

NORTHERN TERRITORY FISHERIES
JOINT AUTHORITY

REPORT FOR PERIOD

1 July 2001
to
30 June 2002

Commonwealth of Australia

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*FISHERIES MANAGEMENT ACT 1991
(COMMONWEALTH)*

*FISHERIES ACT 1988
(NORTHERN TERRITORY)*

NORTHERN TERRITORY FISHERIES JOINT AUTHORITY

REPORT OF THE NORTHERN TERRITORY FISHERIES JOINT AUTHORITY

FOR THE PERIOD: 1 JULY 2001 TO 30 JUNE 2002



Senator the Hon. Ian Macdonald
Commonwealth Minister for Fisheries, Forestry
and Conservation
Parliament House
CANBERRA

The Hon Kon Vatskalis MLA
Northern Territory Minister
for Primary Industry and Fisheries
DARWIN

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1. Introduction

This is the fifteenth annual report of the Northern Territory Fisheries Joint Authority (NTFJA), it details the functions and activities undertaken during the period from 1 July 2001 to 30 June 2002.

The Northern Territory Fisheries Joint Authority assumed management responsibility for the following fisheries in all waters adjacent to the Northern Territory:

- Demersal fishery;
- Finfish Trawl fishery;
- Timor Reef fishery; and,
- Shark fishery.

2. Enabling Legislation

The NTFJA was established in February 1983, under the then Commonwealth legislation (*Commonwealth Fisheries Act 1952*) to provide for the Commonwealth and the Northern Territory to jointly manage declared fisheries and fisheries resources in waters adjacent to the Northern Territory. With the passage of an Offshore Constitutional Settlement Agreement of 1987, management of the NT pearl oyster passed to the NTFJA

On 3 February 1995, the NTFJA, subject to the provisions of the *Commonwealth Fisheries Management Act 1991* and the *Northern Territory Fisheries Act 1988*, assumed responsibility, in waters adjacent to the Northern Territory, for the Demersal, Timor Reef, Shark and Finfish trawl fisheries. At that time, management of pearl oysters passed to the Northern Territory. Day to day administration of these fisheries is provided by the Fisheries Group of the Northern Territory Department of Business, Industry and Resource Development (NTDBIRD).

The NTFJA was established under "*The Arrangement between the Commonwealth of Australia and the Northern Territory*", published in the Australian Government

Gazette of 1 February 1995 and the Northern Territory Gazette of 1 February 1995 (No. S7, 1

February 1995). A copy of this Arrangement is provided at Annex A.

3. Members of the Joint Authority

The members of the NTFJA during the reporting period were:

The Hon Wilson Tuckey MP
Commonwealth Minister for Forestry
and Conservation
(1 July 2001 – 26 November 2001)

Senator the Hon Ian Macdonald
Commonwealth Minister for Fisheries,
Forestry and Conservation
(26 November 2001 – 30 June 2002)

The Hon Paul Henderson
Northern Territory Minister
for Primary Industry and Fisheries
(18 August 2001 to 30 June 2001)

Deputies for the NTFJA during the reporting period were:

For the Commonwealth Minister –

Mr Frank Meere
Managing Director
AFMA
(1 July 2001 to 30 June 2002)

Mr Glenn Hurry
Assistant Secretary
Commonwealth Department of
Agriculture, Fisheries and Forestry
(AFFA)
(1 July 2001 to 30 June 2002)

For the Northern Territory Minister -

Dr Nicholas Rayns
Director of Fisheries
NTDBIRD
(1 July 2001 to 29 December 2001)

Mr. Richard Sellers
Director of Fisheries
NTDBIRD
(30 December 2001 to 30 June 2002)

Secretariat services to the NTFJA are provided by the Northern Territory Department of Business Industry and Resource Development.

4. Functions and Powers of the Northern Territory Fisheries Joint Authority

Section 62 of the *Fisheries Management Act 1991* together with Section 66 of the *Fisheries Act 1988* provides for the function of the NTFJA, viz:

"keeping constantly under consideration the condition of the fishery, formulating policies and plans for the good management of the fishery, and for the purposes of the management of the fishery exercising the powers conferred on it by the Northern Territory Fisheries Act and co-operating and consulting with the other authorities including other Joint Authorities within the meaning of the Commonwealth Act, in matters of common concern."

The Commonwealth Act also provides that in undertaking these functions, the Joint Authority must pursue the objectives of –

- (a) implementing cost-effective fisheries management; and,*
- (b) ensuring that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development and the exercise of the precautionary principle, in particular the need to have regard to the impact of fishing activities on non-target species and the marine environment; and,*
- (c) maximising economic efficiency in the exploitation of fisheries resources; and,*
- (d) ensuring accountability of the fishing industry and to the community generally in its management of fisheries resources.*

The NT *Fisheries Act 1988* (NT Fisheries Act) also provides the following objectives for the NTFJA.

- (a) ensuring, through proper conservation, preservation and fisheries arrangement measures, that the living resources of the waters to which the Act applies are not endangered or over-exploited; and,*
- (b) achieving the optimal utilisation and equitable distribution of those resources.*

Management of the recreational component of NTFJA fisheries resides with the NTDBIRD.

5. Meetings of the Northern Territory Fisheries Joint Authority

Meetings of the NTFJA are convened on an "as needs" basis, with NTDBIRD co-ordinating the "day to day" management under the NT Fisheries Act, on behalf of the NTFJA. A meeting of the NTFJA was convened on 9 August 2001.

NTDBIRD representatives participated in the annual Northern Australian Fisheries Management Workshop (NAFMW), which was convened in September 2001. The NAFMW is convened annually to consider fisheries management, research and compliance issues in seeking to ensure collaborative and complementary actions in managing fisheries resources throughout northern Australia. The NAFMW is convened under formal Memorandum of Understandings for cooperative management of fish stocks. The issues considered at the NAFMW have been extended to incorporate collaborative and complementary management of fish species generally, with recent participation by adjacent international jurisdictions (Indonesia and East Timor)

6. Advisory Committees

The administrative arrangements implemented in association with the OCS arrangements envisaged that existing fishery advisory forums would be utilised, wherever possible.

The NT Fisheries Act provides for stakeholder involvement in the formulation of management arrangements and advising the Executive

Director of Fisheries on operational arrangements through the appointment of Fishery Management Advisory Committees (FMACs).

FMACs, appointed for NTFJA fisheries, did not meet throughout the reporting period. FMAC meetings are convened on an "as needs" basis, and comprise of nominated representatives from industry, processing, compliance, management and research groups.

A NT representative has been afforded membership to the Queensland Gulf of Carpentaria (GoC) Fisheries Management Advisory Committee covering all fisheries (other than the Northern Prawn Fishery) in Queensland's component of the GoC. This appointment assists in ensuring the consideration of complementary management arrangements and the implications of dual Queensland/Northern Territory licenced vessels operating in the GoC.

7. Condition of the Fisheries

Offshore demersal fisheries

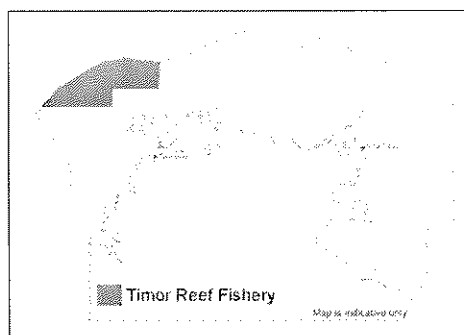
Separate management regimes have been implemented for the Timor Reef, Demersal, Finfish Trawl and Shark fisheries. These arrangements seek to set commercial participation levels at relative low levels in satisfying legislative objectives and ensure the sustainability of fisheries resources.

To assist in this regard, DBIRD has implemented data collection procedures for the collation of catch and effort information from commercial participants, which is supplemented by onboard monitoring by research staff. This time series data, including information collected over the last two decades, is the principal source of data for stock assessments undertaken for Joint Authority fisheries.

Timor Reef Fishery

The Fisheries Group, of DBIRD, lodged a report "*Assessing the Ecological Sustainability of The Northern Territory Timor Reef Fishery*"

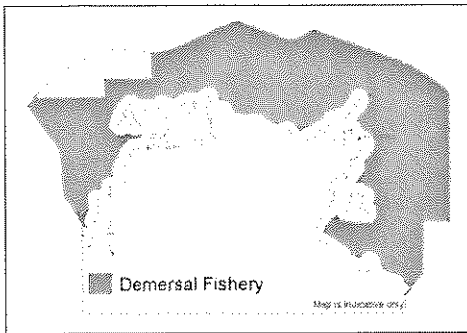
with Environment Australia in early May 2002. This report assesses the Timor Reef fishery against the Commonwealth guidelines for sustainable fisheries to enable ongoing exports of landings for the Timor Reef fishery beyond December 2003. It is the Fisheries Group's intention to seek similar certification, pursuant to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, for the Demersal, Finfish Trawl and Shark fisheries, amongst others.



The key fish species landed by commercial operators in the Timor Reef fishery are goldband snapper (*Pristipomoides* spp.), red snappers (*Lutjanus malabaricus* & *L. erythropterus*) and cods (*Epinephelus* spp.). Commercial operators are using traps in preference to baited lines given improved catch rates. A separate licence is required to operate within the confines of the Timor Reef fishery

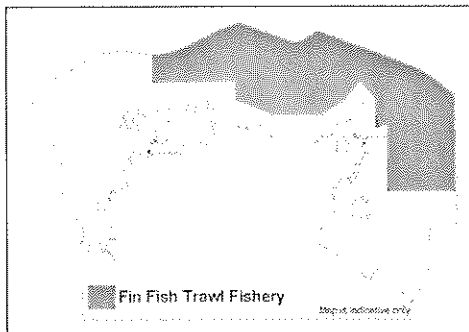
Demersal Fishery

Access has been granted to sixty operators to participate in the Demersal Fishery. The demersal fishery operates in waters seaward of 15 nautical miles (nm) from the shore to the outer limit of the AFZ, other than in the area of the Timor Reef fishery. Although sixty fishery licences have been issued, only a very small number of licensees have been active since the declaration of this fishery in 1995, other than in the areas immediately adjacent to the Timor Reef fishery. Timor Reef fishers must hold a demersal licence, with most fishing activity in the demersal fishery undertaken by vessels holding both demersal and Timor Reef licences.



Finfish Trawl Fishery

A single trawl operator continues to harvest demersal finfish in offshore waters adjacent to the Northern Territory, to the east of Darwin (including the northern region of the Gulf of Carpentaria). The principal species landed are red snappers (*L. malabaricus* & *L. erythropterus*). The NTFJA issued one finfish trawl licence in recognition of the past involvement of a single operator in assuming management responsibility for the fishery.



Offshore demersal fisheries History

The demersal fish resources of northern Australia were commercially explored by Japanese stern trawlers during 1959-1963, and extensively fished by Taiwanese pair trawlers from 1971 to 1990. In addition, Thai stern trawlers operated in the Arafura Sea during 1985-1990 whilst Chinese pair trawlers operated in the Timor Sea in 1989. Feasibility studies by Japanese vessels using droplines saw substantial landings throughout 1975-1982 within the Timor Reef region.

With the passage of the revised jurisdictional arrangements contained in the Offshore Constitutional Settlement (OCS) of 1988, management responsibility for all line fishing and trapping passed to the Northern Territory.

An industry-sponsored moratorium on the issuance of Demersal Fishery licences occurred in December 1991. Following concerns that excess fishing capacity may lead to the over-fishing of goldband snapper stocks, access to the Timor Reef fishery was restricted to participating fishers and licence holders who had previously expressed their interest in entering the fishery.

In 1991, six domestic operators were authorised by the Commonwealth to operate in what was then known as the Northern Trawl Fishery. Further management interventions were introduced to link access with sustainable yield estimates. The remote location and associated high costs of operation hindered the development of the fishery with only one operator maintaining an ongoing interest in the fishery.

Following an industry-sponsored moratorium on the issuance of demersal fishery licences, a ceiling on the number of operators was set at 60 in December 1991. In responding to separate concerns about the potential for excess capitalisation, and vessels being displaced from interstate fisheries undergoing restructuring, access to goldband stocks was managed as part of the offshore demersal fisheries. Only participating fishers and licence holders who had previously expressed their interest in entering the fishery, were issued with a separate endorsement for ongoing access. The Timor Reef fishery was annexed from the demersal fishery due to concerns regarding the long term biological sustainability of goldband snapper stocks in 1995.

In seeking to resolve a range of controversial jurisdictional issues and to better manage fisheries straddling State/Territory and Commonwealth waters, agreement was reached on the benefits of OCS arrangements.

With the passage of the OCS in 1995, management responsibility for all line fishing

and trapping passed to the Northern Territory Fisheries Joint Authority. The regulatory controls implemented at that time saw the near shore boundary of the demersal fishery realigned, from 2 nm to 15 nm offshore. This approach sought to separate the low capital base inshore coastal fishery from the demersal fishery. The NTFJA also issued a single finfish trawl licence permit in recognition of a pre-existing entitlement.

Resources Estimates

Yield estimates have been determined from catch and effort information gathered from Taiwanese, Thai and Chinese trawling activities, trawl research surveys, biological details gathered from commercial fishers and statutory reporting by licensees on their fishing operations.

Resource estimates, provided by CSIRO, were updated in 1992 following trawl surveys undertaken by NTDPIF.

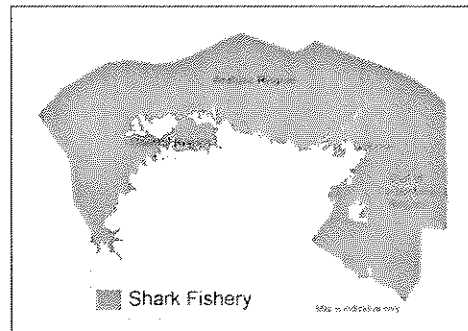
A co-operative approach, in managing what are likely to be straddling stocks, was initiated with the 1992 Joint Australian-Indonesian Workshop on the Arafura Sea Fisheries. As an outcome of this Workshop, sustainable red snappers yield estimates were 7,500 to 19,500 tonnes for the Australian and Indonesian components of the Arafura Sea, 4,000 to 10,000 tonnes for Australian waters of the Arafura Sea and 4,100 to 16,500 tonnes for the Gulf of Carpentaria.

The earlier resource estimates were revised to 3,700 to 6,800 tonnes for the Australian component of the Arafura Sea and between 2,900 and 9,000 tonnes for the Gulf of Carpentaria following the second Australian-Indonesian Workshop held in October 1994. In 1996, the "Towards the Sustainable Use of Northern Territory Fisheries Resources: Review Workshop" led by Carl Walters further revised these earlier yield estimates for red snappers and goldband snapper. As an outcome of this workshop the biological sustainable harvest for red snappers were revised to 1,500 to 2,500 tonnes for the Arafura Sea, assuming an unfished stock level of 50,000 tonnes. This workshop also found that only a small portion can be harvested each

year due to their slow growth rates and low natural mortality. This means that current landings are considerably lower than long-term biological sustainable harvest estimates.

For the Timor Reef goldband snapper fishery, sustainable yield estimates range from 300 to 20,000 tonnes or more, due to varying interpretations of previous catch rates, age and survey details. Refinement of the biological sustainable yield estimates for the Timor Reef fishery will only be possible with an improved understanding of the level of mixing between the Australian and Indonesian fisheries, details on fishing effort in both jurisdictions together with the refinement of fishery independent survey techniques.

Shark Fishery



The shark resources of northern Australia were commercially fished by a Taiwanese gillnet fleet from 1974 until about mid 1986. Prior to 1978, the Taiwanese fished to within 12 nautical miles of the coast.

Under the licence agreement, 30 gillnet vessels were permitted to land up to 7000 tonnes of sharks throughout northern Australian waters. Fishing operations continued until 1978 with minor changes in overall catch levels. Throughout this time, joint venture arrangements were encouraged in an attempt to seek greater involvement of Australian operators.

With the declaration of the Australian Fishing exclusion zone adjacent to Arnhem Land and the Wessel Islands increased to between 40 and 50 nautical miles offshore. Foreign fishing

vessels were excluded from the Gulf of Carpentaria in 1979.

Further restrictions were introduced in response to declining trends in shark catch rates and concerns about the incidental capture of dolphins. These controls rendered Taiwanese gillnet vessels uneconomical, and despite the permitted use of baited longlines, fishing operations in northern Australian waters ceased in late 1986.

Direct involvement in the Northern Shark Fishery by domestic fishers commenced in the early 1980's. Prior to mid 1980s, domestic shark landings was generally a byproduct (or incidental part) of fishing activities targeting other species, including prawn trawling and barramundi gillnetting activities. Although the resolution of catch information at that time was poor, overall landings and processors returns suggest that catches were minor.

The Northern Territory Government promoted the development of the shark fishery to domestic fishers in the early 1980's. Since 1985 overall landings of all species in the NT shark fishery have been about 600 tonnes. Catches reached 872 tonnes in 1992 as fishers sought to meet a government-imposed minimum catch criterion to retain ongoing access to the fishery.

Sharks continue to be taken as an incidental catch of line, bait and inshore netting operations. Catch limitations have been imposed for some of these fisheries.

DBIRD has commenced a review of catch limitations for all commercial fisheries in which shark is landed as an incidental catch. As an outcome of this review, industry has agreed to implement a ban on retaining shark products in the Timor Reef, demersal, finfish trawl, and Spanish mackerel fisheries, and restrictions on catch levels for the barramundi fisheries. This review is ongoing.

It is believed that harvest rates of black tip sharks *Carcharinus tilstoni* (black tip reef shark) and *C. sorrah* (white spot reef shark) in the Northern Territory are nearing sustainable levels. However there is substantial uncertainty

in current harvest rate and stock size estimates, due to substantial reliance on Catch Per Unit Effort (CPUE) data as the primary source of abundance information.

There have been a series of attempts during the 1990s to estimate harvest levels of *C. tilstoni* and *C. sorrah* in the northern Australia. Evaluation of yield estimates, undertaken at the 1992 Joint Australian-Indonesian Workshop on the Arafura Sea Fisheries and a follow-up Workshop in 1994, proved inconclusive due to inconsistencies in data collection.

The joint NTDPF-CSIRO Pelagic Fish Stock Assessment program estimated that, in waters adjacent to the Northern Territory, the maximum sustainable yield (MSY) for *C. tilstoni* and *C. sorrah* is 3,400 tonnes annually. This estimated yield consists of 1,900 tonnes in the Arafura and Gulf of Carpentaria zones and 1,500 tonnes in the NT zone.

CSIRO genetic and tagging studies suggest that *C. tilstoni* and *C. sorrah* form a single large stock throughout northern Australia. However, movement rates both onshore and offshore are relatively restricted, indicating slow exchange rates (1-10 percent/year) between the northern Australia/Arafura area where most Taiwanese gillnetting took place, versus the Gulf of Carpentaria and Bonaparte Gulf where foreign fishing was either reduced or excluded. Stock boundaries to the north of Australia are also undefined.

The assessment of the fishery was reviewed in 1997. Analyses, using CPUE time series from logbooks as an index of abundance, corrected for shark targeting (it was assumed that CPUE varies with the square root of stock size). These suggested that the Taiwanese fishery of the 1970s and 80s reduced the northern Australia/Arafura component of the stock by about 60-70 percent. The analysis further suggested that the GoC stock component may not have declined by more than 30 percent during the same period. There was probably "hyperdepletion" in the overall CPUE statistics – abundance really declined less than it appeared to - because a substantial part of the stock in the GoC was not available to the

Taiwanese fleet due to closures imposed by the Commonwealth.

A combined potential yield estimate for WA, the NT, and QLD (all stocks) of at least 2000 tonnes per year was predicted, with an optimum annual exploitation rate on the gillnet vulnerable component of the stock of 6-7 percent per year. Although there may be a large population of sharks, only a small amount can be sustainably harvested each year. The optimum annual exploitation rate is determined from annual mortality, growth, selectivity, and pup production rate data. These factors reflect the fact that sharks grow and mature slowly, so their annual production is low. At this stage, there is no defined level for the sustainable harvest rate that is used in calculations of the annual catch.

Age-structured models suggested that the overall stock (northern Australia/Arafura plus Gulf of Carpentaria components) should have been increasing since the mid-1980s, when Taiwanese catches were greatly reduced. The expected rate of increase was between 5 percent and 10 percent per year, accounting for more recent domestic catches. However, CPUE data from the NT gillnet fishery indicate a substantial decline in relative abundance since the mid 1980s (catches per boat have been increasing slowly, but catches per length of net set have decreased by around 50 percent since 1985).

To reproduce this pattern of decline while still estimating stock sizes in 1985 that would be large enough to account for the Taiwanese catches and impact on relative abundance, it was assumed that there has been a continuing unreported removal of around 1500 tonnes per year from the northern Australian stock component (as compared to an average reported catch of only 300 tonnes per year by all domestic fisheries combined). This may be due to foreign fishing in the Arafura region, perhaps combined with unreported domestic catches.

An alternative explanation is that despite declines in domestic CPUE, the overall stock may be recovering, but domestic fishing in spite of overall increases is reducing shark

abundance in the inshore, resident component of the stock.

The tagging work undertaken by CSIRO is not totally inconsistent with this hypothesis, if the data are corrected for bias in apparent movement patterns due to higher offshore fishing efforts during the period when the study was conducted. However, if there is a distinctive inshore stock component being fished by NT and QLD fishers, this stock component has a much lower sustainable yield than estimated for the stock as a whole, based on the offshore Taiwanese removals.

The assessment unfortunately relied largely on highly dubious CPUE statistics from both the Taiwanese and domestic gillnet fisheries. The validity of CPUE as an index of abundance is questionable for stock management purposes. In the case of the Taiwanese fishery, it is not known whether the observed fishing strategy is linked to the availability of sharks or the targets of other pelagic fish in other regions. There are various reasons to suspect that neither of these fisheries have provided CPUE trends proportional to changes in the actual stock size. Other monitoring measures should be sought.

¹ (Walters, C. J., and Buckworth, R. C., *Shark and Spanish Mackerel Stocks Assessed*. Northern Territory Fisheries Industry Council Newsletter, July 1997. 8(2), 14-15.)

8. Management Arrangements

Timor Reef Fishery

The limited entry management arrangements, a licence reduction program, and restrictions on the types of fishing gear (see page 10 for details) that fishers may possess and use, are the principal management controls for the Timor Reef fishery.

To reduce the number of entitlements, new entrants to the fishery must surrender two "restricted" Timor Reef licences for the issue of a (transferable) unrestricted Timor Reef fishery licence, or alternatively, acquire an unrestricted licence. These arrangements were implemented to ensure an adequate level of

profitability for the remaining operators and in contributing to the sustainability.

Timor Reef fishers must also hold a demersal fishery licence.

Demersal Fishery

A limited entry management regime has been established for the Demersal fishery, with sixty licences issued. Commercial fishermen may use vertical lines with up to five hooks attached, droplines with 6-40 hooks and fish traps. By-catch restrictions apply to key managed species, including Spanish mackerel and sharks.

Demersal fishery licences may be transferred, on application.

Finfish Trawl Fishery

Management controls for the finfish trawl fishery mirror the permit conditions in force prior to the introduction of revised OCS arrangements in early 1995. Area and fishing gear restrictions apply (see page 10 for details).

Shark Fishery

Management arrangements in place for the shark fishery place limits on the overall number of commercial licensees, together with restrictions on the construction and type of fishing apparatus used (see page 10 for details).

Commercial operators may use a maximum of 2,500 m of pelagic gillnet constructed of twine not less than 0.9 mm in diameter with a mesh size between 150 mm and 250 mm. Pelagic longline may be used in all regions (restrictions apply to the Coastal zone) of the shark fishery, or demersal longline in the Arafura or Gulf of Carpentaria (GoC) region, provided the total length of all lines used does not exceed 20 nm at any time.

A licence reduction program requires existing licensees to transfer three restricted shark fishery licences to the Territory for the issuance of an unrestricted shark fishery licence. New

entrants must acquire an unrestricted licence to participate in the commercial fishery.

9. Fisheries Monitoring, Research, Surveillance and Enforcement

The NTDBIRD undertakes a range of tasks on behalf of the NTFJA. Specifically, the NTDBIRD has established, and continues to maintain, catch and effort information from commercial fishers operating in NTFJA fisheries. It is from such information, together with available research data, that the condition of the fishery is kept under constant consideration.

The NTDBIRD is collaborating with CSIRO and Agriculture, Fisheries and Forestry- Australia in an Australian Centre for International Agricultural Research (ACIAR) assisted project to examine the "Biology, stock assessment and management of shared snapper fisheries in northern Australia and eastern Indonesia". This four-year project, which commenced in 1999, seeks to examine the population dynamics, stock structure and biology of goldband and red snappers relevant to the management of stocks shared between Australia and Indonesia. It also aims to identify and explore ways of developing complementary fisheries management strategies that will result in the long-term sustainability of these snapper fisheries. Socio-economic research, undertaken as part of this study, seeks to consider the potential impact of future management arrangements and gather data on the importance of these fish in southeast Indonesia. As an outcome, the project is to provide the details necessary for complementary conservation, management and utilisation of shared stocks.

In 1999, two Fisheries Research and Development Corporation (FRDC) projects examining the stock structure of goldband snapper using mitochondrial DNA and otolith microchemistry were completed. This was a collaborative project between the Northern Territory's Fisheries Division, Fisheries Department of Western Australia and Queensland Department of Primary Industries.

For the study adult goldband snapper (*Pristipomoides multidens*) samples were collected from 6 locations in Australia; Exmouth, Pilbara, Broome, Kimberley, Timor and Arafura Seas. These sites correspond to areas of major fishing activity. Opportunistic samples were obtained from Kupang and West Irian Jaya (Indonesia) and Madang (PNG). Findings from this study suggest that there are significant genetic structures between:

- Indonesian and Australian sites
- Indonesian sites
- Australian sites and a Kimberley site

This subdivision may be explained by the sedentary nature of all life stages, including planktonic eggs and larvae, and implies localised recruitment. A separate study using otolith microchemistry techniques on the same samples has found that the adults are sedentary.

The Natural Heritage Trust (Coasts and Clean Seas) is currently funding a program, entitled *Impacts of fishing on sharks and rays in northern Australia*. This program seeks to collate information on northern Australia's elasmobranchs (shark and rays). It has the objectives of identifying, from available research and management agency data sets, the species caught by different fisheries (including non-target catches), the magnitude of catches and spatial distributions. It also seeks to make preliminary identification of those species that are vulnerable to over-fishing. This is a collaborative project between federal agencies CSIRO and Bureau of Resource Sciences, and the NT, Qld and WA fisheries agencies. The project is the initial review stage of a larger project examining the sustainability of shark catches. A primary objective of the project, which commenced in May 1999, is to identify types of information necessary for management which are not currently provided under the statutory requirements of the various administrations (these might be, for example, species composition or size composition of catches). The project is to be completed during 2002. FRDC funding, for 2001-2002, has been provided for preliminary documentation of species composition in licensed shark fisheries.

The Marine and Fisheries Enforcement Unit of the Northern Territory Police, Fire and Emergency Services undertake surveillance and enforcement functions for NTFJA fisheries, as part of its ongoing tasks in fisheries matters. Operationally, surveillance activities for NTFJA fisheries have been by way of in-port inspections of fishing gear to ensure compliance with effort controls and as an adjunct to compliance activities for other fisheries.

10. Financial Arrangements

The NT Government has previously determined to provide financial resources for the management of NTFJA fisheries during 01-02.

The NT Government received \$74, 704 in licence fees for Joint Authority fisheries (Shark \$15,428; demersal, \$48,720; finfish \$1,624; Timor Reef \$10,556).

This revenue was paid into the Northern Territory Fishing Industry Research and Development Fund. Complete details on revenue and expenditure may be found in the Annual Report of the Northern Territory Department of Business, Industry and Resource Development.

Management Arrangements and Landings for NTFJA Fisheries

Fishery	No. of Restricted Licences	No of Unrestricted Licences	Management Regime	Sustainable Yield Estimates	Landings (2001/2002)
Shark	9	10	<p>Effort Controls</p> <p>Restriction of the total number of licences issued</p> <p>2500 m of net mesh size 150 mm to 250 mm</p> <p>Longline to 20 nautical miles</p> <p>3:1 licence reduction program</p>	2000 tonnes for northern Australia	<p>Black Tipped shark 273 t</p> <p>Other shark 141 t</p> <p>Grey mackerel 381 t</p> <p>Spanish mackerel 9 t</p> <p>Other 6 t</p>
Demersal	Not Applicable	60	<p>Effort Controls</p> <p>Limit on licences issues</p> <p>Vertical Lines with a maximum of 5 hooks</p> <p>Droplines with 6-40 hooks</p> <p>Restrictions on the possession of sharks and mackerels</p>	<p>Red Snapper – Arafura Sea 1500t (Ramm 1997b)</p> <p>Timor Sea 600-2500t (Ramm 1994)</p> <p>Gulf of Carpentaria 2880-9015t (Anon 1994).</p>	<p>Reef fish 12 t</p> <p>Goldband snapper 102 t</p> <p>Red Snappers 29 t</p> <p>Red Emperor 8 t</p>
Timor Reef	4	9	<p>Effort Controls</p> <p>Limit on licences issues</p> <p>Vertical Lines with a maximum of 5 hooks</p> <p>Droplines with 6-40 hooks</p> <p>Transferability on amalgamation of two restricted licences</p> <p>Must hold a Demersal Licence</p> <p>Restrictions on the possession of sharks and mackerels</p>	<p>Gold Band Snapper – Arafura Sea 100-400t (Ramm 1994)</p> <p>Timor Sea 100t (Ramm 1994)</p> <p>Gulf of Carpentaria: No estimate currently available</p>	<p>Goldband Snapper 160 t</p> <p>Red Snappers 69 t</p> <p>Red Emperor 34 t</p> <p>Other Reef Fish 40 t</p>
Fish Trawl	Not Applicable	1	<p>Effort Controls</p> <p>Restrictions on the use of fishing gear</p>	1500 t for Arafura Sea. GoC to be determined	<p>Red snappers 675 t</p> <p>Reef fish 65 t</p> <p>Other 107 t</p>

Please note that the details outlined provide a general summary of the management arrangements only and should not be relied upon as a complete description of all legislative requirements. The Northern Territory *Fisheries Act 1988* and Regulations provide precise information about legislative arrangements implemented for the fisheries nominated.

Annex A: Excerpt of the Northern Territory Government Gazette of February 1995

ARRANGEMENT BETWEEN THE COMMONWEALTH AND THE NORTHERN TERRITORY IN RELATION TO THE NORTHERN SHARK FISHERY

An ARRANGEMENT entered into between the Commonwealth of Australia (the Commonwealth) of the one part and the Northern Territory (the Territory) of the other part.

WHEREAS-

- (a) paragraph 4(i)(a) of the Acts Interpretation Act 1901 of the Commonwealth provides that where an Act is enacted on or after the date of commencement of this section that it is not to come into operation immediately upon its enactment, is expressed to confer power, inter alia, to make an instrument of a legislative or administrative character, then, unless the contrary intention applies, the power may be exercised, and anything may be done for the purpose of enabling the exercise of the power, before the Act concerned comes into operation as if it had come into operation;
- (b) subsection 2(2) of the Fisheries Management Act 1991 of the Commonwealth (the Management Act) provides that Part 5 of the Management Act, which provides for co-operation with the States and Northern Territory in the management of fisheries, commences upon the repeal or the ceasing to have effect (as the case may be) of Part IVA of the Fisheries Act 1952 of the Commonwealth;
- (c) by subsection 7(3) of the Fisheries Legislation (Consequential Provisions) Act 1991 of the Commonwealth (the Consequential Provisions Act) as amended by section 24 of the Primary Industries and Energy Legislation Amendment Act 1993 Part IVA of the Fisheries Act 1952, unless sooner repealed, ceases to have effect at the end of the period of 3 years beginning 3 February 1992, the day on which section 7 of the Consequential Provisions Act commenced;
- (d) paragraph 7(4)(a) of the Consequential Provisions Act provides that upon the commencement of Part 5 of the Act, the Northern Territory Fisheries Joint Authority, established by subsection 12D(i) of the Fisheries Act 1952, continues in existence as if it had been established under Part 5 of the Management Act;
- (e) arrangements were entered into under section 12H(4) of the Fisheries Act 1952 between the Commonwealth and the Territory in relation to the:
 - (i) Pelagic Fishery, published in the Commonwealth of Australia Gazette No 8109 on 14 April 1988;

- (ii) Pelagic Fishery except with pelagic gillnets in waters within 12 nautical miles seaward of the baseline or by trolling, published in the Commonwealth of Australia Gazette No 8109 on 14 April 1988;
- (f) paragraph 7(4)(b) of the Consequential Provisions Act provides that upon the commencement of Part 5 of the Act, any arrangement made with a State or Territory under subsection 12H(i) or (4) of the Fisheries Act 1952 that was in force immediately before that commencement continues in force as if it had been made under Part 5 of the Management Act;
- (g) the Arrangements referred to in paragraph (e) of this Arrangement were made under Division 3 of Part FVA of the Fisheries Act 1952;
- (h) subsection 75(1) of the Management Act provides that an Arrangement under Division 3 of Part 5 of the Management Act may be terminated by instrument approved by the Governor-General and the Governor or Governors of the State or States concerned;
- (i) section 59 of the Management Act provides:
 - (i) that Part 5 of the Management Act Has effect as if the Northern Territory was a State
 - (ii) that a reference in that Part to the Governor of a State shall be read, in relation to the Northern Territory, as a reference to the Administrator of the Territory;
- (j) subsection 33 (3) of the Acts Interpretation Act 1901 provides inter alia that where an Act confers a power to make any instrument, the power shall, unless the contrary intention appears, be construed as including a power exercisable in the like manner and subject to the like conditions (if any) to repeal any such instrument;
- (k) subsection 8(1) of the Interpretation Act 1978 of the Territory provides that where a provision of an Act is expressed to confer power, or to amend a provision of another Act in such a manner that the other Act, as amended, will confer power, to take any action, including power to make an appointment or to make an instrument of a legislative or administrative character then, before the first-mentioned provision or the second-mentioned provision as amended, as the case may be, comes into operation, that power may be exercised and anything may be done for the purposes of enabling the exercise of the power or of bringing the appointment or instrument into effect;
- (l) subsection 64(2) of the Fisheries Act 1988 of the Territory (the Territory Act) empowers the Territory to terminate an arrangement under Part 5 of the Management Act;

- (m) subsection 71(1) of the Management Act provides that the Commonwealth may make an arrangement with a State or States represented on a Joint Authority that the Joint Authority is to have the management of a particular fishery in waters relevant to that State or any of those States;
- (n) subsection 74(1) of the Management Act provides that an arrangement under, inter alia, section 71 is to be made by an instrument approved by the Governor-General and the Governor or Governors of the State or States concerned;
- (o) subsection 64(1) of the Territory Act as amended by section 37 of the Fisheries Amendment Act 1994 of the Territory empowers the Territory to make an arrangement under Part 5 of the Management Act;
- (p) both the Commonwealth and the Territory are desirous of exercising their powers to make a further Arrangement in relation to the fishery referred to in clause 2 of this Arrangement.

NOW THEREFORE, in pursuance of the Management Act and the Territory Act and of all the powers so enabling, it is mutually arranged as follows:

1. The Arrangements entered into between the Commonwealth and the Northern Territory as referred to in paragraph (e) of the recitals to this Arrangement are, pursuant to subsection 75 (i) of the Management Act and subsection 64(2) of the Territory Act, terminated.
2. The Commonwealth and the Territory hereby arrange that the fishery, being for any purpose other than recreation, in waters relevant to Northern Territory, being coastal waters and waters of the Australian fishing zone that lie within the area described in Schedule 2 to the Petroleum (Submerged Lands) Act 1967 under the heading "Area that includes the Adjacent Area in respect of the Northern Territory", for:
 - (a) all fish of the Class Chondrichthyes (cartilaginous fishes) using any fishing method;

but excluding fish to which this paragraph otherwise would apply taken in the exercise of a right conferred in relation to another fishery by a fishing concession granted by the Australian Fisheries Management Authority under the Management Act;

- (b) all fish of the Class Osteichthyes (bony fish) taken in the exercise of a right conferred by a licence or other authority granted by the Territory on behalf of the Northern Territory Fisheries Joint Authority for the fish to which paragraph (a) applies;

is to be managed by the Northern Territory Fisheries Joint Authority in accordance with the law of the Territory.

3. The Minister responsible for administering the Management Act and the Minister responsible for administering the Territory Act may agree in writing to the maximum quantity of other fish the subject of paragraph 2(b) that may be taken from time to time under a licence or other authority referred to in that paragraph and on matters of mutual interest in relation to the fishery.
4. This Arrangement shall, upon being executed on behalf of the Commonwealth and of the Territory and upon being approved by the Governor-General of the Commonwealth and the Administrator of the Northern Territory, take effect on 3 February 1995.
5. Without affecting the construction which this Arrangement would have if no provision of this Arrangement or part thereof is invalid, it is the intention of this Arrangement that if any provision of this Arrangement or part thereof is invalid, the remainder of that provision or part thereof was not included in this Arrangement even if the result is to extend the fishery by this Arrangement.

Dated 19th December, 1994

Signed for and on behalf of the
Commonwealth of Australia by the
Honourable DAVID PETER BEDDALL,
Minister for Resources

Signed for and on behalf of the
Northern Territory by the
Honourable MICHAEL JAMES PALMER
Minister for Primary Industries and Fisheries

In the presence of
P. STEVEN

In the presence of
A.R.SPRIGG