pearl Shell, jurisdiction is determined by the seabed line. For swimming species, the fisheries jurisdiction line applies. Note also the Outside but Near Areas. These differ from species to species but, on the Australian side for example, on the east coast north from Cape York, they share the same boundary which coincides with the northern limit of jurisdiction of the Great Barrier Reef Marine Park Authority.

Treaty Fisheries and the Protected Zone Joint Authority

Article 22 of the Treaty provides for both countries to enter into agreements to jointly manage specific fish stocks of the Torres Strait. Both governments have entered into agreements to jointly manage six fisheries in the region, namely:



- prawns
- crayfish (tropical rock lobster)
- spanish mackerel
- pearl shell
- dugong
- turtle

together with special arrangements for traditional fishing, and the barramundi fishery adjacent to six Australian islands near the coastline of PNG.

These fisheries are managed within Australian jurisdiction in accordance with Commonwealth law by a body known as the Protected Zone Joint Authority. This Authority is comprised of the federal and Queensland Ministers for Primary Industries.

Remaining fisheries in Torres Strait, including for example reef fish, estuary species, trochus, are managed under Queensland fisheries laws.

Catch Sharing between Australian and Papua New Guinea

The Treaty recognises the rights of both countries to the commercial fisheries of the Torres Strait Protected Zone. This recognition is implemented via the concept of catch-sharing in Article 22 fisheries for prawns, crayfish and pearl shell. Briefly summarised each country's share is determined by a 75%-25% access to an Allowable Catch from its respective jurisdiction, with a 50%-50% share in territorial waters adjacent to certain Australian islands.

Initial schemes for catch sharing on a catch quota basis for each fishery proved extremely difficult to implement. A scheme has now been agreed upon and in place based on input control, ie. a number of vessels, the number of which can be adjusted on an annual basis given the experience of average catches per day of the five proceeding years. Both countries have agreed to this net sharing scheme whereby one country nominates a number of vessels to fish in the others' waters estimated to be sufficient to take the net catch intended by the Treaty for each fishery.

Australian Prawn and Rock Lobster fishermen agreed not to fish in Papua New Guinea waters in return for an equivalent reduction in the number of Papua New Guinea fishermen allowed to fish in Australian waters.¹ The results of catch sharing arrangements for 1990 are that:

- 8-9 Papua New Guinea prawn trawlers are allowed to fish in Australian waters;
- 27 Papua New Guinea lobster dinghies are allowed to fish in Australian waters;
- 3 Australian pearling boats are allowed in Papua New Guinea waters.

To date, neither country has sought cross endorsement for their commercial vessels. It is likely, given the agreed formulae for catch sharing, that these arrangements will apply until 1993; although not necessarily as both countries could seek to vary the arrangements if an alternative scheme was desired.

It is extremely important to understand that cross border endorsed fishing vessels under these arrangements must comply with all Customs, Quarantine and Immigration controls applying in each country.

Consultative Arrangements

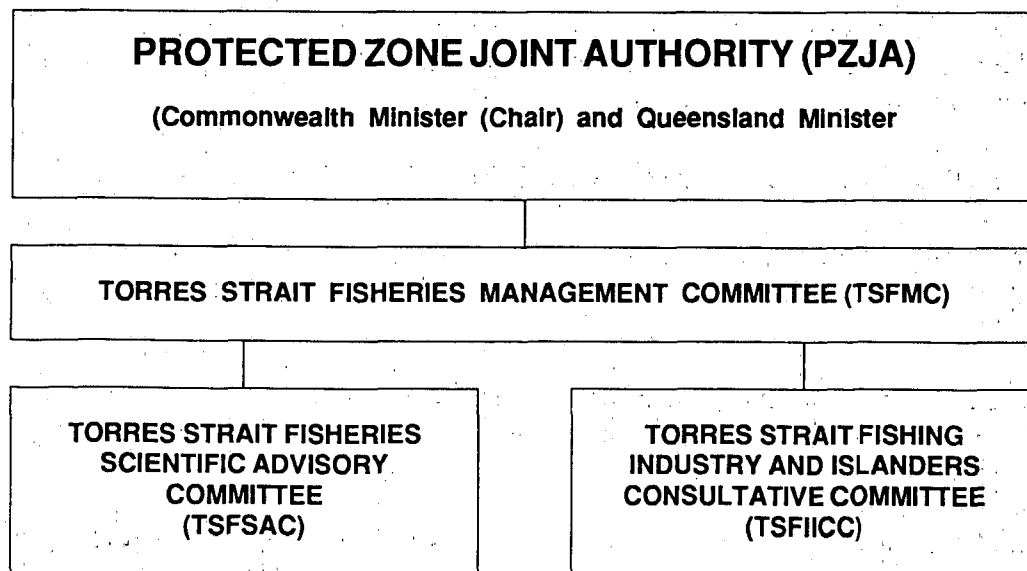
Highly developed arrangements have been implemented for consultation between Australia and Papua New Guinea, between Australian federal and state governments and traditional inhabitants and fishermen.

The Treaty requires Australia and Papua New Guinea to co-operate in the conservation, management and optimum utilisation of fisheries in the Protected Zone. Fisheries management officials of the two countries meet yearly to review arrangements in place and make recommendations to the respective governments on policies and programs of the jointly managed fisheries. Similarly, scientists from the two countries meet annually to review technical and scientific aspects of Protected Zone fisheries. An even greater frequency of co-operation between the two countries fisheries enforcement agencies has been achieved, with shared training and exchange of fisheries officers now in effect.

The Protected Zone Joint Authority has developed a formidable consultative structure with Australian traditional inhabitants and commercial fishermen, for fisheries within the Australian jurisdiction of the Protected Zone.

The following table (Table 1) sets out this structure. You will note that the Joint Authority (PZJA) is advised by the Torres Strait Fisheries Management Committee. This Committee comprises representatives of Islanders and commercial fishermen, with Commonwealth and Queensland fisheries managers and the Chairman of the Scientific Advisory Committee.

Table 1. Protected Zone Joint Authority - Advisory and Consultative Bodies



The Scientific Advisory Committee provides recommendations and advice on fisheries matters to the Management Committee as well as co-ordinating research activities of fisheries agencies in the Zone. Those research activities are dealt with elsewhere in the proceedings of this conference. However the Committee co-ordinated research activities to the value of some \$750,000 during 1989/90, for research and monitoring of traditional fishing and the major commercial fisheries in Torres Strait, in accordance with a program determined by the Joint Authority.

The Torres Strait Fishing Industry and Islanders Consultative Committee also advises the Management Committee on fisheries matters. Membership of this Consultative Committee comprises representatives of:

- both the Commonwealth and Queensland governments (5);
- the Queensland Commercial Fishermen's Organisation (7);
- Torres Strait Islander Co-ordinating Council, (7);
- the Scientific Advisory Committee (1).

Deliberations of the Consultative Committee are facilitated by the activity of fishery or issue-specific Working Parties, for Protected Zone fisheries.

These Committees have met at least annually over the past six years since the Treaty came into force. The Working Parties, a relatively new innovation, meet more frequently, enabling greater refinement of management principles adopted by the Joint Authority in its more formative years.

Officers on behalf of the Joint Authority also participate in and contribute to the Foreign Affairs Consultative structure attending meetings of:

- the Treaty Implementation Committee (Australian);
- the Treaty Liaison Committee (Australia and PNG);
- the Joint Advisory Council (established by the Treaty);
- the Environmental Management Committee (Australia and Papua New Guinea).

Members of those other Committees are frequently invited to attend and advise members of the Joint Authority's Industry and Islander Consultative Committee to facilitate consultation and co-operation on Treaty matters.

Status of Torres Strait Joint Authority Fisheries

The foregoing demonstrates an extensive consultative approach adopted by the Protected Zone Joint Authority in its management responsibilities for fisheries of the Torres Strait.

Commercial fishing is clearly the most economically important activity in Torres Strait, and provides the greatest opportunity for financial independence and stability of Islander communities in the region.

Furthermore, contrary to some opinion, fish stocks of Torres Strait have been stable with consistent annual harvests. Variability does occur seasonally, but the greatest fluctuations are market driven.

The Joint Authority has a policy of maximising the opportunities for Islander participation in all sectors of the fishing industry. Non-Islander participation is well established in the Protected Zone particularly in the prawn fishery.

However the Joint Authority has frozen further expansion of non-Islander involvement in fisheries where there is scope for additional expansion. In effect no additional non-Islander participants will be licensed to fish in Joint Authority fisheries. Furthermore, as ownership of existing non-Islander owned vessels changes, elements of licences are required to be forfeited to reduce non-Islander participation in fisheries in the longer term.

The prawn fishery which has developed as an extension of the East Coast fishery by non-Islanders, is considered to be over-capitalised. The Joint Authority has implemented policies which set out to redress this problem, by removing effort from the fishery; but it has set aside an opportunity for Islanders to trawl for prawns in the future.

Status of stocks

Some features of management arrangements for Torres Strait fisheries and the status of stocks are as follows.

The prawn fishery has a catch value of \$17-\$20 million annually. Some 130 vessels are licensed to engage in this fishery and that number is reducing annually by 10% through management intervention. The main species targetted are tiger, endeavour and king prawns with catches in excess of 1000 tonnes per year (see Table 2). Tiger and king prawn catches have been relatively constant over time with endeavour prawn catches slowly increasing. Catch per unit of effort has averaged 15-20kg per hour over recent years. In addition to the restrictive policy to reduce the level of participation in the fishery through licensing measures, the Joint Authority has set aside large areas of Torres Strait free from trawling to protect nursery and juvenile prawn stocks from exploitation. These areas include the entire Protected Zone west of the Warrior Reef complex, together with the recent addition of a large area of the "old pearling ground" adjacent to Darnley and Murray Islands in the East.

Table 2.

Penaeid Prawn Catch (Tonnes)

YEAR	CATCH
1987	1094
1988	1151
1989	1164

These permanent closures are complemented by seasonal closures in the Great North East Channel, adjacent to Warrior Reef for the first five months of each year; coupled with a total closed season in the zone for the months of December, January and February. Various other restrictions such as net mesh size and vessel dimensions are also in force in the prawn fishery.

Joint Authority management objectives for the Tropical Rock Lobster Fishery and agreed with Papua New Guinea are:

- to conserve stocks of the species;
- to maximise the opportunities for traditional inhabitants of both Australia and New Guinea to participate in the fishery, including the strategy of managing the fishery as a dive fishery, and;
- to promote the dive fisheries for the species in Torres Strait and in the waters near Yule Island.

The strategy for growth of the Islander sector relies on containing growth of the non-Islander sector, co-incidentally encouraging expanded participation in the fishery by Islanders.

Catches from the fishery are valued at \$4-\$5 million annually with approximately 200 Islander boats and 30 European boats operating in the fishery. Annual production has averaged 200 tonnes, with an occasional peak season for example 350 tonnes in 1986 (Table 3). Various other controls apply in the fishery, including a minimum legal size prohibition for protection of juveniles of the species, and a ban on trawling for rock lobster in the zone.

Table 3. Tropical Rock lobster catch kg/month (From processor and shipping company records).

<i>Month</i>	<i>Year</i>							
	1983	1984	1985	1986	1987	1988	1989	1990
JAN	4711	5485	6707	16654	13178	16988	6925	11302
FEB	9749	8896	18416	34759	11347	14587	16897	27046
MAR	12364	11790	11379	51139	34879	18927	34554	12900
APR	8066	8956	22276	44677	29087	25617	25566	27752
MAY	13584	10793	17404	62105	13832	29279	41314	15887
JUN	8462	8549	13995	32321	19419	27488	33267	23644
JUL	9148	18320	18254	42724	19511	16952	17613	24427
AUG	8775	12863	17529	34951	27712	15750	30267	13388
SEPT	9038	4956	10103	18112	28010	20617	20323	9298
OCT	2606	3773	16080	4124	22361	10944	3444	
NOV	704	2111	17740	2741	13753	9701	5610	
DEC	2202	4033	30255	4869	9040	9813	7109	

An important seasonal fishery for spanish mackerel also occurs in Torres Strait, and is managed by the Joint Authority. Again a principal management objective is to reserve expansion into this fishery for Islanders, and licensing policies are in force to give effect to that objective. Some 30 boats are licensed to operate in this fishery by the Joint Authority although only a few actively participate, and catches are valued at \$500,000 annually.

Measures for the Rock Lobster fishery have been broadly replicated in the Pearl Fishery by the Protected Zone Joint Authority. On the basis of recent surveys, the abundance of pearl shell is low and present catches are primarily incidental to rock lobster and trochus fishing activities. Minimum and maximum shell size prohibitions are presently in force. The continued viability of local pearl culture farms is viewed by participants as crucial to the continuity of local pearling activities, and measures in force effectively direct catches from the fishery to those farms. Other measures including a three month closed season on pearling are also in force.

More detailed discussion of Turtle and Dugong stocks in Torres Strait is presented in other papers in these proceedings. Protection and conservation of these animals is the responsibility of the Protected Zone Joint Authority, which has active management measures in force.

In the case of dugong, commercial fishing is prohibited throughout both the Australian and Papua New Guinea sections of the Torres Strait Protected Zone. Traditional fishing for consumption (but not for sale) is permitted and catches are monitored by the Australian Fisheries Service. A survey conducted in 1987/88 indicated the population to be some 11,000 to 14,000 individuals and further surveys together with catch data will be used to monitor changes if any in the status of dugong stocks. A dugong sanctuary has been implemented in the western areas of Torres Strait.

Commercial fishing for turtle is prohibited by the Protected Zone Joint Authority. Green turtle stocks are considered endangered on a global basis, however available data suggests that traditional fishing activities in Torres Strait is unlikely to be a major contributor to a decline in such stocks. There is little exploitation of other turtle stocks in Torres Strait.

To encourage conservation of dugong and turtle, the Joint Authority has developed and implemented an extensive education program in Torres Strait Islander communities. This program, combining personal meetings and educational videos in appropriate Islander dialects, is presented for all ages in Islander communities. It has also been provided to Papua New Guinea fisheries officers for presentation in their western provinces, with appropriate amendments for local language dialects.

Other Fisheries

As mentioned earlier in this paper, remaining fisheries in Torres Strait other than those managed by the Protected Zone Joint Authority fall within the ambit of Queensland fisheries legislation. These fisheries include commercial activities for trochus, reef fish species and all recreational fisheries.

The focus on fisheries management in Torres Strait has moved over the past year to new initiatives in these other fisheries and appropriate consultative mechanisms are in the process of adoption. Those mechanisms will most likely complement the structure now in place and administered by the Joint Authority.

The trochus fishery is arguably the most economically important of these fisheries. Management arrangements for that fishery, which is valued at approximately \$2 million annually, comprise:

- a total allowable catch quota of 150 tonnes annually, together with;
- a minimum and maximum shell size prohibition.

All commercial exploitation of this resource in Torres Strait has been set aside for the benefit of Torres Strait Islanders. A conservative catch quota has been adopted recognising previous experience with the fishery and based on research advice. The quota for 1990 in Torres Strait has been reached recently and the fishery closed for the remainder of the year.

A line fishery for demersal fish species also exists but has been subjected to only low levels of fishing effort. Whilst the fishery is subject to all of the management controls applying in the general Queensland fishery, for example minimum fish size prohibitions, licensing requirements etc., it is perceived as being under-developed at this time.

A similar situation is considered to exist for recreational fisheries. The conditions of such fisheries are usually reflected by population densities in adjacent areas and/or tourism growth. At present, recreational fishing is an important pastime for local residents but fishery effort levels are viewed as sustainable. A future challenge for fisheries managers will be the measurement and monitoring of that fishing effort and moves are presently underway to meet that challenge on the east coast.

Surveillance and Enforcement

There are times when it is necessary for management arrangements to be enforced if conservation strategies for our resources are to be successful. The Queensland Boating and Fisheries Patrol is the agency charged with this responsibility in Torres Strait on behalf of the Joint Authority and for fisheries under Queensland jurisdiction.

Duties are carried out using personnel at the Thursday Island operations centre and the purpose-built fisheries patrol boat "Wauri". Coastwatch surveillance flights complement the activities of these personnel. The programs are carried out on a graduated response basis which seek to achieve voluntary compliance through education and extension efforts before resorting to legal mechanisms. Some 30% of human resources are dedicated to extension and community education efforts.

Assistance is also provided by Patrol staff to facilitate the expansion of Islander involvement in commercial fisheries, in line with Joint Authority policy to that effect.

Summary

Fisheries resources of the Torres Strait are an important part of the economy and traditional way of life in Torres Strait. Complex legislative measures are now in place and fisheries management agencies have visibly demonstrated a commitment to ensuring their success. Those measures reserve in no small way the benefits obtainable from the sustained managed development of those resources for the people of Torres Strait.

Note

¹ Brochures providing greater details of the fisheries issues of the Treaty and Catch Sharing Arrangements are available.

