NATIONAL COMPETITION POLICY REVIEW OF COMMONWEALTH FISHERIES LEGISLATION

September 2002

FOREWORD

In April 1995, the Council of Australian Governments signed three agreements establishing a National Competition Policy for Australia. Those agreements define a comprehensive package of reforms that require the review and, where appropriate, the reform of all laws that restrict competition. Each jurisdiction (Commonwealth, State and Territory) is responsible for the review of its own legislation. This report is a review of Commonwealth fisheries legislation as required by National Competition Policy and focuses on the *Fisheries Management Act 1991*, the *Fisheries Administration Act 1991* and subsidiary legislation.

It needs to be stressed at the outset that this report is a review of the legislation as required by National Competition Policy. It is not a review of the general management of fisheries or a review of fisheries policy framework.

This report can be read in conjunction with

- *Principles underlying fisheries legislation throughout Australia* – National Competition Policy Scoping paper (April 1998) prepared by the Centre for International Economics
- *Guidelines for NCP legislation reviews* (Feb. 1999) prepared by the Centre for International Economics.

Mr Howard Allen of the Fisheries and Aquaculture Branch of the Department of Agriculture, Fisheries and Forestry acted as Secretary to the Committee. The Committee appreciates Mr Allen's contribution to the review and expresses its thanks. Mr Allen was promoted outside the Department and from 2 May 2000 Ms Joanna Fisher was seconded to assist in finalising the review. Her contribution is also very much appreciated by the Committee. In November 2000, Messrs Jonathon Barrington and Neil Garbutt of the Fisheries and Aquaculture Branch succeeded Ms Fisher in her work. Messrs Barrington and Garbutt contributed to the final drafting of the document and their work in editing parts of the review is highly appreciated by the Committee.

Assistance was also sought from Mr Frank Meany (fisheries consultant) and the Committee values his input.

Fred Woodhouse
Chair
Committee of Officials

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EXECUTIVE SUMMARY

Background

In April 1995, the Council of Australian Governments (COAG), which includes representation from the Commonwealth, State and Territory Governments, agreed to establish a National Competition Policy for Australia. The comprehensive package of reforms that COAG agreed to implement is based on the proposition that competition, if properly harnessed, can provide substantial benefits for consumers and boost economic performance.

Each jurisdiction (Commonwealth, State and Territory) is responsible for reviewing its own legislation with the aim of reforming all laws that restrict competition.

National Competition Policy (NCP) contains an explicit *public interest* test to allow restriction on competition to be retained where such restrictions serve the broad community interest. In general terms, legislation should not restrict competition unless it can be demonstrated that the benefits of the restriction to the community as a whole outweigh the costs and the objectives of the legislation can only be achieved by restricting competition.

The Government has an obligation to take into account the aspirations of a whole range of people in respect of this review, including commercial, recreational and traditional fishers in an effort to benefit the broader Australian community.

Under NCP, the Commonwealth Government has agreed that it will

- identify the nature of the restrictions of an Act on competition
- clarify the objectives of the legislation
- analyse the likely effect of any identified restriction on competition on the economy generally
- assess and balance the costs and benefits of the restriction
- consider alternative means for achieving the same result, including non-legislative approaches
- ensure that any proposals for new legislation which restrict competition are accompanied by evidence that it is consistent with the net public benefit principle.

There is no rigid definition of what constitutes a restriction on competition. The National Competition Council (NCC), established by the Commonwealth Government to advise on the progress of the Commonwealth, States and Territories in fulfilling their NCP requirements, has set down some criteria that identify what a restriction on competition might be. According to the NCC, an Act (together with its subsidiary regulations, orders, etc) could restrict competition if it

- governs the entry and exit of firms or individuals into or out of markets
- controls prices or production levels

- restricts the quality, level or location of goods and services available
- restricts advertising and promotional activities
- restricts price or type of input used in the production process
- is likely to confer significant costs on business
- provides advantages to some firms over others by, for example, sheltering some activities from pressures of competition.

Although restrictions on competition impose costs on the community, under particular circumstances such restrictions may provide a net benefit to the community as a whole. Where a particular restriction on competition generates benefits for the community, this NCP review addresses whether these benefits can still be retained without that restriction. Conversely, while a restriction may not impose any costs on the community, this does not mean that the restriction should be retained. A restriction on competition can only be retained where a net benefit to the community can be identified.

The Committee is of the view that, because fisheries are a community-owned national resource, Governments must ensure biological over-exploitation does not occur, resources are not wasted in their harvest, ecosystem processes are safeguarded and the level of exploitation is consistent with the likely demands of present and future generations. The Committee is of the view that Governments are responsible for managing the marine environment and its harvestable resources so that benefits flow to the community as a whole, both today and in the longer term.

With the NCP review of fisheries policy, the prime question to be asked is not whether a particular measure would enhance or restrict competition but whether it would improve or impede economic efficiency. Unrestricted fishing effort will inevitably lead to the dissipation of any potential resource rents, the destruction of fish stocks and long-term environmental degradation. The issue is therefore not whether regulation of fisheries is necessary but whether a particular set of regulations is, in the circumstances, best suited to ensuring the sustainable development of fish stocks with minimum resource rent dissipation.

There are situations where competition does not achieve efficiency. It appears that much of the Commonwealth fisheries legislation is directed towards restricting competition in the harvesting of the nation's fish resources. However, the Committee is conscious of the distinction between provisions directed at minimising the impact of failure on competition and any other measures that may restrict competition.

Fisheries management objectives

The *Fisheries Management Act 1991* and the *Fisheries Administration Act 1991* evolved from the 1989 Government policy statement *New Directions for Commonwealth Fisheries Management in the 1990s*. That policy statement indicated that the objectives for fisheries management should ensure fisheries resources are not over-exploited, commercial fishing operations enhance economic efficiency in fisheries, fishers are able to make a payment to the community for the right to exploit a public resource for private gain without reducing

the profitability of fishing operations and Commonwealth fisheries are managed on the most efficient and effective basis.

The review process

A Committee of Officials was formed to review the *Fisheries Management Act 1991*, the *Fisheries Administration Act 1991* and the subordinate legislation that contributes to the overall administration and management of Australia's Commonwealth fisheries. The Committee prepared an Issues Paper[1] and sent a copy to every Commonwealth fishing concession holder.

Notices were placed in the press advising of the review and seeking submissions[2]. Twelve submissions were received[3].

The Committee identified restrictions on competition within the legislation, assessed the net community benefit of these restrictions and, where appropriate, considered alternative means for achieving the same result. The Committee made recommendations on the identified restrictions.

Findings and recommendations

The Committee was not required to consider whether removing restrictions would result in benefits. Rather, the Committee was mindful that if legislative restrictions on competition were to remain, it must be demonstrated that, as a result of retaining those restrictions, benefits flow to the Australian community as a whole.

The Committee found that there is a net public benefit arising from the existing restrictions on competition within the Commonwealth fisheries legislation. The Committee also found that there is a net public benefit in retaining restrictions in Commonwealth fisheries and the objectives of the legislation can only be achieved by restricting competition.

The recommendations of the Committee are listed hereunder -

Restriction A – competitive total allowable catches (TACs): The Committee recommends that where there is a clear identified need to implement timely catch restrictions in a fishery to avoid a stock decline, consideration should continue to be given to the application of a competitive TAC as a temporary measure whilst longer-term management arrangements are being developed and implemented. Consistent with existing policy, the Committee considers that the use of a competitive TAC is not preferred as a long-term management approach.

[1] See Appendix 4.
[2] See Appendix 5.
[3] See Appendix 6.

Restriction B – individual transferable quotas (ITQs): The Committee recommends that for any stock where it is possible to set and enforce practical TAC approaches, then the ongoing use of ITQs is the preferred fisheries management tool. Consistent with existing policy, the Committee considers that the use of ITQs is the preferred long-term management approach under the legislation.

Restriction C - limited entry: The Committee recommends that the current provisions in the legislation allowing restrictions to entry remain.

Restriction D – boat replacement restrictions: The Committee recommends that the current provisions within the legislation allowing restrictions on boat replacement remain.

Restriction E – non-transferable fishing rights: The Committee recommends that, when imposed as a temporary measure, non-transferable fishing rights have a net benefit to the community and should be retained. The Committee also recommends that, when imposing such a restriction, a sunset clause be required.

Restriction F – licence splitting: The Committee recommends that the current provisions within the legislation allowing restrictions on licence splitting remain.

Restriction G – area closures in fisheries: The Committee recommends that the provisions within the legislation allowing area closures remain.

Restriction H – gear restrictions: The Committee recommends that the provisions within the legislation allowing gear restrictions remain.

Restriction I – auction, tender or ballot for allocation of fishing rights: The Committee recommends that the provisions within the legislation allowing for auction, tender or ballot remain.

NATIONAL COMPETITION POLICY REVIEW OF COMMONWEALTH FISHERIES LEGISLATION

1. OVERVIEW

The gross value of commercial fish production in Australia in 1998-99 exceeded $2 billion, of which 75 per cent was received from exports. By way of comparison, it has been estimated that national expenditure on recreational fishing in 1998 was $2.926 billion[4]. It should be noted that the value for commercial fishing is based on landed commercial catch, whereas the estimated value for the recreational sector covers all expenditure including, for example, amounts spent on items such as boats, cars, accommodation and fishing gear.

In April 1995, all Australian Governments signed three agreements establishing a National Competition Policy (NCP) for Australia. The agreements define a comprehensive package of reforms that Governments undertook to put in place under the NCP process. These agreements are

- the *Competition Principles Agreement*, which requires the review of all legislation with a view to clarifying objectives, identifying restrictions on competition, assessing their benefits and costs to the community and considering alternative, less restrictive ways of achieving community benefits
- the *Conduct Code Agreement*, which sets out, amongst other things, the exceptions from competition laws, the funding and procedures for appointments to the Australian Competition and Consumer Commission and for modification to the competition laws
- the *Agreement to Implement the National Competition Policy and Related Reforms*, which is an agreement under which the Commonwealth Government makes payments to the States and Territories provided satisfactory progress is made in implementing change identified as part of the review process.

The presumption underlying NCP is that restrictions will be removed unless they are proven to be beneficial. In general terms, legislation should not restrict competition unless it can be demonstrated that

- the benefits of the restriction to the community as a whole outweigh the costs; and
- the objectives of the legislation can only be achieved by restricting competition.

Although restrictions on competition impose costs on the community, under particular circumstances such restrictions may provide a net benefit to the community as a whole.

Where a particular restriction on competition generates benefits for the community, the NCP Review addresses whether these benefits can still be retained without that restriction. Conversely, while a restriction may not impose any costs on the community, this does not

[4] According to ABARE, the gross value of production for Australian fisheries was $2.48 billion in 2000-01.

mean that the restriction should be retained. A restriction on competition can only be retained where a net benefit to the community can be identified.

There is no rigid definition of what constitutes a restriction on competition. The National Competition Council (NCC), established by the Commonwealth Government to advise on the progress of the Commonwealth, States and Territories in fulfilling their NCP requirements, has set down some criteria that identify what a restriction on competition might be. According to the NCC, an Act (together with its subsidiary regulations, orders, etc.) could restrict competition if it

- governs the entry and exit of firms or individuals into or out of markets
- controls prices or production levels
- restricts the quality, level or location of goods and services available
- restricts advertising and promotional activities
- restricts price or type of input used in the production process
- is likely to confer significant costs on business
- provides advantages to some firms over others by, for example, sheltering some activities from pressures of competition.

It should be noted that each jurisdiction (Commonwealth, State and Territory) is responsible for reviewing its own legislation.

1.1 The review process

The Commonwealth Department of Agriculture, Fisheries and Forestry established a Committee of Officials to conduct the review of Commonwealth fisheries legislation. The Committee consisted of an independent Chair appointed by the Minister for Agriculture, Fisheries and Forestry and a representative from each of the following

- Australian Fisheries Management Authority
- Australian Seafood Industry Council
- Commonwealth Department of the Environment and Heritage
- Commonwealth Department of Agriculture, Fisheries and Forestry
- Commonwealth Scientific and Industrial Research Organisation
- Recfish Australia
- the commercial fishing industry.

Under the Competition Principles Agreement, the Committee was required to

- identify the nature of the restrictions of an Act on competition
- clarify the objectives of the legislation
- analyse the likely effect of any identified restriction on competition on the economy generally
- assess and balance the costs and benefits of the restriction

- consider alternative means for achieving the same result, including non-legislative approaches
- ensure that any proposals for new legislation which restrict competition be accompanied by evidence that it is consistent with the net public benefit principle.

The Committee was not required to consider whether removing restrictions would result in benefits. The Committee was mindful that if legislative restrictions on competition were to remain, it must be demonstrated that, as a result of retaining those restrictions, benefits flow to the Australian community as a whole.

The Terms of Reference for the review are at Appendix 3.

1.2 The Issues Paper

The Committee prepared and released an Issues Paper in April 1999[5]. This paper was intended to stimulate discussion and encourage input to the review process. A copy was sent to every Commonwealth fishing concession holder – approximately 1,200. A further 100 copies of the paper were sent out on request.

The Committee placed notices advising of the review and seeking submissions in the Weekend Australian, Canberra Times, Age, Courier Mail, Sydney Morning Herald, Advertiser and Mercury on Saturday, 8 May 1999. The notices asked for submissions to be lodged by 18 June 1999[6]. Twelve submissions were received[7].

1.3 Scope of the review

The Committee defined the scope of the review to include

- *Fisheries Management Act 1991*
- *Fisheries Administration Act 1991*
- *Fisheries Legislation (Consequential Provisions) Act 1991*
- *Statutory Fishing Rights Charge Act 1991*
- *Fisheries Agreements (Payments) Act 1991*
- *Fishing Levy Act 1991*
- *Foreign Fishing Licences Levy Act 1991*
- *Northern Prawn Fishery Voluntary Adjustment Scheme Loan Guarantee Act 1985*
- *Fisheries Levy Act 1984*.

The review also included issues raised in all subordinate legislation such as regulations, rules and guidelines made under the above Acts.

[5] See Appendix 4.
[6] See Appendix 5.
[7] Listed at Appendix 6.

1.4 Committee meetings

The Committee met formally on 14 April and 9 August 1999 and 28 June 2000 to discuss issues raised by the review.

The process of review carried out by the Committee followed NCP recommended guidelines. In its deliberations, the Committee considered all the material that it received.

2. RATIONALE FOR COMMONWEALTH GOVERNMENT INVOLVEMENT IN FISHERIES MANAGEMENT

Australian fisheries are defined as those fisheries falling within the Australian Exclusive Economic Zone, which extends to 200 nautical miles from coastal baselines. To simplify jurisdiction, boundaries have been developed handing over management responsibility to the State, Territory and/or Commonwealth of Australia Governments. Each State/Territory jurisdiction has responsibility for fisheries that lie within its internal waters (e.g. river, lake and estuarine fisheries) and, where applicable, adjacent fisheries within a three nautical mile boundary from the coastline. The Commonwealth has jurisdiction for fisheries that lie between 3 and 200 nautical miles of the coastline. When a particular fishery falls within two or more jurisdictions, an Offshore Constitutional Settlement (OCS) arrangement is generally developed and responsibility is passed to one jurisdiction. Alternatively, a Joint Authority may be formed whereby a fishery is co-managed through the legislation of one jurisdiction. Similarly, where a fishery crosses national boundaries, bilateral or multilateral agreements can be entered into.

Fish in the wild are regarded generally as a community resource because it is difficult to allocate individual rights to a resource that cannot be kept within well-defined boundaries. The result is that usually a fish does not become the property of an individual fisher until it is actually caught. This situation naturally presents a temptation for fishers to attempt to maximise the volume and value of their catch with the risk of over-fishing a limited, although renewable, resource.

The Committee is of the view that, because fisheries are a community-owned resource, Government must ensure biological over-exploitation does not occur, resources are not wasted in harvesting the resource and the level of exploitation is consistent with the likely demands of present and future generations. The Committee is of the view that Governments are responsible for managing the marine environment and its harvestable resources so that benefits flow to the community as a whole both today and in the longer term. In line with the NCP guidelines, government intervention in the form of restrictions on competition is necessary to achieve the objectives of the Commonwealth fisheries legislation, and the benefits of these restrictions on the community as a whole outweigh the costs. In order to further understand the rationale for government involvement in fisheries management, it is important to understand the economic, biological and historical aspects of fisheries and their management. These are detailed below.

2.1 The economics of fisheries

To understand the nature of some of the economic problems faced in managing fisheries, it is necessary to understand some basic forces of our economic system and the differentiation of fisheries from other natural resources.

Many natural resources are, if properly managed, capable of returning significant profits. For example, if it is profitable to mine an ore body with a mineral content of one per cent

then an ore body with a mineral content of five per cent will produce very large profits. Likewise, if it is profitable to cover the operating costs of a boat, including a reasonable profit margin, with a daily catch of one tonne of fish, then a daily catch rate of two tonnes will be very profitable. That part of the profit, which results not from the skill and enterprise of the individual but from the productivity of the resource, is called resource rent.

Profits, in the form of resource rents, may be potentially available from a particular resource yet this does not always mean that those utilising the resource will capture these profits. For example, fertile river flats might generate significant resource rents if used for crop growing. However, there would be no point in planting such crops if others could not be prevented from grazing stock on those crops or, in the unlikely event that these crops survived to maturity, others could not be prevented from harvesting them for their own use. This particular problem has been overcome with terrestrial resources by allocating access rights to individual farmers. These rights allow an individual farmer to use the land for its most productive purpose and, in this manner, to retain any resource rents as part of the profits.

An effective access rights system allows individuals to retain all the benefits of their enterprise and meet all the costs of their activity. For example, a variety of modern mining leases require their holders to build and maintain tailings dams to prevent water and air pollution and to undertake site restoration at the completion of mining operations. Effective access rights are essential to the proper working of a free market system.

The free market for goods and services can be considered the engine that drives the economy as the interplay of supply and demand creates an incentive for producers to become more cost effective and seek more economically efficient ways of providing goods and services. However, in certain circumstances where the free market does not produce an economically efficient outcome, a market failure is said to have occurred. Market failure can occur with a natural resource when access rights are inappropriate or incomplete. This can be the case in fisheries. Whilst there is no doubt that fisheries are capable of generating large profits in the form of resource rents, because of the difficulty in assigning effective individual access rights to this naturally occurring mobile resource, a market failure occurs.

For example, a rational farmer is unlikely to deplete flocks or herds to the extent that there is insufficient breeding stock for future years. Farmers with secure title to a property can operate independently of competitors and make their own stock management decisions. These decisions, together with competence, will determine an individual's success. However, a fisher does not enjoy the same independence as a farmer. All operators in a particular fishery are harvesting the same resource. The capture of each fish means that there is one less fish available to be shared by all the other fishers. Those who catch the fish get all the benefits but all the operators in that fishery share the costs incurred (e.g. a reduction in future catch). A rational fisher will keep fishing for as long as the benefit from each fish caught exceeds his/her direct cost.

As a fish does not become the property of a fisher until it has been caught, each fisher has an incentive to catch as many fish as quickly as possible. Each fish caught reduces the quantity of fish remaining. As fish numbers decline so do catch rates and the cost of

catching additional fish increases. The fisher who catches a fish receives the full value of that fish, but indirect costs (i.e. costs associated with decreasing catch rates) are shared with every other fisher. Therefore each fisher passes on part of their costs to other fishers, and the access rights to fisheries do not meet the essential requirement of a free market system whereby individual rights holders should meet all costs associated with their activity.

Potentially large resource rents and the absence of effective access rights in many fisheries means that excessive investment in boats and equipment takes place as each fisher attempts to maximise their share of the resource rent. The result of this competition is that resource rents are dissipated and fishing effort may be sufficient to severely deplete fish stocks. Therefore, in general, the larger the potential resource rents available from a fishery, the greater the danger of resource depletion.

As the main objective of NCP is to foster economic efficiency, the existence of a market failure could justify regulations that restrict competition. In the NCP review of fisheries legislation, the prime question to be asked is not whether a particular measure would affect competition but whether it would affect economic efficiency. Unrestricted fishing effort will lead inevitably to the dissipation of any potential resource rent and unsustainable catch levels of fish stocks. The issue is therefore not whether the regulation of fisheries is necessary but whether a particular set of regulations is, in the circumstances, best suited to ensuring the sustainable development of fish stocks whilst maximising economic efficiency.

The Committee draws attention to the following statement in the Executive Overview of the report of the National Competition Policy Review -

> *Competition policy is not about the pursuit of competition* per se. *Rather, it seeks to facilitate effective competition to promote efficiency and economic growth while accommodating situations where competition does not achieve efficiency or conflicts with other social objectives.*

This statement recognises specifically that there are situations where competition does not achieve efficiency.

It would appear that much of the Commonwealth fisheries legislation is directed towards restricting competition in the harvesting of the nation's fish resources. However, the Committee is conscious of the distinction between provisions directed at minimising the impact of failure of competition and any other measures that may restrict competition.

2.2 The biology of fisheries

Many biological factors impact on fisheries management decisions and influence the attitude of fishers to management. Two key factors are the fecundity and longevity of individual fish species.

Some harvested marine species, including fish, are highly fecund. Others, such as sharks, have much lower fecundity. A species with low fecundity is likely to be more susceptible

to over-fishing, and is likely to require a longer time period to recover from over-fishing (or some natural decline in population size). Management decisions for a particular species need therefore to consider fecundity and the number of young that are likely to reach reproductive maturity.

The life span of a species also has implications for fisheries management. Some species, such as orange roughy, have a very long life span (possibly up to 150 years). Fisheries of long-lived species will have several 'year classes' at any one time, and there is less year-to-year variation in total abundance. As a result, catch variation between years is reduced. However, as fishing pressure increases, the number of 'year classes' tends to decline. This makes long-lived species susceptible to over-fishing should unfavourable environmental conditions, combined with fishing pressure, cause a series of recruitment failures.

Other species have a very short life span. For example, some prawn species only live for one year. With such short-lived species, fishing and reproduction concentrate on one or two 'year classes' and abundance can vary considerably from year to year. Thus, sustainable harvest levels will also vary.

Determining sustainable harvest levels can often be difficult because of the difficulty in collecting data that represents the true current state of the stock. Stock assessment and sustainable harvest levels are often estimated from catch and effort data. Collecting accurate catch and effort data is difficult for several reasons, including the high costs involved in data validation and the difficulty in quantifying the rate of technological creep into the fishery.

Fisheries management imposes short-term costs on fishers. The lag between when specific management action is taken and when the benefit, if any, is seen in fishers' incomes influences significantly the attitude of the affected fishers.

In common with other industries, fishers have usually a planning horizon of from five to ten years. An investment with a waiting period greater than ten years must offer very high returns to be worthwhile. Thus, fishers in the Northern Prawn Fishery (NPF), with a single year crop, may see a benefit in effective stock protection measures as the returns could start to flow as early as the following year. With southern bluefin tuna (SBT), the situation is more problematic. SBT do not reach maturity until about 12 years of age. Thus, measures aimed at increasing the breeding stock will take many years to provide benefits. Similarly, in the Southern Shark Fishery (SSF), low fecundity means that stock recovery may take up to 30 years to produce returns.

Whilst harvesting target species, fishers also catch non-target species. The selectivity of fishing gear will affect the catch composition of target and non-target species. Some non-target species may be of commercial value, whilst others are discarded from fishing vessels at sea. Discards, or bycatch, can include birds (in the hook and line fishing sectors) and benthic plants and animals (in the demersal trawl sectors). This can have significant impact on the marine environment, including the habitat and breeding areas of some species. Industry and Governments are working together to ensure that bycatch is minimised and that a sustainable marine environment is preserved.

2.3 History of development of Australian fisheries

Under nineteenth century law, territorial boundaries of nations could extend no more than three nautical miles. This applied to Australia and was the extent of jurisdiction of Australian States following Federation. Within this three-mile Territorial Sea, each State had jurisdiction over all fishing, both domestic and foreign. Each State could also make laws that governed fishing by fishers based in that State beyond the Territorial Sea. The Commonwealth could, if it chose, make laws governing fishing by Australians fishing beyond the Territorial Sea.

Apart from the South East Trawl Fishery (SETF), which commenced in 1915, most Australian commercial fisheries were, until after the Second World War, localised inshore operations, using small boats and unsophisticated fishing equipment and selling fresh fish on local markets.

Fish canning started on a small scale in the late 1930s. This led to the initial development of the tuna fishery using small boats with troll lines.

A fairly rapid development of fisheries took place in the early post war years. This was driven initially by the development of the rock lobster fisheries off Western Australia and the southern States, and the discovery of east coast offshore prawn resources. The development of the rock lobster fishery was facilitated by demand from the US whilst the prawn fishery developed to serve the domestic market and later the export market in the US and Japan.

There was for many years a natural progression in fishing effort that limited the need for management. As virgin stocks were fished down and catch rates declined, some boats would seek new grounds. As a new resource was discovered, other fishers would follow and a new fishery would develop. The level of effort in the original fishery would decline.

Apart from a few fisheries (like for rock lobster) where very high market prices attracted and retained excess fishing capacity, most fisheries were not subject to high levels of fishing effort. Where there was concern, the initial response was usually to introduce a seasonal closure. In a few instances, gear restrictions (as distinct from minimum mesh sizes which had been introduced into most trawl fisheries from an early date) were also used to restrict fishing effort. These restrictions were imposed for purely biological reasons. Their economic impact was either not recognised or was ignored.

2.4 Legislative framework

Apart from laws relating to pearling and whaling, the Commonwealth had passed no laws relating to fishing until the *Fisheries Act 1952*. The main reason for this 1952 legislation appears to have been to regulate fishing by Australians outside the Territorial Sea, regardless of their State of origin. The stated objective of the Act was the conservation of fish resources. In 1979, in accordance with the United Nations Convention on the Law of

the Sea, optimum utilisation was added as a second objective. The meaning of this term was not further defined, but was apparently designed to allow non-conservation considerations, e.g. economic, social, etc. to be taken into account.

The *Fisheries Act 1952* required all Australian fishers operating in waters beyond the Territorial Sea to hold a Commonwealth fishing boat licence (CFBL). A CFBL allowed its holder to operate in any Australian fishery outside the Territorial Sea using any fishing gear. In addition, each skipper had to hold a master fisherman's licence and each member of the crew was required to hold a fisherman's licence.

As national jurisdiction did not extend beyond the Territorial Sea, the Commonwealth could not control foreign fishing. To provide some protection to Australian fishers, entry to Australian ports by foreign fishing boats was restricted and the direct landing of fish from foreign boats was prohibited under Custom's regulations. It is important to recognise that, at that time, the level of foreign fishing in waters adjacent to Australia and their interaction with Australian fishers was not great. From about 1960 onwards, Japanese tuna longliners did operate around much of the Australian coast. Fishing by other nations was, however, rare and of an exploratory nature and did not lead to sustained fishing operations.

In 1969, in keeping with international developments in maritime law, Australia extended its jurisdiction to all fishing within 12 nautical miles of the coast. In 1979, in accordance with the United Nations Convention on the Law of the Sea, the 200 nautical mile Australian Fishing Zone (AFZ) was declared. These developments had no direct and immediate impact on the management of domestic fisheries. However, they did allow the regulation of foreign boats fishing in waters adjacent to Australia for the first time. The States retained jurisdiction of fisheries within the Territorial Sea (i.e. between the coastline and three nautical miles), and the Commonwealth took responsibility over fisheries between three nautical miles and the AFZ outer limits (200 nautical miles).

Many fisheries extended across the Territorial Sea boundary and some extended into waters off two or more States. As a result, fishers had to hold multiple licences and decision-making was complex, involving two or more jurisdictions.

To allow more rational fisheries management, legislation establishing the OCS was passed in 1982 and came into effect in 1984. Under the OCS, the Commonwealth and a State/Territory can enter into an arrangement whereby either party becomes solely responsible for the management of a particular fishery. As a general rule, the State/Territory manages a fishery located off a single State/Territory while the Commonwealth manages a fishery extending into the waters off two or more States/Territories.

Provision also exists for the creation of a Joint Authority to manage specific fisheries. A Joint Authority can comprise the Commonwealth and one or more of the States or Northern Territory. Joint Authority decisions are implemented under a single Act.

Following the publication of the then Government's 1989 policy statement *New Directions for the Management of Commonwealth Fisheries in the 1990s,* the *Fisheries Act 1952* was repealed and replaced by the current *Fisheries Management Act 1991* and *Fisheries Administration Act 1991.* The focus of these Acts is on fisheries management, with ecologically sustainable development and economic efficiency being the main objectives.

2.5 Fisheries management

Up until at least the mid-1970s the main emphasis of the Commonwealth's involvement in fisheries was directed principally at development of the industry rather than at management. The same situation applied in most of the States.

By 1963, despite the use of seasonal closures and minimum legal size limits, fishing effort in the Western Australian fishery for rock lobster was continuing to increase in response to spiralling prices on the US market. The resource appeared to be at full exploitation and the danger of over-fishing was real. The Commonwealth therefore accepted a Western Australian proposal to limit further entry to the fishery. This was done by closing the area of the fishery to rock lobster fishing and then endorsing the CFBL of qualified fishers as exempt from that closure. That licence still authorised its holder to fish in every other fishery outside the Territorial Sea of any State/Territory.

The same procedure was followed progressively with every other limited entry fishery. This meant that every CFBL holder could fish in any fishery outside of the Territorial Sea other than an established limited entry fishery. Following the introduction of OCS arrangements in the mid-1980s, many limited entry fisheries, as well as other fisheries that were not limited entry, became the sole responsibility of a particular State/Territory. This meant that many State/Territory only fishers no longer required a CFBL. However, many fishers continued to hold CFBLs, apparently for speculative purposes.

The initial focus of the *Fisheries Act 1952* had been to provide a framework for development of Australia's fisheries resources. This was modified over the years as management of fisheries gained importance. For example, amendments in 1983 allowed for the creation of limited entry fisheries and, in 1984, allowed for the creation of fishery-specific plans of management.

By contrast, the 1991 legislation was directed at managing fisheries. Whilst conservation of fish stocks was a major objective of both the 1952 and 1991 legislation, the later legislation required managers to also pursue economic efficiency. The 1991 legislation also sought to give fishers more secure fishing rights. The one-year CFBL was replaced by fishing permits that had terms of up to five years and statutory fishing rights which could be for a fixed term if so specified in a management plan or which could have an indefinite life.

The role of the industry in managing fisheries was also given formal recognition through the creation of management advisory committees with prescribed functions and responsibilities. Finally, the creation of the Australian Fisheries Management Authority (AFMA) provided for a professional organisation to manage Commonwealth fisheries, at arms length from the Minister and Parliament. While the Minister's role in day-to-day decision making was reduced, Ministerial and Parliamentary oversight of fisheries management is maintained through accountability and reporting requirements of AFMA and the process AFMA is required to follow in developing and changing management plans. This process also gives industry and the wider public greater input into decision-making.

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3. FISHERIES LEGISLATION UNDER REVIEW

The purpose of this section is to give a brief summary of the legislation under review and the function that each performs. This NCP review is concerned with the following pieces of legislation

- *Fisheries Management Act 1991*
- *Fisheries Administration Act 1991*
- *Fisheries Legislation (Consequential Provisions) Act 1991*
- *Statutory Fishing Rights Charge Act 1991*
- *Fisheries Agreements (Payments) Act 1991*
- *Fishing Levy Act 1991*
- *Foreign Fishing Licences Levy Act 1991*

  NB. These Acts all form part of the same legislative package that replaced the *Fisheries Act 1952*, the *Continental Shelf (Living Natural Resources Act) 1968, the Fisheries Agreement (Payment) Act 1981* and the *Foreign Fishing Boats Levy Act 1981*.

- *Northern Prawn Fishery Voluntary Adjustment Scheme Loan Guarantee Act 1985*
- *Fisheries Levy Act 1984*.

These Acts are now inactive but have not yet been repealed. Both these Acts were concerned with collection of amounts outstanding.

3.1 Description of legislation under review

Fisheries Management Act 1991

This is the main legislation used to manage Commonwealth fisheries. It contains the objectives of the Commonwealth in managing fisheries and provides for the making of plans of management for individual fishers operating in Commonwealth managed fisheries and foreign fishers licensed to fish in the AFZ.

The *Fisheries Management Act 1991* contains provisions for arrangements with a State or the Northern Territory regarding the management of specific fisheries under the OCS. It also contains provisions relating to offences under the legislation and penalties that may be imposed. The *Fisheries Management Act 1991* and *Fisheries Administration Act 1991* have both been amended recently to implement the 1995 UN Fish Stocks Agreement[8], which entered into force on 11 December 2001[9].

[8] Agreement for the Implementation of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

[9] Refer to section 7.6 for more detail on this Agreement.

Fisheries Administration Act 1991
This Act establishes the administrative framework through which the Commonwealth exercises its fisheries management responsibilities. It provides the legislative base for the creation of AFMA. It specifies the composition of the AFMA Board and the process for appointing and removing Board members. It identifies functions to be performed by AFMA and requires AFMA to pursue the same objectives as set out in the *Fisheries Management Act 1991*. The Act also identifies the process for oversighting the activities and performance of AFMA by the Minister and Parliament.

Fisheries Legislation (Consequential Provisions) Act 1991
This Act provided transitional arrangements for the replacement of the *Fisheries Act 1952* by the *Fisheries Management Act 1991*. In particular, it made provision for the continuation of scientific permits and fishing licences issued under the *Fisheries Act 1952* until they expired or were revoked, even though most parts of the *Fisheries Act 1952* were repealed. It also provided for the transfer of fisheries management responsibilities shared with the States and the Northern Territory to the *Fisheries Management Act 1991* (under the OCS).

This Act also amended the *Primary Industries and Energy Research and Development Act 1989* to establish the Fisheries Research and Development Corporation (FRDC). The FRDC is funded by the Commonwealth and industry contributions, which are matched by the Commonwealth.

Statutory Fishing Rights Charge Act 1991
This Act allows the Commonwealth to receive any monies paid following the allocation of statutory fishing rights (SFRs) by auction, tender or ballot. The actual allocation of SFRs by these three methods is provided for specifically under the *Fisheries Management Act 1991*.

Fisheries Agreements (Payments) Act 1991
The *Fisheries Agreements (Payments) Act 1991* provides for collection of payments from overseas governments or commercial interests for access to the AFZ and replaces the *Fisheries Agreements (Payments) Act 1981*. The latter Act was repealed by the *Fisheries Legislation (Consequential Provisions) Act 1991* although transitional provisions in that Act provided for the collection of outstanding payments owing when the payments Act was repealed. The *Fisheries Agreements (Payments) Act 1991* was designed specifically to accommodate an arrangement between Australia and Japan under which payments were made by Japan for access to tuna stocks in the AFZ. At this time, Japan no longer has access to the AFZ.

Fishing Levy Act 1991
The purpose of this Act is to collect a levy from fishers granted the right to fish under the *Fisheries Management Act 1991*. It replaces substantially the earlier *Fisheries Levy Act 1984*. Levies collected under the *Fishing Levy Act 1991* comprise the contributions made by fishers towards the cost of managing fisheries and contributions towards the cost of fisheries research. This Act also provided for the repayment of loans guaranteed by the

Commonwealth in relation to the Voluntary Adjustment Scheme (VAS) conducted in the Northern Prawn Fishery[10].

Foreign Fishing Licences Levy Act 1991
Foreign fishing licences are fishery specific and subject to the payment of fees and levies. These fees and levies are intended to recover total costs incurred by Australia in administering and policing foreign fishing. The fees and levies can be paid either by a formal agreement for access to the AFZ or through specific levies imposed when the foreign fishing licence is granted. The *Foreign Fishing Licences Levy Act 1991* provides the mechanism through which levies associated with foreign fishing licences are paid when there is no formal agreement with overseas governments or commercial interests.

Northern Prawn Fishery Voluntary Adjustment Scheme Loan Guarantee Act 1985
This Act was passed to allow the Commonwealth to guarantee the repayment of a commercial loan used by the Northern Prawn Fishery industry to fund the purchase of fishing rights under the VAS for the NPF.

The VAS was considered a necessary component of the 1989 Northern Prawn Fishery management plan. The objective of the VAS was to purchase fishing rights of fishers who wished to leave the fishery, thereby reducing fishing capacity and effort in the fishery and increasing the profitability of those fishers who remained.

The idea behind the scheme was that fishers who wished to leave the fishery would be compensated for the surrender of their rights in the fishery. Under this Act, the full expense of repaying the loan is met by those remaining in the fishery through part of the annual levy imposed initially under the *Fisheries Levy Act 1984* and since 1993 under the *Fishing Levy Act 1991*.

Fisheries Levy Act 1984
This Act has been replaced by the *Fisheries Levy Act 1991*.

3.2 Other NCP reviews of fisheries legislation

Under the 1995 Council of Australian Governments (COAG) agreement, State and Territory Governments are undertaking their own reviews of fisheries legislation within their respective jurisdictions. The Commonwealth has conducted another NCP review of legislation currently relevant to the collection and dispersal of levies, as well as a review of the *Torres Strait Fisheries Act 1984*.

Because it is the primary Commonwealth fisheries management legislation in Australia, the *Fisheries Management Act 1991* is the main focus of this review although the other pieces of legislation contribute to the overall administration of Commonwealth fisheries.

[10] This is now complete.

4. CLARIFICATION OF OBJECTIVES OF FISHERIES LEGISLATION

The starting point of any NCP review of legislation is to identify and clarify the objectives of that legislation. This provides a point of reference against which the legislation can be appraised. These objectives may be ascertained through examining the legislation and a consideration of the second reading speeches, policy statements and relevant explanatory documentation. The objectives then need to be assessed according to priority, consistency and contemporary relevance.

4.1 Identification of objectives

The *Fisheries Management Act 1991* (FMA) and the *Fisheries Administration Act 1991* (FAA) are the two principal pieces of legislation that govern the management of Commonwealth fisheries. The legislation under review was developed as a package and presented to and approved by Parliament as such. Only the FMA and FAA contain detailed objectives and therefore have implications for the other legislation.

The FMA provides the goals for the management of Commonwealth fisheries and provides the ways in which they may be managed. The FAA establishes AFMA and outlines the objectives to be pursued in the administration of Commonwealth fisheries matters. Importantly, the FMA binds the Minister for Agriculture, Fisheries and Forestry and AFMA to pursue objectives, including those of the 1982 UN Convention[11].

Fisheries Management Act 1991

The objectives of the FMA are set down in section 3 of that Act as follows:

3 ***Objectives***

(1) The following objectives must be pursued by the Minister in the administration of this Act and by AFMA in the performance of its functions:

(a) implementing efficient and cost-effective fisheries management on behalf of the Commonwealth; 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 long term sustainability of the marine environment; and

(c) maximising economic efficiency in the exploitation of fisheries resources; and

(d) ensuring accountability to the fishing industry and to the Australian community in AFMA's management of fisheries resources; and

[11] *United Nations Convention on the Law of the Sea.*

(e) achieving government targets in relation to the recovery of the costs of AFMA.

(2) In addition to the objectives mentioned in subsection (1), or in section 78 of this Act, the Minister, AFMA and Joint Authorities are to have regard to the objectives of:

(a) ensuring, through proper conservation and management measures, that the living resources of the AFZ are not endangered by over-exploitation; and

(b) achieving the optimum utilisation of the living resources of the AFZ;

but must ensure, as far as practicable, that measures adopted in pursuit of those objectives must not be inconsistent with the preservation, conservation and protection of all species of whales.

The UN Fish Stocks Agreement[12] has resulted in the addition of a new objective (2)(c). This came into effect after the entry into force of this Agreement, which occurred on 11 December 2001.

(2) (c) ensuring that conservation and management measures in the AFZ and the high seas implement Australia's obligations under international agreements that deal with fish stocks.

Fisheries Administration Act 1991

The objectives of the FAA are set down in section 3 of that Act as follows:

Objects of Act

3.1 *The objects of this Act are:*

(a) to establish an Australian Fisheries Management Authority with functions and responsibilities relating to the management of fisheries on behalf of the Commonwealth; and

(b) to establish a Fishing Industry Policy Council with a view to ensuring the participation by persons engaged in, or having an interest in, the fishing industry in the process of formulating government policy in relation to the management of fisheries.

The objectives of AFMA (referred to in the FMA as 'the Authority') are, in turn, set down in section 6 of the FAA:

Objectives

6. *The Authority, in the performance of its functions, must pursue the objectives of:*

(a)implementing efficient and cost-effective fisheries management on behalf of the Commonwealth; 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

[12] Refer to section 7.6 for more detail.

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 long term sustainability of the marine environment; and

(c) maximising economic efficiency in the exploitation of fisheries resources; and

(d) ensuring accountability to the fishing industry and to the Australian community in the Authority's management of fisheries resources; and

(e) achieving government targets in relation to the recovery of the costs of the Authority.

The clear overlap between section 3(1) of the FMA and section 6 of the FAA reflects that they were passed as the same legislative package.

4.2 Assessment of the objectives according to priority, consistency and contemporary relevance

The FMA and the FAA were developed following the release of the 1989 Government policy statement *New Directions for Commonwealth Fisheries Management in the 1990s*. The policy statement emphasised four objectives for fisheries management. They were to

- ensure that fisheries resources are not over-exploited and that any exploitation is at a level which can be sustained while maintaining the surrounding environment
- enable commercial fishing operations to be as economically efficient as possible, using the most appropriate technology to achieve the greatest net returns
- create conditions where fishermen are able to make a payment to the community for the right to exploit a public resource for private gain, recognising that such a payment should not reduce the profitability of fishing operations to less than their current levels
- ensure that the administration of Commonwealth fisheries should be conducted on the most efficient and effective basis.

The FMA and FAA were developed after the 1989 policy statement and, unlike the policy statement; they give consideration to ecologically sustainable development, non-target species and the marine environment. The FAA sets in place the arrangements for the administration of Commonwealth fisheries management activities, including the establishment of AFMA. At the time of the passing of the FAA, the Government envisaged the role of AFMA as being the body responsible for the management and sustainable development of those Australian marine resources for which the Commonwealth has responsibility on behalf of the Australian community.

The establishment of AFMA as an independent statutory authority was intended to provide several advantages for fisheries management over those that a Government department could provide. As a statutory authority, AFMA is intended to operate with more independence than a Government department, although the approval of the Commonwealth Minister must be sought for the corporate, annual operational plans and management plans of AFMA before they come into effect.

In keeping with the 1989 policy statement, the FMA represented a fundamental change in fisheries management policy. Prior to the commencement of the FMA, Commonwealth fishing concessions were issued usually as licences that allowed the holder to fish in most areas within the AFZ for a period of 12 months, after which time they could, in theory, not be re-issued.

Central to the operation of the FMA is the issuing of statutory fishing rights created under plans of management that are devised in relation to particular fisheries. Statutory fishing rights granted under the FMA are intended to be ongoing in nature, with the holder having a reasonable expectation of continuity if the holder has paid the appropriate levies and complied with the relevant regulatory mechanisms. Fishing permits may also be granted for periods of up to five years where there is no plan of management in place or where provided for in a plan of management. Such permits will apply to specific boats and may specify conditions that must be complied with, including the area fished, gear used for fishing, species that may be targeted and the provision of fishing data.

The key goals of the FMA and the FAA are to ensure that the exploitation of marine resources is carried out in such a way as to maintain the long-term sustainability of fish stocks and the marine environment, and to ensure that stocks are harvested in the most economically efficient way possible. These objectives also contain what have been called 'procedural objectives' that enshrine the need for accountability to the fishing industry and the broader Australian community, as well as pursuing a policy of cost-recovery.

The entry into force of the UN Fish Stocks Agreement[13] was accompanied by the incorporation of a new objective (2)(c) to the FMA. This new objective, which seeks to ensure 'that conservation and management measures in the AFZ and the high seas implement Australia's obligations under international agreements that deal with fish stocks,' highlights the progressive approach of the legislation to move with new developments in fisheries policy settings.

4.3 Judicial consideration

The Federal Court in the context of several decisions has considered the impact of the objectives stated in section 3 of the FMA. In the 1995 case of *PW Adams Pty Ltd v Australian Fisheries Management Authority*, the Full Court of the Federal Court found that the objective of maximising economic efficiency in the exploitation of fishery resources must be taken into account, but that the weight and emphasis given to other objectives may vary.

In the 1997 case of *Bannister Quest Pty Ltd v Australian Fisheries Management Authority*, the Court considered the particular effect of sections 3(1)(b), (c) and (d), which are the provisions that contain the objectives of 'ecologically sustainable development', 'economic efficiency' and 'accountability'. In that instance, the Court considered the text of the 1989 policy statement to interpret the objectives as imposing particular obligations upon the way that AFMA conducted its operations.

[13] Refer to section 7.6 for more detail.

The Court decided that the term 'economic efficiency' under section 3(1)(c) did not require AFMA to make decisions on the basis of the relative efficiency of individual operators but to direct its attention to maximising economic efficiency in the exploitation of the resources of the particular fishery overall, by striving to increase the aggregate profitability of the whole body of operators in a particular fishery.

The Court held that the meaning of 'accountability' as an objective under section 3(1)(d) was confined to requiring that AFMA only give an account of its policies, decisions and management of fisheries resources to the industry and the community. This also meant that AFMA was not required to give weight to the concerns, views or representations made to it by the industry or community bodies when making decisions in the course of performing its functions.

Perhaps the most significant findings of the Court were made in relation to the meaning of 'ecologically sustainable development' under section 3(1)(b) of the FMA. The Court found that in pursuing the objective of ecologically sustainable development, AFMA was required to limit its consideration to matters that either relate to ensuring the biological sustainability of fish stocks or else ensuring the protection of the marine environment upon which those fish resources depend. This also meant that in considering the meaning of 'ecologically sustainable development', AFMA was restricted to the meaning it possessed at the time it was written into the FMA. As a result of this, the FMA had to be interpreted without the benefit of the more recent policy statements such as the *National Strategy for Ecologically Sustainable Development*, which was endorsed by the Council of Australian Governments in December 1992. This in turn meant that AFMA had to disregard social equity considerations and other factors that had since come to be regarded as part of the policy of ecologically sustainable development.

In interpreting the legislation in the light of Parliamentary Hansard and the 1989 policy statement, Drummond J said in his judgement in the *Bannister Quest* case

> *I read these passages as a clear indication that there is no room for AFMA, in seeking to maximise economic efficiency in the exploitation of fisheries resources, to take into account social and equity considerations in its decision-making process. This concept of maximisation of economic efficiency does not, I think, involve consideration of matters of relevance in welfare economics, which is concerned with trying "to reconcile the goals of efficiency and fairness".*

The Committee noted that the Minister for Agriculture, Fisheries and Forestry has progressed a review of the 1989 fisheries policy *New Directions for Commonwealth Fisheries Management in the 1990s*. In this context, the Committee understands that the broader context of the legislative objectives will be considered in a public policy sense and therefore saw no need to make specific recommendations on this matter.

5. CURRENT OPERATION OF THE LEGISLATION AND IDENTIFICATION OF POTENTIAL RESTRICTIONS ON COMPETITION

Output controls, input controls or a mixture of both are used to manage all Commonwealth fisheries. As the names suggest, output controls restrict the quantity of catch that comes out of a fishery and input controls restrict the amount of effort going into a fishery.

This chapter looks at the various output and input controls that exist under the FMA. The various restrictions classified as output controls are discussed and the Southern Bluefin Tuna (SBT) fishery has been used as a case study for a fishery managed by output controls. The various restrictions that are classified as input controls are then addressed and the Northern Prawn Fishery (NPF) has been used as a case study for a fishery managed by input controls. Two examples of fisheries under output controls (the SBT and South East Fishery (SEF)) have been included as Appendix 1 and the NPF case study has been included as Appendix 2. This chapter also makes reference to other fisheries.

In most instances, the application of these controls is authorised under the FMA, related regulations and delegated legislation. In some situations these controls were deployed through administrative arrangements established under the earlier *Fisheries Act 1952*.

This chapter, in accordance with *Guidelines for NCP legislation reviews* (Centre for International Economics, 1999), has

- identified and described potential restrictions on competition within the legislation under review
- assessed the costs and benefits of the restriction
- considered any alternatives.

These *Guidelines* also state:

> *The main guiding principle of NCP reviews is that legislation should not restrict competition unless it can be demonstrated that:*
>
> 1. *the benefits of the restriction to the community as a whole outweigh the costs; and*
> 2. *the objectives of the legislation can only be achieved by restricting competition.*

Each restriction identified by the Committee has been assessed in this light and recommendations have been made.

5.1 Output controls in fisheries management

Controlling the output from a fishery (that is restricting the quantity of fish that may be taken) is a fairly obvious way of protecting fish stocks. However, even such an apparently simple measure cannot be implemented without an adequate knowledge of the fish stocks involved (so that realistic catch limits can be set) and without incurring considerable expense in monitoring the catch taken and enforcing catch restrictions. Although such a management regime does not necessarily involve restricting who may fish, it is still necessary to know who is fishing and how much each has taken.

The two basic types of output controls are competitive total allowable catches - TACs (or global quotas) and individual transferable quotas - ITQs.

The first major use of global quotas or competitive TACs occurred in the 1930s when the International Pacific Halibut Commission was established to manage the declining halibut stocks in the North Pacific. Management Zones were established, each with its own TAC. Fishing within each Zone ceased when the TAC for that Zone was taken. A TAC involves fixing the upper limit on the catch that can be taken in that fishing season.

Under this regime, halibut stocks recovered significantly. However, because there were no controls on inputs, the availability of profit in the form of resource rent meant that the fishery continued to attract investment in the form of additional, larger boats. The fishery was therefore characterised by an ever-decreasing fishing season - for most Zones only a few days. As a result boats, crews and processing equipment were idle for most of the year while profitability remained minimal.

While it was shown that a competitive TAC could protect fish stocks, this measure failed to address the underlying economic cause of over-fishing, i.e. the absence of a property right that allows individual fishers to retain a share of potential resource rent.

Largely because of the social disruption with which they were associated, competitive TACs lost favour as a primary fisheries management tool and were used only as a fallback mechanism in some fisheries that were managed primarily through input controls. Other than as a temporary measure (for Southern Bluefin Tuna and gemfish), they have not been used in Australian fisheries.

It was not until the late 1970s that the possible use of output controls with catch allocated to individual fishers began to receive attention as a possible alternative to input controls. These initial concepts developed into what are now called ITQs.

It is evident that a pre-requisite for any successful output control management system is the capacity to set a TAC with a reasonable degree of certainty. For a species where catch varies significantly from year to year, this can present problems. Such variability can result from unpredictable factors unrelated to stock size (e.g. water temperature) that can affect fish behaviour and determine whether they occur at a particular time or place. Particularly with short-lived species (e.g. prawns), it can be the stock size itself that is unpredictable.

Unless a TAC can be set with a reasonable degree of certainty, output controls may fail to provide either resource protection or security for those in the fishery. With ITQs for example, unless a fisher is confident that there are sufficient fish available, he or she will still have the incentive to over-invest and race to their allotted share in case there are insufficient fish to satisfy the TAC.

Output controls are more effective in single species fisheries, even where that species may be taken by several different fishing methods. Ideally, in such a situation the choice of fishing method should be left to the individual fisher.

It becomes more difficult to use output controls effectively where more than one species is taken as part of the same catch. If not all species are subject to TACs then there will be an incentive to target non-quota species and to increase the level of discarding or high-grading of those species subject to quotas.

Even where all species in a multi-species fishery are subject to TACs, problems will inevitably arise because of natural and unpredictable variations in abundance of each species. The TACs for some species will be taken while there are still considerable parts of the TACs of other species available. Once again, this has the potential to lead to discarding and high-grading.

While it is possible in some cases to set TACs that include two or more species, the effectiveness of this procedure is limited unless each species has a comparable market price. Where there is considerable variation in price, the temptation will be to high-grade by discarding species of lower value.

It must be recognised that discarding or high-grading is not unique to fisheries managed through output controls. No fisher will land fish unless the expected price exceeds the cost involved in selling the fish. Typically, such selling costs include the cost of transport to market (including icing or refrigeration) and market dues. With output controls, these costs are increased by the cost of the quota. This cost is seen most readily where a fisher leases quota to cover a particular catch but also includes the cost involved in using quota to cover low value fish rather than to discard that fish and retain the quota for future, higher value catches.

From an administrative perspective, the cost of operating an output control system can also be greater than the cost of input controls. This is because of the costs associated with monitoring landings and, in the case of ITQs, recording individual fishers catch against holdings of quota. For an output control system to be effective, the level of unrecorded landings must be close to zero. With input controls, a rigorous catch monitoring system is unnecessary. There is no reason (except possibly for taxation evasion) for fishers to under-report catches. A somewhat similar situation applies with a competitive TAC. The advantage an individual would get from under-reporting catches would be minimum. With ITQs however, there is a direct individual incentive to under-report catches. A robust paper trail to enforce catch compliance is therefore an essential component of any ITQ management system.

While the use of individual quotas that are not transferable is a theoretical option, such a system of output controls has received little practical interest. It has all the limitations of other output control systems and the same costs as an ITQ system.

RESTRICTION A: Competitive total allowable catches (TACs)

> A TAC, competitive or individual, restricts competition by controlling total harvest levels of a particular species.

Identification of a competitive TAC: A competitive TAC (or global quota) regime is rarely used in Australia. The main utility of a competitive TAC is as a temporary measure for the protection of declining fish stocks while longer-term arrangements for management of the stocks are being developed. In both the Southern Bluefin Tuna and the gemfish fisheries, a competitive TAC regime was used for one year as a temporary measure while longer-term ITQ arrangements were established.

Description of a competitive TAC: A TAC is used as a means of protecting fish stocks and is determined for a species for a particular year on the basis of the best biological information available. With a competitive TAC, unrestricted fishing is allowed until the TAC has been taken. The fishery is then closed until the next fishing season. This approach differs to the application of ITQs whereby each quota holder has secure rights to access a proportion of the overall catch against the TAC without competition from other operators.

Cost-benefit analysis of a competitive TAC: As the central purpose for the use of competitive TACs is to protect declining fish stocks, they provide a benefit to the community through the mitigation of such stock declines. As well, a competitive TAC can be implemented relatively quickly when compared to other arrangements and therefore can act in a more timely fashion in halting declines in stock abundance.

Competitive TACs are not seen, however, as providing a robust longer-term management measure for fisheries. A competitive TAC neither imposes restrictions on inputs used nor provides a mechanism by which individual fishers can retain part of the resource rent. In fisheries where competitive TACs are used, there can be excessive investment and these fisheries may be characterised by ever-shortening fishing seasons as operators compete to catch a limited TAC. This means that, in the absence of alternative fisheries, capital and labour are idle for increasing periods. The cost of fish processing and marketing is also increased, as processing capacity must be geared to a short season with high storage capacity. In some extreme instances, the race to catch the highest share of a competitive TAC can result in occupational health and safety concerns through excessive hours spent fishing, overcrowding in areas of high abundance of fish and deliberate acts of interference.

There are clear trade-offs between stock protection and the potential for over-capitalisation in fisheries managed by competitive TACs and, accordingly, it is considered that the use of competitive TACs, except in temporary situations, does not provide adequate overall benefits to the community.

Alternatives to a competitive TAC: As stated previously, all Commonwealth fisheries are managed by output controls, input controls or a mixture of both.

Output controls
These restrict the quantity of catch in a fishery over a pre-determined period, usually a period of one year. In addition to competitive TACs, output controls encompass ITQ approaches where individual operators have rights to a proportion of the overall TAC set for the fishery.

ITQ approaches are the preferred management approach for Commonwealth fisheries as they provide for the long-term sustainability of the stock being targeted and contribute to the economic efficiency of and stable investment in fishing operations. However, the success of ITQ output managed fisheries relies on appropriate TAC setting, ensuring the proper allocation of fishing rights in the form of ITQs, sufficient controls where operators attempt to manipulate harvesting (through high-grading) and reported post-harvest catches (through falsification of documents). Further details on the potential costs and benefits of ITQs are outlined in respect of Restriction B.

The key relevant weakness in the application of an ITQ to a fishery is the timeframe for implementation, which may take several years. Accordingly, a competitive TAC approach remains a useful alternative temporary measure to protect stocks whilst longer-term management frameworks such as ITQs are implemented.

Input controls
There is a range of measures that are collectively referred to as input controls. These are usually used in combination to limit the overall level of fishing within a fishery[14]. They can be generally thought of as managing the overall level of effort expended by operators so as to limit the overall level of catch within a fishery. The costs and benefits of the key forms of input controls are described in Restrictions C to H.

A key problem with the application of input controls is that of 'effort creep'. As input controls can only restrict some elements that affect the fishing effort in a fishery, over time there is 'effort creep' whereby there is an incentive for individual fishers to develop more sophisticated approaches to fishing in order to increase their individual share of the catch over time.

In a fishery considered to be unsuited to management through ITQs, a well-structured system of input controls is the preferred alternative to a competitive TAC. Input controls are more effective in restricting the level of over-capitalisation than a competitive TAC. As stressed earlier, competitive TACs should be considered only as a temporary measure, for use only while more effective longer-term management measures are being developed.

[14] See section 5.2.

Recommendation for Restriction A – competitive total allowable catches (TACs)

The Committee has considered the costs and benefits of Restriction A and considers that there remains an overall net benefit for the Australian community through the ongoing application of this restriction on competition in a limited set of circumstances.

The Committee recommends that where there is a clear identified need to implement timely catch restrictions in a fishery to avoid a stock decline, consideration should continue to be given to the application of a competitive TAC as a temporary measure whilst longer-term management arrangements are being developed and implemented. Consistent with existing policy, the Committee considers that the use of a competitive TAC is not preferred as a long-term management approach.

RESTRICTION B: Individual transferable quotas (ITQs)

> ITQ approaches restrict competition because those fishers who own quota are limited both by the TAC and the willingness of other fishers to transfer quota. ITQs also restrict competition because those without quota cannot fish.

BACKGROUND

Description of individual transferable quotas

Individual quotas can be either transferable (seasonally or permanently) or non-transferable. Each of these approaches offer the same stock conservation benefits under a global TAC, but in addition they avoid the need for each fisher to over-capitalise in order to maximise their individual share of the catch. Making individual quotas transferable can provide the additional advantage of a market driven system that allows more efficient fishers to buy additional quota from others choosing not to fish. This allows the active fishers to bring their quota holding into better balance with their catching capacity. This also provides an autonomous process for the restructuring of fishing fleets and a management structure in which the dissipation of resource rents is minimised.

While ITQs represent a more complete access right than input controls, in several respects they are still an incomplete access right (i.e. they do not provide total autonomy to fishers). First, individual fishers have no control over the annual TAC. This is set externally. Thus while a fisher can increase his/her share of the TAC by buying additional quota, the annual catch each is allowed to take will still vary according to the set TAC.

Secondly, the cost incurred by each fisher in catching his/her share of the TAC is still affected by the activities of other fishers. That is to say catch rates are still affected by the total level of fishing effort and not simply by the fisher's own efforts. This indirect impact is likely to be considerably less than with other forms of management. This will however, be the result of a decrease in total fishing effort rather than from the resolution of the problem itself.

Thirdly and significantly, a defect is that the system still does not reward the fisher who follows good conservation practices. Each fisher still has the incentive to 'beat' the system. The fisher who 'high-grades' by discarding low value fish for higher value fish (e.g. undamaged fish) obtains all the economic benefit of this activity (i.e. he/she maximises the value of their individual quota). The cost of their illegal activity

(which could be a further decline in stocks or a lower TAC in future years) is largely passed on to other quota holders. In a totally effective access rights system, the cost of such practices would be borne by the offender alone.

Individual transferable quotas in the Southern Bluefin Tuna Fishery

Southern Bluefin Tuna (SBT) is a highly migratory species, and only a portion of the global fishery is taken within the AFZ. SBT are mainly taken by purse seine methods in South Australia and long-line methods on the east coast of Australia. As part of a trilateral agreement between Australia, Japan and New Zealand, Australia agreed to limit its catch in the 1983-84 fishing season to no more than 21,000 tonnes. A competitive TAC was set to achieve this. In addition, a minimum size limit of 54 cm was introduced to restrict targeting of small fish. Following further international scientific assessment, a global TAC of 38,650 tonnes was recommended for 1984-85 and of this Australia was allocated a national TAC of 14,500 tonnes. This TAC was allocated to fishers as ITQs, based on a formula that allocated 75 per cent of the TAC on catch history and 25 per cent on capital investment. Since 1989-90 the Australian TAC has been limited to 5,265 tonnes.

The SBT fishery is, in just about all respects, ideal for management through ITQs because

- it is a single species fishery with a single breeding stock
- it has been the subject of many years of intensive research so that the knowledge necessary to set a realistic TAC is available
- there are a limited number of market outlets from which catch information is readily available. At the commencement of the management of the fishery, virtually all SBT was sold to canneries or was exported.

Identification of individual transferable quotas: ITQs are currently used in the SBT fishery, for 16 species in the South East Trawl Fishery and for three species in the South East Non-Trawl Fishery. They are soon to be introduced in the Bass Strait Central Zone Scallop Fishery and for two species in the Southern Shark Fishery. With ITQs, each individual fisher holds a specified share of the TAC. Trading allows each fisher to increase or decrease the amount of quota they hold.

For the purposes of this analysis, the SBT fishery is used to illustrate the use of individual transferable quotas in fishery management[15].

Description of individual transferable quotas: As with a competitive TAC, a TAC is set using the best available information. Individual fishers are then generally allocated quota as a percentage of the total quota, according to an agreed formula. Quota units are transferable, which means that individual fishers can buy and sell quota that enhances efficiency as more efficient operators buy quota from less efficient operators. Trading in quota provides the mechanism by which the fleet size can adjust not only to changes in the TAC but also in response to improvements in fishing technology. There is generally neither a maximum nor minimum quota threshold.

Cost-benefit analysis of individual transferable quotas: With most other forms of management (input controls and competitive TACs), individual fishers may have a strong incentive to maximise their catch as quickly as possible. This changes with ITQs and individuals need no longer rely on their 'superior skills' to maximise their share of the available catch. To take more catch, they must now buy additional quota. As a result of

[15] A case study of the SBT fishery has been included at Appendix 1.

this fundamental change, having fishers accept the fairness of the initial distribution of quota is of critical importance.

In fisheries amenable to management through ITQ approaches, this method of management provides significant benefits over input controls. This is because it addresses the issues of both resource conservation and resource rent dissipation. Stock conservation is achieved through the setting of a TAC while trading in quota means that, with time, fleet size will adjust to achieve a balance between sustainability and catching capacity. This will allow individual fishers to capture and retain a share of the resource rent.

ITQs are still an incomplete access right. Quota holders have no control over the setting of the annual TAC and annual catches will vary according to the set TAC. Actions of other fishers will impact on the costs incurred by individual ITQ holders (i.e. catch rates remain influenced by total fishing effort and not just the individual's own efforts). ITQ approaches do not reward the fisher who follows good conservation practices, e.g. practices such as 'high-grading' diminish the returns to those fishers who follow the rules. The use of ITQs alone can also be ineffective in addressing bycatch issues.

Where a fishery is suited to management through ITQs, this approach represents the management structure considered best suited to meeting the objectives of the legislation. The Committee has found that the benefits to fishers, the government and the community as a whole, of managing a fishery through ITQs significantly outweigh the costs and that ITQs as a management tool are highly consistent with the pursuit of legislative objectives.

Alternatives to individual transferable quotas: Restriction A outlines the costs and benefits of an alternative output control approach – that of competitive TACs. Restrictions C to H outline the costs and benefits associated with key alternative input control approaches. Not all fisheries are suited to ITQ approaches. In some instances it is not possible to set a practical TAC for a stock and in others compliance costs outweigh the benefits of moving to ITQ arrangements. In these circumstances, a greater degree of benefits flow to the community from the application of input controls that provide protection to fish stocks and a mechanism for achieving a balance between fish availability and fishing capacity. Where a fish stock is at risk of decline, and the prospect of implementing ITQs in a timely manner is low, the application of a competitive TAC approach is considered appropriate as a temporary measure.

The above notwithstanding, the Committee considers that in fisheries suitable to ITQ management (i.e. fisheries where it is possible to set a practical TAC for each stock and to implement cost-effective compliance programs), ITQs are the preferred method of management.

Recommendation for Restriction B – individual transferable quotas (ITQs)

The Committee has considered the costs and benefits of Restriction B and considers that there remains a clear overall net benefit for the Australian community through the ongoing application of this restriction on competition in circumstances as outlined in the recommendation below.

The Committee recommends that for any stock where it is possible to set and enforce practical TAC approaches, then the ongoing use of ITQs is the preferred fisheries management tool. Consistent with existing policy, the Committee considers that the use of ITQs is the preferred long-term management approach under the legislation.

5.2 Input controls in fisheries management

There are a variety of measures used in the management of fisheries that are collectively referred to as input controls. It is important to recognise that these do not necessarily represent restrictions that can be used interchangeably and that can be ranked in some absolute order of preference, but rather are a range of measures that are normally used in combination. The combination most appropriate to a particular fishery will depend on the characteristics of that fishery and the particular objectives of the management regime.

Most of Australia's significant fisheries have been fully developed for many years and any consideration of an appropriate management structure must take into account the current biological and economic state of the fishery, the existing management structure and the established fishing rights and expectations of those reliant on the fishery.

Most fisheries are currently managed through a combination of input control measures. Many of these basic management structures have been in place for many years. By their nature they have developed over time in response to perceived changes in the situation in the fishery. Many pre-date the Commonwealth's 1991 fisheries legislation that recognised economic efficiency as a management objective for the first time.

The existing management structures represent a reality that sets the base from which future management options have to be assessed. To a significant degree they set restrictions on the options available with respect to future management. For example, no change to ITQ arrangements could be made without giving due recognition to the existing rights held by those already in the fishery.

Fisheries management has, over the second half of the twentieth century, gone through a period of rapid evolution. Although localised over-fishing of stocks had occurred around the world before the Second World War, it was not generally recognised as a serious problem. The fact that national jurisdiction over marine fishing only extended for three nautical miles from the coastline also made the development of comprehensive management arrangements over stocks more difficult.

Where localised over-fishing had occurred, it was seen as a purely biological problem. If too many fish were being caught, the management response seemed to be to restrict operators' capacity to catch fish by limiting the quantity of gear each could use or by imposing seasonal closures to restrict total catch.

Although the economic forces that lead to over-fishing were identified in the mid-1950s, this knowledge had little impact on fisheries management. In most countries, the right to fish commercially was seen as belonging to all those who had appropriate equipment, much the same as the circumstances today in respect of recreational and charter fishing. Fishing licences were therefore freely available and the holder of such a licence could fish in whatever fishery they chose, provided only that they complied with whatever restrictions were in force with respect to that fishery.

Australia largely pioneered development of limited entry fisheries when, in 1963, the Western Australian Government restricted the number of licences in the State-managed Western Rock Lobster Fishery. Within the next 10 to 15 years, limited entry was implemented in almost every major fishery in Australia. It was soon realised that simply restricting the number of licences, and therefore boats, in the fishery was not enough to address the problem of over-fishing, and a further restriction was imposed whereby boats could only be replaced with boats of equal size. Each fisher was also restricted from using more than three lobster pots per foot of boat length. Although transfer of licences with the associated pot entitlements was allowed, trading in individual pot entitlements was prohibited.

Rising rock lobster prices, combined with the restrictions on inputs (including limited entry into the fishery), meant that resource rents were not quickly dissipated and fishers enjoyed an unprecedented period of profitability. Limiting entry was a bold step because, with respect to those fisheries, it created a privileged position to those granted licences. Limiting entry assisted in fisheries management and resulted in sustained profitability as it prevented resource rents generated by increasing prices being dissipated through the entry of additional fishers. These profits soon translated into licence values and, for the first time, a fishing access right became a valuable asset.

As already mentioned, the history of input controls in the Northern Prawn Fishery is used to illustrate the development and impact of input controls in fisheries management. The NPF is a large, commercially valuable fishery managed through a complex set of input controls. The discussion outlines the history of these measures, alternative approaches considered and outcomes achieved[16]. Where appropriate, examples from other input controlled fisheries have been used to illustrate particular issues.

Effort creep in input controlled fisheries

No matter how extensive they might be, input controls can only restrict some elements that affect the fishing effort in a fishery. Individual fishers still have an incentive to increase their fishing effort in an endeavour to increase their share of available catch. They do this through innovation in areas that are not restricted by controls. As an example, fishers may respond to a seasonal closure by increasing the number of hours fished per day during the open season. Alternatively, they may respond to restrictions on trawl net size by increasing trawling speed so that the planned reduction in trawled area is not achieved.

[16] This section should be read in conjunction with Appendix 2 – NPF case study.

The measurement of effective effort is an ongoing problem in fisheries. It is usually stated in some standardised form, for example a hook hour, a pot lift or a trawl shot. Under such a system, a hook left in the water for two hours or two hooks each left for one hour represents two hook hours.

The difficulty is that the amount of fishing pressure represented by one of these measures actually changes through time. Sometimes these changes are quite dramatic in their impact. For example, the introduction of global positioning satellite equipment onto NPF boats allowed fishers to relocate known productive grounds with much greater accuracy than previously. This resulted in a significant increase in actual fishing effort. While researchers can monitor changes in nominal fishing effort (e.g. the number of trawl shots or swept area), measuring changes in actual fishing effort is much more difficult even where the innovations that have increased fishing effort can be identified.

Innovations in equipment and knowledge are desirable ongoing phenomena in fisheries, as they are in all industries. They normally represent increased production efficiency and, as such, they are an integral and essential part of the free market economy. The normal expectation is, however, that such innovation will lead to increased production (if this can be sustained by the market) or alternatively a reduction in the number of producers.

With input controlled fisheries, innovation does not always lead to increased production (fisheries have natural limits). Nor does innovation automatically lead to the autonomous adjustment of the size of the fishing fleet because this is controlled by regulation and not by market forces. In many fisheries, effort creep has been addressed by an ever more stringent regulatory regime. In the NPF, the emphasis has been on attempts to bring catching capacity and fish availability into balance through fleet reduction strategies, namely the Voluntary Adjustment Scheme, the compulsory unit surrender and a move to gear units.

While a substantial reduction in fleet size has been achieved in the NPF, this has not to date avoided the need for more restrictive controls on inputs. Two factors are important in this: first, the level of excess fishing capacity already in the NPF at the time restrictions were introduced and secondly, the effort creep that has occurred since then because of innovations in fishing technology and knowledge.

Desirable characteristics of an input control management system

Most Australian fisheries are currently managed through a range of input controls. These management systems have typically evolved over a considerable period of time. The primary objective of these systems is the sustainability of fish stocks, and in this aspect most have been quite effective.

In the majority of these input controlled fisheries there is substantial excess fishing capacity. From an economic perspective, the restrictions on inputs have resulted in gross inefficiencies. However, the capacity of these fisheries to generate resource rents is such that they have still provided a relatively high level of income to the fishers involved. The expected flow of future profits resulting from these resource rents have been capitalised into licence values, which represent a major capital asset to the fishers involved.

Because output controls in the form of ITQs offer the prospect of greater resource protection and economically efficient harvesting, it is Government policy to introduce ITQs in those fisheries suited to this form of management. As the major stakeholders, it is also Government policy to involve fishers in the decision-making process. Convincing fishers that they should move from what for most represents a zone of relative comfort with reasonable incomes and high asset values to ITQs takes both time and patience. Fishers have, for the most part, grown up with the existing management structure and are less questioning than they are of any radical new system, especially when one of the expected outcomes of ITQs is a significant reduction in the number of fishers.

With any newly developed fishery the objective would be to move to ITQs as quickly as possible (provided the fishery was judged to be suited to this form of management). With established fisheries, especially where there are no immediate resource concerns, a more gradual approach with fishers fully involved in the decision-making process has obvious advantages.

In developing an input control system that is consistent with the objectives of Commonwealth fisheries legislation there are a number of elements that must be addressed. First, any decision to manage or continue to manage through input controls should ideally only be made after the feasibility of managing the fishery through ITQs has been assessed and, for whatever reason, rejected. This accords with the 1989 fisheries policy statement and the practice adopted by AFMA.

In developing the most appropriate form of input control system for a particular fishery, consideration needs to be given to the nature of the fish stocks being harvested and the level of understanding we have of those stocks. The precautionary principle requires that the greater the level of uncertainty the more conservative the management regime should be.

If the fish stocks are known or believed to be over-exploited, that is if past fishing has reduced the parental stock to a level where it is no longer able to reproduce itself, then an assessment must be made of the level of fishing effort that the fish stock can sustain to prevent a further deterioration or allow the parental stock to recover to some 'optimum' level.

The accuracy with which this can be done will depend on the level of knowledge of the resource and again the precautionary principle would require that the more limited the level of knowledge, the more conservative the assessment should be.

Regardless of whether the fishery is considered to be under-exploited, fully-exploited or over-exploited, an assessment must also be made as to the level of fishing effort that is considered to be consistent with maintaining, or (in the case of an over-exploitation) restoring the fish stocks to an acceptable level. If, having assessed that the current level of fishing effort is in excess of what is considered to be satisfactory, measures then need to be implemented that will reduce fishing effort to an acceptable level.

In doing this, the time factor is important. The AFMA model requires that AFMA work with industry in developing and implementing management changes. If the evidence indicates a deteriorating resource situation, then action should be taken to reduce the level of fishing effort with the minimum of delay. Such 'quick-response' measures are likely to be ones that restrict fishing activity either by reducing the amount of fishing gear that individual fishers may use or by restricting the areas in which fishers can fish or when they may fish, through area and seasonal closures.

Such restrictions achieve their objectives by imposing operational inefficiencies. By themselves they are inconsistent with NCP principles. They may achieve the objective of resource conservation but at a significant economic cost.

This has been what may be considered to be the traditional method of managing fisheries. As a general statement it could be said that the fish stocks in most Commonwealth managed fisheries are, by world standards, in a reasonably satisfactory state. This has largely been achieved by regulating the efficiency with which boats can operate and limiting the total number of boats allowed to fish.

Most Commonwealth managed fisheries are, however, characterised by substantial excess fishing capacity. This has meant that the measures used to restrict fishing effort by reducing the operational efficiency have had to be retained to reduce the danger of resource depletion. This has significantly increased the cost of catching fish and has resulted in the dissipation of potential resource rents that could, in some fisheries, represent more than half of the value of the fish caught.

With fisheries unsuited to management through ITQs, the issue becomes how to safeguard fish stocks and also prevent resource rent dissipation. To achieve both these objectives, the catching capacity of the fishing fleet must be brought into balance with the sustainable catch. ITQ managed fisheries trading in quota units provide a mechanism for the autonomous adjustment of the fishing fleet. There is no such mechanism in fisheries managed through input controls.

If a balance between sustainable catch and catching capacity is to be achieved and maintained, some system for reducing the size of the fishing fleet, both to remove pre-existing excess fishing capacity and to compensate for future increases in fishing capacity resulting from effort creep, is required. The options for doing this are either some form of buy-back or some proportionate surrender of fishing rights.

The difficulties involved with this process of fleet restructuring should not be under-estimated. Even a grossly over-capitalised and economically inefficient fishery can still be quite profitable because not all the resource rents may have been dissipated. Getting fishers to accept the need for a restructuring is not easy unless there is already economic hardship. In most instances, fishers would prefer further restrictions to their efficiency. The provision of funding for any buy-back therefore becomes an issue. Buy-backs also have limitations in that, if they are continued for any time, they create a quite false value for the fishing rights concerned.

For a proportionate surrender of fishing rights to succeed, there must be in place some form of tradeable unit (for example a specific quantity of fishing gear). An across-the-board proportionate surrender of these units reduces the total quantity of units (fishing gear in the case of gear units) in the fishery. Trading in the remaining units will then, over time, result in a reduction in the number of boats in the fishery.

In any fishery managed through input controls the need to restructure becomes an on-going issue. Even allowing for the excess capacity that was in the fishery when a management structure was first introduced, new excess capacity resulting from effort creep will still need to be addressed.

Identification of input controls: An input control is a measure that restricts the inputs a fisher may use to catch fish. This includes restrictions on where and when fishers may operate, who may fish and the type and quantity of fishing equipment (including boats) fishers are allowed to use. Input controls are in place for all significant Commonwealth managed fisheries, except for those managed through ITQs.

Description of input controls: Input controls have in the past been the most commonly used method of managing fisheries. The term covers a range of mechanisms that restrict the activities of individual fishers and includes restrictions on the type and quantity of fishing gear that may be used and area and seasonal closures. Input controls also include limitations on the number of boats that are allowed to fish and may include restrictions on the size of boats and on the transfer of fishing rights.

Cost-benefit analysis of input controls: Experience with input controls indicates that they can be successful in preventing the over-exploitation of fish resources. This could be seen as a non-monetary benefit that could justify the imposition of such controls. It could also be argued that the continued supply of fish to the consumer and export markets represents a tangible benefit to the community.

However, input controls that address only the resource conservation problem represent a substantial cost to the community in the form of potential resource rents (potential profits) foregone. Put another way, if a fishing fleet was reduced to a level where the available fish stocks could be harvested without the need for input restrictions then the total profitability from the fishery would be greatly improved. This would also allow for many of the resources (capital, labour, fuel, etc) now used inefficiently in the fishery to be available for use elsewhere in the economy.

Restructuring of existing fisheries potentially provides significant benefits to fishers in that their profitability should improve (even if the fishers themselves have to meet the cost of restructuring), as should the market value of their fishing rights. In that it will reduce pressure on the resource, a restructuring should also improve future resource security. Restructuring will have little impact on the supply or price of fish to the consumer. It will, however, benefit the community and government because it will assist in the more productive use of scarce resources.

Unlike ITQs, input controls by themselves provide no automatic mechanism for adjusting fleet size to fish availability. To achieve both the resource conservation and economic efficiency in a fishery managed through input controls, it is therefore necessary to introduce additional measures, such as the buy-back or proportionate surrender of fishing rights, aimed at achieving a better balance between catching capacity and fish availability.

Whether such a measure would be justified in a particular fishery would depend on the additional profit expected to result and the likely cost of such a scheme.

Alternatives to input controls: In fisheries suited to management through ITQs, that method of management is considered preferable to management through input controls. ITQs provide at least the same level of resource protection as input controls and the same supply of fish to the public. Most importantly, ITQs prevent resource rent dissipation and free up economic inputs for use elsewhere in the economy. Clearly, in fisheries to which they are suited, ITQs provide a greater public benefit than could be obtained from the same fishery using input controls.

There may also be some smaller fisheries where the cost of input controls cannot be justified on either biological (e.g. there may be natural factors that provide adequate resource protection) or economic grounds. In such a circumstance, it might be appropriate to place no restrictions on fishing. Alternatively, in a low value fishery with some biological concerns and high management costs, a total ban on fishing might be appropriate.

Committee's conclusions on input controls

The Committee has considered the costs and benefits arising from the application of input controls in fisheries management (a detailed analysis of the main measures follows) and considers that there remains an overall net benefit for the Australian community through the ongoing application of such restrictions on competition. As stated earlier in respect of Restriction B, the use of ITQs remains the preferred approach for the management of fisheries resources where it is possible to set and enforce practical TAC approaches. However, the Committee recognises that such approaches will not always be feasible and, accordingly, the use of input control measures remains valid, as outlined in respect of Restrictions C through to H below.

Measures used in input controlled fisheries

The following section discusses the impact of the main measures typically found in a fishery managed through input controls. In considering these measures it is important to keep in mind that they are not used in isolation but form part of a package of measures designed to address the situation in a particular fishery.

RESTRICTION C: Limited entry

Limited entry is a fisheries management restriction because, as the term implies, it restricts the number of commercial operators that can harvest marine resources in specific fisheries.

BACKGROUND

Limited entry arrangements in the Northern Prawn Fishery

Broadly speaking, the term 'limited entry' is used to describe a fishery management scheme that limits the number of boats allowed to operate in a fishery.

Spectrum of limited entry

The level of limited entry varies between fisheries. In most fisheries, the level of entry has been inherited, and the current level is a result of past fisheries management decisions. As most Commonwealth fisheries are widely considered to be fully exploited, management has in recent years focussed more on reducing the number of permit holders, thus further limiting entry to that fishery. When level of entry into a fishery can be determined, it is generally considered to be more efficient management to be able to later increase entry, rather than allowing initial rapid expansion and then later seeking to decrease the number of operators.

Identification of limited entry: Limited entry is used to describe a fishery, managed through input controls, in which there are restrictions on the number of boats that are allowed to fish. In most fisheries, rights are transferable and to gain entry to the fishery a new fisher must purchase an existing fishing right.

Description of limited entry: Historically, in most fisheries limited entry was not introduced until the fishery was fully exploited and usually over-capitalised. Entry to such fisheries was usually granted to all that met specified criteria, usually related to past participation. Limiting boat numbers is usually insufficient to prevent further growth in catching capacity and most limited entry fisheries have rules that restrict the size of replacement boats and/or restrict the quantity of fishing gear that may be used. All Commonwealth fishing concessions are fishery specific and all fisheries are in effect limited entry.

Cost-benefit analysis of limited entry: Unless restrictions are placed on the number of boats allowed to operate in a fishery, all potentially available resource rents will inevitably be dissipated and the depletion of fish stocks will be a real possibility. Limited entry is, however, seldom sufficient in itself but rather an essential first-step in any effective input-controlled management system. Limited entry may result in fishers retaining some part of the resource rent yet it provides a positive cost-benefit. Without restrictions on entry into a fishery, it would be impossible to control fishing effort and over-exploitation of fisheries resources and the marine environment would inevitably occur.

Limited entry can be considered as a restrictive measure as it prevents free entry to the fishing industry. Such a restriction is, however, a necessary first step in preventing the dissipation of potentially significant resource rents. If conservation of fish stocks is to be achieved, the alternative to limiting entry in a fishery managed through input controls is

ever more stringent controls on fishing gear and fishing seasons. This inevitably leads to an economically depressed fishing industry and a significant mis-allocation of scarce economic resources. The imposition of limited entry also simplifies compliance as the number of operators is capped and, correspondingly, compliance costs will be lower than in an open access situation where operator numbers may increase over time.

Alternatives to limited entry: Limited entry is an essential element of any input control management system. With individual transferable quotas, formal restrictions on entry should be unnecessary. Unless special circumstances dictate otherwise, the market for quota should be allowed to determine how many boats operate in the fishery.

Recommendation for Restriction C – limited entry

The Committee has found that the benefits of Restriction C, to the community as a whole, outweigh the costs due to the ability of limited entry arrangements to constrain fishing capacity when compared to open access situations.

The Committee recommends that the current provisions in the legislation allowing restrictions on entry remain.

RESTRICTION D. Boat replacement restrictions

> Limiting boat replacement is a restriction in fisheries management as it limits the size of boat that can be used to harvest a marine resource.

Identification of boat replacement restrictions: Such restrictions usually limit the size of replacement boats and are designed to restrict growth in fishing effort. Special requirements are sometimes placed on the design and equipment carried by replacement boats for environmental or Occupational Health and Safety (OH&S) reasons (e.g. for boats fishing in waters off sub-Antarctic islands).

Description of boat replacement restrictions: Limits on the size and fishing capacity of replacement boats are found in many limited entry fisheries, as the benefits of limiting entry can soon be lost if increased boat size results in increased fishing effort. Boat replacement restrictions may set a maximum boat size or may require that a boat be no larger than the one it replaces. Boat replacement restrictions are usually imposed through the provisions of a management plan or, where there is no formal plan, by administrative directions relating to the licensing of replacement boats.

Cost-benefit analysis of boat replacement restrictions: In input-controlled fisheries, restrictions on boat replacement may produce a positive cost-benefit where the size of the boat strongly reflects its fishing power. In such circumstances, the benefits of limiting entry or of expensive restructuring programs can be undermined if fishing effort is allowed to increase through the introduction of larger replacement boats. Whilst restricting boat

replacement within fisheries does place some limits on efficiency and competition, the benefits are that fishing effort is restrained and the sustainability of the resource is maintained.

In circumstances where a boat replacement restriction is contemplated, an essential element of decision-making is a consideration of the safety of life at sea, OH&S and environmental aspects of fishing. Only after these considerations have been taken into account can a restriction on boat replacement then be contemplated.

Boat replacement restrictions, such as those that place maximum size limits on boats that may fish and that primarily aim to protect existing fishers from 'unfair' competition, do not accord with NCP and are not in the public interest.

Where boat replacement restrictions form part of a well-structured system of input controls, and especially where they are based on some form of tradeable unit boat replacement, these restrictions can form an essential part of an input control system providing positive benefits to fishers, the community and government.

Alternatives to boat replacement restrictions: Unless particular circumstances dictate otherwise, restrictions on boat replacement are not appropriate in a fishery managed through individual transferable quotas. In input controlled fisheries where other factors, particularly the quantity of gear used, is the major determinant of fishing effort it would usually be more appropriate to regulate the fishery through controls on the quantity of gear permitted and leave decisions on boat size to individual fishers. Boat replacement restrictions are considered by the Committee as secondary to the safety of life at sea, OH&S and the environmental aspects of fishing.

Recommendation for Restriction D – boat replacement restrictions

The Committee has found that, subject to due consideration being placed on the safety of life at sea, OH&S and the environmental aspects of fishing, Restriction D provides tangible benefits to the community.

The Committee recommends that the current provisions within the legislation allowing restrictions on boat replacement remain.

RESTRICTION E. Non–transferable fishing rights

Non-transferable fishing rights are a restriction on entry to a fishery.[17]

BACKGROUND

Restrictions on transferability are usually introduced in a fishery where over-fishing is occurring or is believed likely to occur. Frequently, they are initially introduced as a temporary measure while a more permanent management structure is developed and put in place. This was part of the justification for the restrictions on transfer introduced into the Southern Shark Fishery in the mid-1980s. If fishing is at a level believed to be unsustainable, there is a concern that if transfers are allowed, fishing rights will be sold by less efficient fishers to more efficient fishers, thus further exacerbating the position in the fishery. Compassionate transfers, usually to close family members (or in the case of the death of the rights holder) are often allowed on a case-by-case basis.

Managers also sometimes seek to use non-transferability as a minimum-cost way of reducing the size of a fishing fleet, i.e. to use natural attrition as a way of reducing fleet size. Such strategies rarely work, especially in profitable fisheries. Few fishers will willingly sacrifice what is potentially a valuable commercial asset in this way. Under-the-counter sales of fishing rights occur, with the new owner masquerading as the employee of the rights holder. Intensive lobbying seeking transferability occurs and much effort is spent defending the restriction. In most cases, the transfer of fishing rights is eventually allowed. However, this creates its own problems as the rapid replacement of often semi-retired rights holders with young, keen newcomers, often with significant debts to repay, can lead to a surge in fishing effort. In the State-managed Victorian Abalone Fishery such impacts were reduced by only allowing transfers on a two-for-one basis. New divers had to buy two existing licences and surrender one. In the Commonwealth-managed Southern Shark Fishery, removal of restrictions on transfer has been part of the bargaining process associated with the introduction of ITQs.

There are situations where non-transferable licences have been effective in achieving specific goals. For many years, all South Australians were able to use nets to fish within State waters. When this practice ceased, two types of fishing licence were granted. A Class licences were granted to commercial fishers and B Class to recreational fishers with a history of using nets. The B class licence attracted a nominal annual fee, had a maximum life of 10 years and was non-transferable. A similar approach was taken by New South Wales with commercial fishers operating in fresh water in the Murray–Darling River system. As a phase-out measure, these licences were made non-transferable and granted for the life of the existing holder.

In both the New South Wales and the South Australian systems, the fishing equipment used (boats and gear) had relatively low value. The loss of the licence did not therefore impose any significant redundant asset cost on those involved. The greater the redundant asset loss the more difficult it is to make non-transferability effective.

Non-transferable rights have often been used in fisheries during exploratory fishing and developmental phases. The granting of such rights usually implies some form of contract, with the rights holder required to undertake a particular fishing program as a condition of the grant. In such circumstances it is considered that allowing individuals to sell the contract for a windfall gain may weaken the capacity of the manager to enforce contract conditions.

The effectiveness of this type of provision must, however, be doubted. Fishing permits for developmental fishing have been issued for the Commonwealth-managed Coral Sea non-tuna fishery for a number of years. These permits are non-transferable and require a minimum of 20 days fishing in the fishery each year. Most permit holders undertake only the required minimum number of days fishing needed to retain the permit.

[17] In most cases they do not restrict exit, as such fishing rights can usually be surrendered. One reason for restricting transfer is often the expectation of a reduction in fleet size through surrender or natural attrition.

Several permits have been cancelled because holders have not fished the minimum number of days. No real developmental fishing is taking place. At the same time, others who proclaim a desire to fish in the area are prevented from doing so by the non-transferable nature of the permits.

Non-transferability is sometimes imposed for reasons not related to fisheries management. Permits authorising fishing in waters around Australia's sub-Antarctic territories are non-transferable. This condition has been requested by conservation interests and aims to ensure that only fishers with an acceptable compliance record for fisheries management (including environmental requirements) are allowed to fish in this environmentally sensitive area.

Identification of non-transferable fishing rights: Non-transferable fishing rights are found in many limited entry fisheries and output-controlled fisheries where individual quotas cannot be sold. Such a restriction would be imposed either as a provision in a management plan or as a condition attaching to a fishing concession.

Description of non-transferable fishing rights: Non-transferable fishing rights prohibit the holder of a fishing right transferring it to another person (compassionate transfers are often allowed, on a case-by-case basis). Non-transferable fishing rights are usually introduced in a fishery where over-fishing is thought to be occurring or in developmental or exploratory fisheries. They are often a temporary measure while a more permanent management structure is developed (or until the fishery moves out of its exploratory or developmental stage). Non-transferable fishing rights restrict competition but are often used as a measure to ensure the sustainability of stocks by assuming that latent effort in the fishery will remain latent, thus primarily addressing a key legislative objective.

Cost-benefit analysis of non-transferable fishing rights: Where used to phase out a type of fishing operation, non-transferable fishing rights can facilitate particular policy objectives. In such an instance it may well provide a positive cost-benefit, as restrictions on transferability of fishing rights will prevent latent effort becoming active. Where non-transferability is used as a permanent feature of a continuing fishery, it is likely to provide a negative cost-benefit. With the possible exception of where it is used as a short-term emergency measure, or to phase out some low capital cost fishing activity, making fishing rights non-transferable would appear to provide negative cost-benefits to fishers, the community and government.

Where there is a significant capital investment involved and especially where fishing rights have a potentially significant monetary value, experience has shown that the action of making fishing rights non-transferable is not effective in reducing the number of fishers. Because the rights have a potential value, fishers will remain in the fishery or seek ways around the restriction rather than surrender the fishing right.

Alternatives to non-transferable fishing rights: In circumstances where management uses non-transferable fishing rights to limit effort in a particular fishery, alternative controls may be available to achieve the same goal. However, having provisions for management to make fishing rights non-transferable is a valuable tool. For example, where used to phase out some relatively low capital cost fishing operation, non-transferable fishing rights may be the preferred method of approach. It is however, unlikely that this type of situation

would be encountered in any Commonwealth-managed fishery. In other situations, they are unlikely to be as effective as more direct ways of achieving a fleet restructuring, for example a buy-back or a compulsory surrender.

Recommendations for Restriction E - non-transferable fishing rights

The Committee recommends that, when imposed as a temporary measure, non-transferable fishing rights have a net benefit to the community and should be retained. The Committee also recommends that, when imposing such a restriction, a sunset clause be required.

RESTRICTION F: Licence splitting

Restrictions on licence splitting restrict competition as they affect the entry and exit of fishers to and from fisheries.

BACKGROUND

There are a number of separately managed prawn fisheries in northern Australia. As well as the Commonwealth-managed NPF, there are the State-managed Western Australian Shark Bay, Exmouth Gulf, Nicol Bay and Kimberley prawn fisheries, the Queensland east coast prawn fishery and the jointly managed Torres Strait prawn fishery. By the early 1980s limited entry arrangements had been imposed in each of these fisheries and managers were striving to control further effort and fishing capacity.

Many boats were initially licensed to fish in two or more of these fisheries. This licensing represented their traditional fishing patterns of moving between fisheries on a seasonal or opportunistic basis. For instance, most NPF boats held licences for the Torres Strait and Queensland east coast prawn fisheries.

It was soon recognised that allowing the sale of these licences separately was undermining other attempts to restrict the growth of fishing effort in each fishery. As a result, the concept of a 'package' of fishing rights was developed, as was the 'no licence splitting' policy. Although this policy was initially adopted for the NPF and associated fisheries, the Australian Fisheries Council soon extended the policy to all fisheries. Restrictions on breaking up packages of fishing rights was seen as essential in an environment where most fisheries were managed through limited entry and excess fishing capacity was recognised as a major threat.

The attitude towards granting exceptions to this policy varied across jurisdictions. Some, like those associated with the NPF, generally allowed exceptions where part of the 'package' was cancelled or surrendered, for example as the result of a buy-back or other fleet reduction program. Other jurisdictions took a more rigid approach and would not allow separation of part of a licence package.

This policy presented a 'Catch 22' situation where only part of the package was non-transferable. The 'no licence splitting' policy meant that the non-transferable right could not be retained (or even surrendered) when the rest of the package was transferred. The 'non-transferable' policy then prohibited transfer of the non-transferable part of the package.

Identification of licence splitting: Where a boat has historically worked in several fisheries on a seasonal or periodic basis it may, on the introduction of limited entry, qualify for access rights to each of these fisheries. Allowing the separation of this package of rights onto different boats can add significantly to existing problems of excess fishing capacity. Restrictions on licence splitting are usually implemented through licence conditions where only a single jurisdiction is involved, or where two or more jurisdictions are involved through the implementation of an Australian Fisheries Council policy directive.

Description of licence splitting: Because of the way that fisheries management has evolved, an Australian fisher (Commonwealth and State) will often hold a licence package. Such a package consists of licences to more than one fishery. The 'no licence splitting' policy was developed to prevent operators selling one or more of these permits, and effectively resulting in a collective increase in fishing effort. The constraint on licence splitting restricts competition, but it also assists management in the pursuit of its legislative objectives.

Cost-benefit analysis of licence splitting: While the 'no licence splitting' policy worked reasonably well with input controlled fisheries when the different managers adopted a pragmatic approach, it clearly was inappropriate for fisheries managed by ITQs. Here, the driving mechanism is the free transfer of quota units. Where a fisher holds both ITQ and rights to an input controlled fishery, the 'no licence splitting' policy cannot work without imposing restrictions such as minimum quota holdings. This is, of course, quite contrary to the objectives of an ITQ system as it prevents trading in ITQs from generating autonomous restructuring of the fishing fleet.

With input controlled fisheries, restrictions on licence splitting can provide a positive cost benefit to fishers and the community where there is a close relationship between two or more fisheries managed through input controls. Allowing licence splitting would mean additional boats, with each boat dedicated to a single fishery. The additional fishing effort likely to result from these boats could necessitate additional counter-balancing restrictions (e.g. gear restrictions, closures). The additional cost of these measures on all fishers would need to be assessed against the benefit derived by those allowed to licence split.

The cost-benefit would therefore vary considerably depending on the situation in a particular fishery. The greater the proportion of boats licensed to fish in multiple fisheries, the more likely it would be that restrictions on licence splitting would provide a positive cost-benefit in fisheries managed through input controls.

Alternatives to restrictions on licence splitting: As noted above, restrictions on licence splitting are incompatible with the use of ITQs. Indeed, were all fisheries managed through ITQs, such restrictions would be unnecessary. With input controlled fisheries where boats hold multiple licences, the absence of such a policy can result in a significant growth in capital investment and fishing capacity. The options for protecting fish stocks then are to reduce fleet size through buy-back or surrender provisions, or to impose further restrictions on catching capacity by such measures as more stringent gear controls or seasonal closures.

Recommendation for Restriction F – licence splitting

The Committee concluded that, while the licence splitting policy is undoubtedly anti-competitive, it is in most cases preferable to the alternatives of the expansion of the fleet, which may later require extensive fleet reduction programs or by imposing even greater inefficiencies on fishers.

The Committee recommends that the current provisions within the legislation allowing restrictions on licence splitting remain.

RESTRICTION G: Use of area closures in fisheries

Area closures are a restriction on competition as they restrict the area from which fisheries resources can be harvested.

BACKGROUND

Area closures in the Northern Prawn Fishery

In the 1970s, the importance of inshore habitats to juvenile tiger prawns was confirmed. With the assistance of fishers, these areas were identified and progressively permanently closed to fishing. Other important habitat areas were identified where concentrations of small prawns were found seasonally, and these were made the subject of seasonal closures. Among these was an area in the southern Gulf of Carpentaria that was closed at the beginning of each year when monsoonal rains flushed juvenile banana prawns out of coastal rivers. These small prawns attracted a very low price. CSIRO scientists made calculations that took account of growth rates, natural mortality and prices to determine the opening date, which would produce the highest total value of catch. There is a commercial advantage in delaying fishing until prawns reach an optimum size.

Other types of area closures

In the NPF, permanent and seasonal area closures have been used primarily for fisheries management purposes. Elsewhere, such closures have been used for a variety of purposes less directly related to fisheries management. For example, permanent closures to all fishing, or to particular types of fishing, are often used for more general conservation purposes, such as closure of areas within marine parks or marine reserves. The closure to mesh netting of certain areas along the Queensland east coast to protect dugong is another example.

Closures are also used to reduce disputes between different classes of fishers. Weekend closures of in-shore waters to commercial fishing are frequently used to minimise conflict between commercial and recreational fishers. Closures may also be used for purposes not related to fisheries management or conservation. For example, certain reef areas along the Arnhem Land coast are closed to fishing as a health measure because of the high incidence of the bio-toxin ciguatera. Other areas, such as polluted harbours, may be also permanently or periodically closed to fishing. Areas may also be closed to fishing as a safety measure. There are for example no-fishing zones around each of the Bass Strait oilrigs.

Identification of area closures: An area closure refers to prohibition of a particular type of fishing gear within a defined area, either on a permanent basis or for a defined period of time. Area closures are usually imposed by the making of a regulation or as a provision of a management plan.

Description of area closures: Area closures may be introduced for several reasons such as restricting fishing effort, habitat preservation, stock and bycatch conservation, avoidance of conflict between different fishing sectors, or for health or safety reasons. Area closures can be seen as a restriction on competition because they limit the areas from which a marine resource may be accessed. Area closures are a type of input control that contribute to ensuring the long-term sustainability of marine resources. However, they generally do not discriminate between commercial users and have little impact on competition.

Cost-benefit analysis of area closures: Where closures are imposed for non-fisheries related purposes (e.g. environmental, health, safety), it has to be assumed that a judgement has been made that the benefit to the community of such a restriction exceeds the cost to fishers. Where a closure is imposed for fisheries management purposes, it is useful to pose the question whether the closure would be imposed if the fishery was 'owned' by a single entity. If the benefit exceeded the cost then it is reasonable to expect that the closure would be retained. Seagrass bed closures and banana prawn closures in the NPF would both pass this test. The mid-year closure, designed to restrict total fishing effort, would not. A more rational approach to this problem would be for the 'owner' to reduce fleet size to allow year-round operation. In Commonwealth fisheries, where access is multiple, the benefits of area closures outweigh any associated costs.

Closures that provide protection to fish at some critical part of their life cycle or protect some sensitive part of the environment are likely to provide a positive cost-benefit to fishers, fish consumers and the wider community. This type of positive cost-benefit may be provided by closures, even in fisheries managed through ITQs. Where closures are used to restrict fishing effort, they impose a direct cost on fishers. This cost may, however, be offset by the wider public benefit achieved through the greater protection provided to fish stocks.

Alternatives to closed areas: Where area closures are used to achieve some non-fisheries management objective or where they provide a positive cost/benefit to fishers, they usually represent the most appropriate measure in that situation. Where area closures are used as a method of restricting total fishing effort, they represent restrictions on efficiency. Unless required for ecological reasons, measures that actively address the problem of fleet size are to be preferred as a long-term approach. The only other approach would be other measures that restrict efficiency, such as gear restrictions. The preferred form of 'regulated inefficiency' will depend on the circumstances in a particular fishery.

Recommendation for Restriction G – area closures in fisheries

The Committee has found that the benefits of this restriction, to the community as a whole, outweigh the costs, due to the ability for area closures to restrict fishing effort and achieve non-fisheries related purposes (e.g. environmental, health, safety).

The Committee recommends that the provisions within the legislation allowing area closures remain.

RESTRICTION H: Gear restrictions

Gear restrictions are a restriction on competition as they limit efficiency in harvesting resources[18].

BACKGROUND

Gear restrictions have a long history of use in fisheries management. Long before the over-fishing of stocks became a major concern, restrictions on the size of mesh that could be used in fishing nets were a feature of many fisheries. Mesh size can influence the size and species of fish taken. If fishers are forced to use large sized mesh then the chance of small fish escaping through the net are increased. This has clear conservation advantages. It can also directly assist fishers by reducing the amount of sorting required.

When considering gear restrictions, it is useful to distinguish between active and passive fishing gear. Passive gear, like a trap or baited longline hook, is placed in the water and it is the action of the fish in entering the trap or taking the bait that leads to its capture. With passive gear (e.g. mesh nets) small fish are able to swim through the net while larger fish become entrapped. Active gear (for example a trawl net) is used to pursue and capture the fish. Active gear nets surround the fish and all fish too large to pass through the trawl net are retained.

Apart from mesh size, gear restrictions were initially used as a way of reducing fishing effort by reducing fishing efficiency. Restricting a fisher who had previously used 1,000 long-line hooks to 500 hooks meant that while the quantity of fish caught was significantly reduced, the fisher's costs did not change greatly.

Gear restrictions are most effective when imposed on passive fishing gear. Passive fishing gear usually comprises discrete units (for example a rock lobster pot or a panel of mesh netting). While fishers can increase the catching capacity of such gear by placing it more accurately, there are limits to which the gear can be modified to increase its catching capacity. Active fishing gear is, however, more easily modified or fishing practice more easily changed so as to reduce the impact of such restrictions. Active gear does not usually come in discrete units. For example, purse seiners set only a single net while trawlers use from one to four nets. In fisheries using active fishing gear, restrictions must be on gear size rather than on the number of units of gear. However, the impact of limits on net size in trawl fisheries can be reduced by, for example, changing trawl designs so that the net follows bottom contours more closely or so that nets can be towed at a faster speed.

Gear restrictions have been used as the basis for most input controlled fisheries. Some of these have been quite successful. For example, a restriction on the number of pots each rock lobster fisher may use has provided 30 years of resource stability and reasonable profitability. In these State-managed fisheries, pot restrictions were introduced only after stocks were fully exploited and there was already substantial excess fishing capacity.

A better balance between fishing capacity and stock availability may have been achieved by allowing the free transfer of pot entitlements between fishers and by imposing periodic 'across the board' surrenders of a proportion of pots. Trading in pots and the voluntary withdrawal of some boats from the fishery could, over time, produce a more economically efficient outcome.

Such an approach has, however, been generally opposed by governments and industry. Fishers in a profitable fishery are not inclined to support a proposal which, while it may offer prospects of higher profits in the future, is likely to involve greater costs in the short term through having to buy additional pot entitlements to compensate for those surrendered. Governments have not supported such proposals because their primary focus is resource conservation. In addition, some governments appear to have had a concern that a fleet

[18] Gear restrictions may also restrict trade in 'gear units'.

restructuring would increase what were already very high levels of profits (resource rents) and might generate public resentment.

Identification of gear restrictions: Gear restrictions refer to limitations placed on either the size of fishing gear used or the number of gear units that may be used in a particular fishery. All boats may be subject to identical gear restrictions, or the quantity of gear allowed may vary according to boat size or historic use. Gear restrictions are usually implemented through a management plan, supplemented by conditions attached to the fishing concession.

Description of gear restrictions: Gear restrictions in a fishery limit operators in the type and size of gear that they can use to harvest the resource. Gear restrictions may be a limited number of traps or a restriction on the dimensions of trawling gear. Gear restrictions limit competition as they prevent operators from harvesting the resource in the most efficient way they can. However, gear restrictions are necessary to avoid excessive effort in a fishery and to allow objectives to be pursued. It should be noted that tradeable gear units are considered one of the most efficient input controls. In the NPF, tradeable gear units have been recently implemented as an effective input control management tool. Tradeable gear units have a number of advantages similar to output controlled fisheries.

Cost-benefit analysis of gear restrictions: Gear restrictions can be successfully used, either by themselves or in combination with other input controls, to protect fish stocks. This in itself can be considered as a community benefit. It also ensures a continued supply of fish, which benefits fishers, fish processors and the fish buying public. These benefits are, however, achieved only through the imposition of operational inefficiencies on fishers and contribute directly to the dissipation of resource rents. The level of resource rent dissipation can be reduced by using gear restrictions in combination with other input controls, particularly restrictions on boat numbers.

In fisheries unsuited to management through ITQs, the creation of a management structure based on some form of tradeable gear unit can be an effective management structure that protects fish stocks and minimises resource rent dissipation. Such a system provides positive cost-benefits to all parties.

It should also be recognised that some gear restrictions can also provide positive cost-benefits, even in fisheries managed through ITQs. Included in this would be minimum mesh sizes in fishing nets and escape gaps in pots and traps designed to allow small fish to escape and such things as turtle exclusion devices in trawl nets that allow vulnerable, non-target species to escape.

Alternatives to gear restrictions: Although gear restrictions restrict economic efficiency they can, if sensibly used and where coupled with fleet reduction strategies (e.g. buy-back or surrenders), offer a basis for a comparatively efficient input control management system provided some form of gear unit can be established and that these units are fully tradeable. Tradeable gear units, such as those being used in the NPF, are probably the most efficient of all input controls.

Apart from strategies to reduce fleet size that might theoretically remove the need for restrictions on fishing operations, the main alternative to gear restrictions would be seasonal closures designed to achieve the desired reduction in total fishing effort.

Recommendation for Restriction H – gear restrictions

The Committee has found that the benefits of this restriction, to the community as a whole, outweigh the costs.

The Committee recommends that the provisions within the legislation allowing gear restrictions remain.

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6. RECREATIONAL FISHING

This category of fishing may be described as fishing that is not for a commercial purpose, i.e. where the fish are not sold, traded or bartered.

6.1 Management of recreational fisheries

The *Fisheries Management Act 1991* does not extend to recreational fishing, other than where such fishing is prohibited or regulated under a plan of management. In the absence of Commonwealth legislation, State and Northern Territory laws apply to recreational fishing in waters adjacent to that State or Territory. The thrust of managing recreational fishing is directed at setting a maximum catch for individual fishers and size limits for specific species. The restrictions imposed mainly involve bag limits. These catch limits, which vary according to the species of fish caught, may be seen as restricting competition.

However, the restrictions are in place to ensure the sustainability of the fisheries resources by encouraging responsible fishing behaviour among recreational fishers. The various species size limits are consistent with the size restrictions placed on commercial fisheries and are necessary to ensure that recruitment takes place at an acceptable rate.

Under some State legislation, a recreational fishing licence is required to access some fisheries. These licences are issued to recreational fishers who choose to apply and there are no restrictions on the total number of licences that may be issued. Such controls generally do not include the time at which recreational fishers can access a fishery, nor fixed overall recreational quotas for particular species in particular fisheries.

There are extremely competent recreational fishers and the Committee is of the view that, by very definition, a fisher is either a recreational fisher or a commercial fisher. Recreational fishers are, under no circumstances, permitted to sell their catch whereas commercial fishing operators sell their catch. The Committee considers that the impact of restrictions in relation to recreational fishers can only be analysed in relation to that particular group and cannot be examined as a restriction on competition in comparison with commercial fishers.

The restrictions imposed on recreational fisheries have very little impact on competition, as everybody in the community is entitled to be a recreational fisher. All restrictions on recreational fisheries are designed to ensure as far as possible that fishing practices result in the sustainability of the fish resource. These restrictions are not selectively imposed, but rather apply to anybody who wishes to access the fisheries as a recreational fisher.

6.2 Recreational fishing in Australia

Recreational fishing is one of the major outdoor activities enjoyed by Australians. Participation is believed to spread across a wider range of age groups and sociological groups (e.g. employment status, income) than most other recreational and sporting

activities. By regulation, recreational fishing methods include traps and nets, although hook and line is the most common.

Recreational fishers enjoy a wide variety of habitat types from which to fish. They include freshwater rivers, lakes and streams, estuaries, beaches, headlands and deep-sea waters.

A 1999 report to the Department of Agriculture, Fisheries, and Forestry by Dominion Consulting Pty Ltd, entitled *A National Review of the Recreational Fishing Sector*, indicated that in 1999 it was estimated that approximately four million recreational fishers would fish for a total of 50 million days. The same report suggested that in 1998 the amount spent on recreational fishing nationally was conservatively estimated to be $2.926 billion, of which 20 per cent was direct expenditure (rods, reels, tackle, club membership), almost 50 per cent was indirect expenditure (travel, accommodation, boat fuel, hire and other costs) and 30 per cent was capital expenditure (boat purchase, maintenance, insurance and registration). The report stated that the national estimate of recreational fishing expenditure could range from $1.8 billion to $4.0 billion, depending on assumptions and the apportioning of indirect and capital expenditure.

There are indications that recreational fishing in Australia has more participants now than ever and will continue to increase in popularity.

The Committee acknowledges the issue of resource allocation whereby, as resources become fully utilised, there may be disputes over access to limited resources between recreational and commercial sectors.

As the FMA does not specifically manage recreational fishing, this is not considered further in this review.

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7. OTHER ISSUES RELEVANT TO COMPETITION IN THE FISHING INDUSTRY

The terms of reference for this review have thrown up a range of different matters relevant to NCP and to the functions of the legislation under review. These have been briefly discussed below. Because these are generally administrative matters necessary to effectively manage the resource on behalf of the wider community, the Committee has not deemed it necessary to address each in detail, nor has the Committee seen the need to consider the cost-benefit analysis of and the alternatives to each matter. As such, a brief explanation of each has been provided. The only one of these matters with contemporary relevance is allocation of fishing rights through auction, tender or ballot[19].

7.1 Auction, tender or ballot for allocation of fishing rights

Auction, tender and ballot are methods that may be used to allocate fishing rights in a fishery. They are not themselves fisheries management measures. Once the allocation of fishing rights has taken place, it is still necessary to manage the fishery through some form of input or output control.

Most Commonwealth fisheries are well established, the holders of fishing rights have been recognised and, in most cases, the fishing rights have acquired a considerable value. In most fisheries, changes to these rights occur only when the management system itself changes (e.g. when input controls are replaced by ITQs). In such cases it is a matter of allocating the new form of fishing right among existing rights holders in as equitable as possible a manner. Auction, tender or ballot would seldom, if ever, be used in such a situation. The most likely use of auction, tender or ballot as an allocation measure would be in the case of a new fishery.

RESTRICTION I: Auction, tender or ballot for allocation of fishing rights

> Auction, tender or ballot for allocation of fishing rights are a restriction on competition as they limit the range of approaches by which fishing rights are allocated.

BACKGROUND

Some fishers have expressed concern as to the provisions in the FMA that allow statutory fishing rights to be allocated by auction, tender or ballot where provided for in a plan of management. The basis for this concern is the fear that this mechanism could be used to reallocate rights in an established fishery.

The stated purpose for introducing these provisions was to provide an economically efficient and legally defensible method of allocating rights in a new fishery at the time of its establishment. The use of auction, tender or ballot allows either chance (in the case of a ballot) or the market (in the case of auction or tender) to determine those who are allocated rights and the windfall gain which accompanies these rights in a new fishery.

[19] This has been addressed in detail in section 7.1.

Each of these methods of allocation is well accepted in the community and removes any concern as to bias in the allocation process. They also allow better control over the quantum of rights granted than do allocations based on a set of criteria being met. The use of auction or tender also removes any concern as to individuals receiving a windfall gain from the allocation of preferential rights to a community owned resource and allows resource access to those who value it most.

Concerns that this process could be used to re-allocate rights to an established fishery are unfounded. At the time the legislation was passed, the then Minister gave assurances that these measures would not be used for this purpose. AFMA has also adopted this policy. More importantly, the FMA provides that these measures can only be used where provided for in a plan of management. This means that they would have to pass an extensive test of public scrutiny and Ministerial acceptance, and be subject to disallowance by either House of Parliament.

Outside of input and output controls, allocation by auction, tender or ballot is the only restriction that warrants analysis from a NCP perspective.

Identification of auction, tender or ballot: The auction, tender or ballot provisions allow rights to a fishery to be allocated according to the commercial value placed on those rights by different individuals (in the case of an auction or tender) or according to chance (in the case of a ballot). These allocation mechanisms can only be used when provided for in a plan of management. Depending on the provisions in the plan, participation in an auction, tender or ballot could be open to all members of the community or could be restricted to those who meet specified criteria.

Description of auction, tender or ballot: The plan of management for a fishery will identify the process to be used for allocating fishing concessions. It will also identify any criteria to be satisfied for eligibility to participate in auction, tender or ballot.

Cost-benefit analysis of auction, tender or ballot: The free market is the most commonly used mechanism for distributing goods and services in the community. It is widely regarded as the most efficient mechanism available. If it is accepted that governments must regulate participation in fisheries then it is reasonable to expect that governments will, where appropriate, use the most efficient method available to allocate access rights. Viewed in this light, auction, tender or ballot can be seen to provide a more open, transparent allocation mechanism providing much greater cost-benefit to the community than other, more subjective, methods. In this sense, the Committee has found that allocation of newly discovered fish resources by auction, tender or ballot can be of net benefit to the community as a whole.

Used in combination with criteria to determine participation, auction, tender or ballot can provide a better balance between fishing capacity and fish availability.

It should be noted that with auction or tender, the community would also receive a payment from those granted preferential rights to the community-owned resource.

Alternatives to auction, tender or ballot: The use of criteria to determine who is granted access to a new fishery is the only alternative to auction, tender or ballot. Access criteria tend to be subjective (e.g. level of investment or catch history) and open to legal challenge. Level of investment and catch history are the principal criteria approaches used by fisheries administrations to demonstrate a commitment to a fishery. Both suffer from subjectivity in that individual circumstances (e.g. health, participation in diversified fishing operations and a conservation ethic) can reduce the level of apparent and demonstrable commitment to a fishery. Several legal challenges to allocation based on these criteria have eventuated with the result that original allocation decisions have been overturned. Assessment against the level of investment rewards those best placed to invest heavily in a fishery without consideration being given to the prudence of such investments. Assessments against catch history favour those that have fished most heavily without consideration being given to the sustainability of such activities. Further, in many instances there has been a prior expectation of diversification of an individual's fishing operations, which is not taken into consideration as having a countervailing effect on the catch history for a certain fishery or species.

Accordingly, while the Committee recognises that the facility for auction, tender or ballot is a restriction on entry to a fishery, it considers that alternatives could be far more restricting.

Recognising the concerns of the fishing industry over the use of auction, tender or ballot as an allocation tool for established fisheries (i.e. fisheries where some form of established rights already exist), the Committee acknowledges that use of this facility needs to be considered on a case-by-case basis and that this facility has primary utility in respect of the establishment of new or exploratory fisheries.

Recommendation for Restriction I – auction, tender or ballot for allocation of fishing rights

The Committee has found that the benefits of this restriction, to the community as a whole, outweigh the costs.

The Committee recommends that the provisions within the legislation allowing for auction, tender or ballot remain.

7.2 Paper work and cost recovery

Paperwork

Fishing logbooks represent the most significant burden of paper work imposed on fishers and in most fisheries the amount of paper work involved is not great.

Under a logbook system, fishers are required to prepare a monthly return indicating daily fishing activity during the preceding month. This return would include the days on which fishing took place, the level of fishing undertaken (e.g. hours fished, trawl shots), fishing location and catch taken. These data are used as a research input to assist scientists in assessing the stock status of the target and non-target species, level of by-catch and effort expended by fishers. In fisheries where ITQ arrangements are being considered, the logbook data provide information of the past history of an operator in a fishery, and often these data are used in the allocation process in the implementation phase for such fisheries. The logbook data supply provisions imposed on output-controlled fisheries are more extensive than for input-controlled fisheries, as these data contribute to the 'chain of custody' monitoring of catch and landing of fish against the ITQ held by the operator. In such fisheries, an individual fisher can obtain an immediate and possibly significant monetary advantage by understating actual catch. Accurate and verifiable records of all quota species caught are therefore essential. In instances where legal action is taken against fishers for quota offences, the returns submitted by them become important evidence.

The logbook for each fishery is typically designed in consultation between fishers, managers and researchers through the Management Advisory Committee (MAC) process. From a fisher's perspective, the aim is to have a logbook that is easy to complete, simple to follow and which contains information in a form useful to the fisher in their business. From a researcher's and a manager's perspective, a good logbook system provides a cheap source of essential data that would otherwise be prohibitively expensive to obtain. Many fishers will not, however, provide accurate logbook information unless they have confidence in the managers and researchers and unless they appreciate how essential this information is to sound decision-making.

An annual fishing permit issued by AFMA authorises fishing in a particular fishery. The legislation allows permits to be issued for up to five years. Fishers are also required to pay an annual cost recovery and research levy. In some fisheries this is collected in two instalments. Fishers who seek changes to their fishing concessions (e.g. transfers) must also make application to AFMA. No licences or other authorisations are required for Australian skippers and crews under Commonwealth legislation.

Buyers of fish taken from some Commonwealth-managed fisheries are required to hold a fish receiver permit. These permit holders are required to provide returns detailing their purchases of fish from those operating in that fishery. Fish receiver permits are required to be held by all those receiving fish from fisheries managed through ITQs. They are designed to provide supporting documentation ('chain of custody') as to the quantity and species of fish landed as reported by fishers in their landings returns. For fish taken from some fisheries not managed through ITQs, buyers are also required to hold a fish receiver permit and to provide returns on fish purchased from fishers operating in that fishery. This is to assist in verifying catch information provided in logbooks.

Fish receiver permits are not regulatory instruments as there are no restrictions on who may hold them or on the number that may be issued. The content of the documentation is developed in consultation with the industry in order to minimise unnecessary costs, duplication and the burden of reporting.

Cost Recovery

Since the mid-1980s, the Commonwealth Government has applied a cost recovery policy to Commonwealth-managed fisheries. The justification for this policy is that as fishers are the main beneficiaries of fisheries management, they should meet the major portion of management costs. Following an enquiry into the appropriate level of cost recovery, the Industry Commission recommended that commercial fishers should pay 100 per cent of the costs directly attributable to fisheries management (*Cost Recovery for Managing Fisheries*, Report No 17, AGPS, Canberra, 1992). The Productivity Commission has recently undertaken a further review of cost recovery and the Government's response to that inquiry may impact on future cost recovery practices in Commonwealth-managed fisheries generally.

AFMA recovers management costs from each fishery on the basis of an annual budget developed for that fishery. This budget is then subject to scrutiny by the MAC for that fishery, which will then make a recommendation to the AFMA Board. As well as keeping pressure on AFMA and individual fisheries managers to continually seek more cost-effective ways of service delivery, this approach has also had a major impact on the way fishers view fisheries management. Previously, fisheries management had been a free good and the natural tendency was for fishers to see things, such as surveillance, as something the government had a responsibility to provide. They did not give any consideration to the cost of providing the service or of ways in which those costs might be reduced. Further, most fishers gave little thought to the objectives of management. Like 'death and taxes', they regarded it as inevitable and something they could do little about. These days, fishers contribute to ensuring cost-effective measures that provide real benefits to operators.

The individual fisher's share of management costs is collected through levies paid under the *Fisheries Levy Act 1991*. The individual's share of the access rights held for a fishery determines the levy amount. The fishing industry's contribution to the Fishing Industry Research and Development Corporation is also collected as part of the levy[20].

The AFMA Board, on the recommendation of the relevant MAC, determines the timing of the levy collection for each fishery and whether the levy is collected in instalments. The timing of levy collections usually reflects expected income flows in the fishery.

Cost–benefit analysis:

Paperwork - Logbooks supplied by fishers provide vital data on the biological position in the fishery at a fraction of the cost of alternative methods of collection. Through MAC consultative processes, an adaptive management approach is taken to ensure the efficiency of logbook design and data collection obligations.

[20] In the NPF, each fisher's contribution to the annual repayment of commercial borrowings used to fund the buy back in that fishery was also collected via this levy.

While the data supply provisions imposed on ITQ managed fisheries are much more stringent, the Committee considers that this is essential as such output-management systems require accurate monitoring of catches to be effective. Catch-monitoring systems and systems to monitor the purchase of fish by receivers in ITQ managed fisheries must also be legally enforceable to prevent individual fishers from breaching the restrictions thus imposing additional costs on other fishers and the general community.

In fisheries not managed through ITQs, logbooks represent the main data obligation imposed on fishers. The fish receiver records facilitate verification of catch by an operator and provide a rapid assessment of the extent, if any, of misuse of ITQ.

The Committee considers that logbooks are also an important research input in that the data can provide researchers with a picture of what is happening across a fishery. Researchers can then link these data with their more detailed studies of specific elements to provide advice to fisheries managers. Managers also use logbook data more directly to monitor trends in a fishery. Data from logbooks are also sometimes used to make allocation decisions when changes in management occur. Further, the Committee is of the view that the existing level of documentation associated with Commonwealth fisheries is adequate, and not excessive. Consultative processes ensure that documentation required by fishers is kept to a minimum.

Cost Recovery - The cost recovery levy provides a direct benefit to the community in that it removes the cost of fisheries management from the taxpayer. While cost recovery imposes a direct cost on fishers, there are several indirect benefits that accrue to fishers, government and the wider community. Among these are more cost-efficient fisheries management and a greater involvement and interest by fishers in fisheries management. Once they had to pay for it, fishers had a real incentive to seek management cost-effective measures that provided them with real benefits.

Therefore, cost recovery has not only reduced the cost to tax payers but also placed continual pressure on AFMA to provide more efficient services. It has given fishers a much more positive attitude to fisheries management. There is also evidence to suggest that it has also reduced the incidence of offences and has given fishers a much greater sense of ownership and commitment to the management system.

Alternatives:

Paperwork - The principal alternative to the present logbook system would be to undertake direct collection of data in the field. Direct collection of data would involve the use of dedicated vessels to undertake at- sea monitoring of fish stocks. Based on research surveys for new fisheries resources, the estimated costs associated with this alternative are comparatively significantly higher than the cost of administering a logbook program. Accordingly, the level of data collection activity would likely be significantly less than would occur in a fishery. For a similar input, the results of direct collection of data would be manifested in a much-reduced data set. Such a smaller data set would greatly increase the risk of poor decision-making and consequential risks to the long-term sustainability of fish stocks.

The effectiveness of an ITQ management system depends on an effective catch monitoring system and the capacity to enforce compliance with quotas. The alternative to collection of data by fish receivers would be to either place dedicated government or third party inspectors on board fishing vessels and in fish receiver facilities to independently monitor the 'chain of custody'. Such approaches are a step away from moves in recent decades to self-auditing paradigms, which are widely regarded by industry sectors as providing greater flexibility and efficiency to operators and effectiveness to government.

Cost recovery - The question of cost recovery is one of government policy rather than fisheries management and, as indicated above, this policy is subject to review from time to time. The clear alternative to this 'user pays' approach is for taxpayer funding of fisheries management. This would represent a cost saving for fishers but a cost to the wider community. As fisheries management costs are incurred only because a fishery exists, the alternative approach would represent a subsidy from the community to the fishing industry.

Experience has shown that cost recovery does more than simply transfer the cost of management from the community to fishers. It helps fishers focus on ways of reducing these costs and of achieving more effective fisheries management outcomes. The alternative of community-funded fisheries management may result in reducing fishers' commitment to effective, cost-efficient fisheries management.

7.3 Cross sectional allocation issues

Because fishers are directly affected by management decisions, particularly as such decisions usually mean restricting what fishers may do, it is essential for fishers to be involved in the decision making process. Such a consultative process allows managers to explain why action is required and it also allows fishers to provide feedback on both the feasibility and likely impact of different management options under consideration.

Such consultations inevitably result in the airing of grievances between different groups of fishers. The most usual basis for such groupings is 'big' versus 'small', although on occasions it may also be regional. Such conflicts could arise between operators of small boats and operators of bigger boats and/or owner operators versus fleet operators. The usual argument is that because bigger boats or fleet operators exert more fishing effort, they should be held primarily responsible for whatever is wrong in the fishery. As a consequence, the major part of any restrictions imposed should be borne by the big boat/ fleet sector.

Operators of smaller boats also tend to argue for restrictions that 'put all boats on an equal footing' (e.g. uniform gear restrictions). Such an approach is quite inequitable as it disadvantages larger boats much more than it does smaller ones. In addition, it could be argued that larger boat and fleet operators have more voice in industry consultation forums. Conversely, these larger operators could argue that as they are taking a higher proportion of the catch, they should have a louder voice.

The fact of the matter is that all operators, big and small, would have contributed to the status of the fishery. Each would have made past investment decisions based on the rules that applied at the time and the particular financial circumstances and expectations of individuals involved. It would be unfair and inequitable to single out one sector and require it to carry a disproportionate share of the costs associated with any imposed reduced fishing effort.

In making decisions, fisheries managers need to break down industry divisions and obtain support for measures that are equitable and effective.

Cross-sectional allocation issues also include the transferability of quota for particular species between different fisheries. In order for cross-fishery transferability to be allowed, all fisheries concerned must have quota management in place for the species in question. This is an issue that is being addressed in the introduction of ITQs in Commonwealth fisheries, and also for cross-jurisdictional fisheries (e.g. those that straddle Commonwealth and State waters). Any restrictions that do impede on open and free cross-sectoral trading in quotas should be based on sound fisheries management decisions.

7.4 Foreign fishing

From 1979, Australia had, under the United Nations Convention on the Law of the Sea, control over foreign fishing within the 200 nautical mile AFZ. Immediately following this there was considerable interest in fishing in the AFZ by several nations. This interest was not, however, a reflection of existing fishing activity but rather because, following the UN Convention, most coastal states declared 200 nautical mile Fishing Zones. This left distant water fleets from many nations with nowhere to go and induced many to undertake exploratory fishing in the AFZ.

These ventures proved unsuccessful and, as the older redundant distant-water fleets were progressively scrapped, interest in the AFZ waned. There is currently no licensed foreign fishing activity within the AFZ as there are no known under-utilised stocks that could be accessed by foreign fishers under the UN Convention. While there are currently no foreign fishing boats licensed to fish in the AFZ, this is not a reflection of restrictions as foreign companies are permitted to purchase a licence to harvest Australian fisheries resources.

Illegal, unreported and unregulated foreign fishing is known to occur within the waters of or immediately adjacent to the AFZ and a recent example of this is orange roughy fishing on the South Tasman Rise. This illegal fishing has an adverse impact on domestic fishers by impacting on the availability of the resource to legal, domestic fishers who have paid for the right to access that resource.

In 1974, a Memorandum of Understanding (MOU) was established between Australia and Indonesia whereby Indonesians are permitted to fish by traditional methods within a defined area of the AFZ. This defined area is known as the ‘MOU box’. Australia agreed

to this MOU in recognition that traditional Indonesian fishers have had a long-term 'habitual' association with these Australian waters. Traditional fishing in this Agreement is defined as fishing from a vessel that does not have a motor. The main species targeted are beche-de-mer (sea cucumber), shark and trochus. When fishing within this 'MOU box', Indonesian fishers must adhere to any environmental regulations made by Australia.

Similarly, under the *Torres Strait Treaty 1984* between Australia and Papua New Guinea, Papua New Guinean fishers are permitted to fish by traditional methods within the defined waters of the Torres Strait. Traditional fishing under this Treaty is defined as the taking of resources of the sea by traditional inhabitants for their own or their dependants' consumption or for use in the course of other traditional activities.

7.5 The United Nations Convention on the Law of the Sea

This convention outlines the rights and responsibilities of coastal States with respect to fisheries. Under the UN Convention, coastal States can regulate fishing activity within an exclusive economic zone that extends from 12 to 200 nautical miles from baselines. However, under the UN Convention, coastal States are the custodians rather than the owners of the fish resources within this zone. They have the responsibility of managing these resources but also the obligation to allow foreign boats access to resources that are beyond the coastal States' capacity to harvest. It is, however, the coastal States' responsibility to determine what these 'excess' resources might be.

With 'high-seas' fish resources beyond the fishing zones of any coastal State, the United Nations encourages the development of bilateral and multilateral arrangements to manage high seas, straddling or highly migratory resources. The multilateral (Australia, Japan Korea and New Zealand) Commission for the Conservation of Southern Bluefin Tuna and the bilateral arrangements between Australia and New Zealand for the management of the orange roughy fishery on the South Tasman Rise are examples of this.

7.6 United Nations Fish Stocks Agreement

In August 1995, the United Nations Conference on Straddling and Highly Migratory Fish Stocks adopted the UN Fish Stocks Agreement[21]. Australia deposited an instrument of ratification to the UN Fish Stocks Agreement on 23 December 1999 following approval by the Treaties Committee of the Federal Parliament. Australia was the twenty-fifth country to ratify. This Agreement came into effect in December 2001 after 30 countries ratified it.

The Agreement has resulted in the inclusion of objective (2) (c) of the FMA, which was outlined in Schedule 2 of the Fisheries Legislation Amendment Act (No. 1) 1999 and proclaimed in December 2001:

[21] Agreement for the Implementation of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

(2) In addition to the objectives mentioned in subsection (1), or in section 78 of this Act, the Minister, AFMA and Joint Authorities are to have regard to the objectives of:

(a) ensuring, through proper conservation and management measures, that the living resources of the AFZ are not endangered by over-exploitation;

(b) achieving the optimum utilisation of the living resources of the AFZ; and

(c) ensuring that conservation and management measures in the AFZ and the high seas implement Australia's obligations under international agreements that deal with fish stocks;

but must ensure, as far as practicable, that measures adopted in pursuit of those objectives must not be inconsistent with the preservation, conservation and protection of all species of whales.

Accordingly, all Australian vessels fishing on the high seas are now required to hold a fishing concession authorising fishing on the high seas. This authorisation will normally be in the form of a fishing permit and operators will be required to specify in which fishery they will be working and where fishing will be carried out. It will also be necessary for all high seas operators to have vessel and fishing gear markings consistent with international systems and, where required for regional management purposes, to carry observers and/or a satellite-based vessel monitoring system on board. Integration of domestic and regional fisheries management organisation (RFMO) management will be encouraged. Collection of catch and effort data will be mandatory for all high seas fishing by vessels from nations that have ratified the UN Fish Stocks Agreement and data sharing between nations will be encouraged. Nations that have ratified the Agreement will need to cooperate to ensure compliance with conservation and management measures.

7.7 Fish stocks and data collection

Many difficulties associated with fisheries management relate to the basic problem of obtaining an adequate understanding of fish stocks. Part of this difficulty relates to the nature of the resource and part to the cost of undertaking fisheries research.

Fish represent a mobile, living resource that exists in a hostile (to humans) three-dimensional environment. It is virtually impossible to conduct research using direct observation. Instead, much of our knowledge is drawn by inference from indirect information. Besides the direct impacts of fishing there are many, usually poorly understood, natural factors that affect the size and distribution of fish populations. It is difficult therefore to determine whether observed changes in fish populations are the result of fishing or of some natural phenomena.

As well as problems flowing from the inability to make direct observations, fisheries research is further hampered by its cost. At sea, research is particularly expensive. As a result of these different factors there exists adequate knowledge of only a few Australian

species. This means, for example, that when setting TACs for most species in the South East Fishery, the major determinant is the historic level of catch and effort, primarily from fishers' logbooks.

Logbook information, completed by fishers, is a vital component in all fisheries management. It is relatively cheap to obtain and provides a wide geographic coverage of what is happening in the fishery. Logbooks do, however, vary in quality with the accuracy of the information often difficult to determine. The accuracy of logbook information appears to be highly correlated with the level of trust and confidence that exists between fishers and managers and how that information is used.

Because of the importance of fisher's logbooks in research, it needs to be recognised that in the absence of fishing this source of data is not available and thus the impact of natural phenomena on fisheries resources remains relatively unknown. Because of this and the high cost of using dedicated research vessels, delaying fishing until data on a potential resource is gathered and evaluated is not a practical option. Therefore, exploratory fishing is often permitted with the appropriate conditions required to meet the 'Precautionary Principle'. The 'Precautionary Principle' sets out that where threats exist of serious or irreversible environmental damage, a lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

7.8 Exploratory fishing

Exploratory fishing needs to be conducted in a controlled manner so the problems associated with excess fishing capacity and over exploitation can be avoided. There are two possible ways of doing this

- granting a limited number of permits
- chartering one or more fishing boats.

Chartering boats is expensive. Exploratory fishing charters are therefore usually designed to cover as much area as possible as quickly as possible. There is usually little time to concentrate on specific areas or to trial gear modifications. While charter fishing may be a useful first step in determining whether a viable fishery may exist, it is unlikely that charter fishing would in itself prove either the existence or extent of a viable fishery.

If permits to undertake exploratory fishing are granted, then a determination must be made as to the number of such permits, their duration and what, if any, long term rights the permit holder will receive should the exploratory fishing lead to the development of an ongoing viable fishery. It is preferable that these matters be determined prior to the granting of permits so that they do not become an issue at some later date.

In the past, exploratory permits have usually been non-transferable - the justification being that it is improper for an entity granted such preferential rights to profit from their sale. Provided that the conditions attached to such permits are clearly understood and complied

with, restricting such transfers appears unnecessary. To be effective, knowledge specific to that fishery also needs to be passed over with the permit transfer.

7.9 Offshore Constitutional Settlement (OCS)

Under the Australian Constitution, the jurisdiction of a State/Territory extends only to the limit of the three nautical mile territorial sea. State/Territory law is effective beyond this limit only to the extent that it is not inconsistent with Commonwealth law. Following the passing of the *Fisheries Act 1952*, State/Territory jurisdiction with respect to commercial fishing effectively ceased at the limit of the territorial sea.

Because most fisheries extended across the territorial sea boundary and many extended into waters off two or more States, fishers had to hold multiple licences and decision-making was a complex matter involving two or more political entities and complementary legislation.

To allow more rational fisheries management, legislation establishing the OCS was passed in 1982 and came into effect in 1984. Under the OCS, the Commonwealth and a State/Territory can enter into an arrangement whereby either the State/Territory or the Commonwealth becomes solely responsible for the management of a specified fishery. As a general rule, under the OCS, that State/Territory manages a fishery located off a single State/Territory, while the Commonwealth manages a fishery that extends into the waters off two or more States/Territories. Under the OCS, jurisdiction of a State/ Territory can extend to the outer limit of the AFZ for fisheries managed by that State/Territory. For fisheries managed under Commonwealth law, Commonwealth jurisdiction can extend to the low water mark. OCS arrangements should minimise jurisdictional overlap and maximise effective fisheries management. OCS arrangements can help to circumvent many of the inter-governmental disagreements that complicate management.

Existing OCS agreements are periodically reviewed to determine whether the current arrangements represent the most effective division of fisheries management responsibility.

The OCS may not represent the most efficient structure for managing the nation's fisheries. Many fishers operate in several fisheries, some of which are managed by a State and others by the Commonwealth. Such fishers must still hold multiple licences and are subject to different sets of regulations. Existing OCS arrangements do, however, represent a major advance on the previous situation. Unless the Commonwealth and the States/Territories are prepared to legislate to establish a national body to manage all marine fisheries, present OCS arrangements seem to be the best available option.

7.10 Suspension or cancellation of fishing concessions

Section 38 of the FMA gives AFMA the authority to suspend a fishing concession for non-payment of any fee, levy or charge or while it investigates an offence or pending a court hearing or following a conviction by a court. Section 39 gives AFMA the power to cancel a fishing concession for non-payment of any fee, levy or charge or following a court conviction. Such court convictions include ones for fishing offences under New Zealand, Papua New Guinea, State or Territory laws. Section 98 of the FMA allows the Court to cancel or suspend a fishing concession and Section 106 of the FMA allows the Court to order the forfeiture of fishing gear and/or catch.

Under section 3(1)(e) of the FMA, AFMA is required to achieve government targets in relation to the recovery of its costs. AFMA, in effect, acts as an agent for the government in collecting any fee, levy or other charges. The non-payment of any fee, levy or charge allows AFMA to suspend or cancel any fishing concession on which outstanding monies have not been paid. The suspension of a fishing concession gives AFMA the ability to hold boats in port while investigations are conducted into alleged fishing breaches, and for very serious offences it gives AFMA an appropriate mechanism for meeting its statutory objectives in relation to fisheries.

The Committee considers that the suspension or cancellation of fishing concessions is not a restriction on competition.

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8. SUMMARY

In conducting the National Competition Policy Review of Commonwealth Fisheries Legislation, the Committee recognised the differences between fisheries and other natural resources, and identified the difficulties of allocating effective rights to a resource that cannot be kept within well-defined boundaries. The Committee assessed the restrictions of the legislation in light of the CIE *Guidelines for NCP legislation reviews*, which state that restrictions should be removed unless they are proven to be beneficial. These *Guidelines* also state that a restriction should be removed unless it can be demonstrated that the benefits of the restriction to the community as a whole outweigh the costs, and that the objectives of the legislation can only be achieved by restricting competition.

In its review, the Committee found that there is a net public benefit arising from the restrictions on competition that exist within Commonwealth fisheries legislation. The Committee also found that there is net public benefit in retaining restrictions in Commonwealth fisheries and that the objectives of the legislation can only be achieved by restricting competition.

APPENDIX 1

Output Control Case Studies

Southern Bluefin Tuna (SBT) Fishery

1. Background to the SBT fishery

SBT is a highly migratory species, forming a single stock with a single spawning area in the Indian Ocean in an area south of Java. As mature fish, SBT are considered to have a circumpolar distribution between 30º south latitude and 50 º south latitude.

Only a portion of the global fishery for SBT occurs within the AFZ. Mature SBT spawn in the Indian Ocean in an area south of Java. Juvenile fish migrate down the west coast of Australia with one to three year old fish appearing in surface schools off southwest Western Australia. These surface schools are characteristic of juvenile SBT with migrating schools being targeted seasonally off South Australia and southern New South Wales. Juvenile SBT are mainly taken by purse seine methods in South Australian waters and long-line methods off the east coast of Australia. SBT mature at about 12 years of age and may reach 40 years of age. Mature fish lead an oceanic, pelagic existence and are targeted using long-lines. SBT live for at least 20 years reaching 200 kg in weight.

The fishery off southern New South Wales and South Australia developed as a seasonal troll line fishery in the 1930s to supply the developing fish canning industry. The pole and live bait methods were introduced in the 1950s and purse seining in the 1970s. The Japanese long-line fishery targeting mature fish developed in the 1950s, supplying high quality SBT to the valuable Japanese *sashimi* market. The Japanese catch peaked at 77,500 tonnes in 1961. The Australian catch peaked at 21,500 tonnes in 1982.

Apart from restrictions on the number of purse seine boats (imposed largely to protect the smaller pole and live bait sector), the Australian sector of the fishery remained largely unregulated until the 1980s. This was because until Australia declared its 200 nautical mile fishing zone in 1979, restricting Australian boats would have been futile (and politically difficult to justify) when foreign boats were free to target the same fish in the same area.

Although no restrictions had been imposed on fishing, Australian scientists studying the fishery were expressing concern as to the state of SBT stock. This concern was heightened by the development in the late 1970s of a fishery off Western Australia targeting one and two year old fish. The number of very small fish taken in this fishery was, the scientists believed, likely to have a severe impact on the size of the future breeding stock. This concern was realised when, in the decade 1973 to 1983, the average size of SBT in the Australian catch dropped from 11.7 kg to 8.6 kg. The deteriorating state of SBT stock was reflected in the failure of schools of juvenile fish to appear off southern New South Wales from about 1980 onward.

2. Individual transferable quotas in the SBT fishery

As part of a trilateral agreement between Australia, Japan and New Zealand, Australia agreed to limit its 1983-84 seasons' catch to no more than 21,000 tonnes. A competitive TAC was set to achieve this.

Following further international scientific assessment, a global TAC of 38,650 tonnes was recommended for 1984-85 and of this Australia was allocated a national TAC of 14,500 tonnes. This TAC was allocated to fishers as ITQs, based on a formula that allocated 75 per cent of the TAC on catch history and 25 per cent on capital investment.

The SBT fishery was, in just about all respects, ideal for management through ITQs because

- it was a single species fishery with a single breeding stock
- it had been the subject of many years of intensive research so that the knowledge necessary to set realistic TAC was available
- there were a limited number of market outlets from which catch information was readily available. Virtually all SBT was sold to canneries or was exported.

3. Restructuring of the SBT fishery

Zoning restrictions that had applied in 1983-84 were removed, as it was feared that they could be an impediment to quota trading (and it was anticipated that the Western Australian quota, based on small and lower market value fish, would be sold to other areas). The size limit imposed in 1983-84 was also removed following CSIRO reports of large scale dumping of small fish from the catch of mixed size schools.

The introduction of ITQs in 1984-85 resulted in a substantial and almost immediate restructuring of the fishing fleet. By the end of the first season, ITQs on all but three of the 26 New South Wales boats and all but 21 of 70 Western Australian boats had been sold. Virtually all this quota was sold to South Australian based fishers and even here there was some consolidation with the number of South Australian quota holders dropping from 40 to 30.

Among the factors that combined to force this rapid restructure were

- a reduction in the TAC meant that tuna fishing was no longer viable for some fishers, while others needed to buy quota to maintain their viability
- the price difference between small and larger fish meant that quota was generally worth more to those targeting larger fish
- the continued absence of surface schools from the New South Wales fishery meant that there was little point in these fishers retaining quota
- many operators fished tuna only on a seasonal basis and had other fisheries in which they could transfer operations.

4. Industry reaction to the introduction of ITQ arrangements

Many fishers were, at the time, very critical of the whole move to ITQ arrangements and blamed ITQs for the hardship they faced. This was an unfair criticism. With the catch reductions that had to be imposed, a significant fleet reduction would appear to have been inevitable. No matter what management structure had been used, some hardship could not be avoided. By having quota to sell, fishers leaving the fishery were provided with some level of recompense on their departure. This may not have occurred with other management approaches.

Since their initial introduction, ITQs have provided other benefits to SBT fishers. A further progressive reduction in the Australian TAC from 14,500 tonnes to 6,250 tonnes by 1988 occurred with minimum disruption. Fishers were also able to take advantage of the quota system to negotiate with the Japanese industry. Australian fishers were able to lease quota to Japanese long-liners for a value far in excess of the profit the quota would have yielded if it had been taken directly. These arrangements also provided for transfer of technology in long-line fishing techniques and handling fish for the *sashimi* market. The successful venture of growing tuna in pens was also the result of joint Australian/Japanese collaboration. Without ITQs as a bargaining tool, these developments may not have occurred.

South East Fishery (SEF)

1. Individual transferable quotas in the SEF

ITQs were introduced for 13 species in the trawl sector of the SEF in 1992. For a number of reasons, ITQs did not initially have the same success as they had in the SBT fishery. Part of this relates to the differences between the two fisheries and part to the process used for their introduction.

2. The allocation process

Several elements contributed to problems with the initial introduction of ITQs. Like the SBT fishery, this was associated with a significant reduction in the TAC (when compared to historic catch levels) for most species. Like the SBT fishery, quota allocation was based partly on historic catch levels and partly on investment. However, unlike the SBT fishery, a rights system, based on tradeable hull and engine units, already existed in the trawl sector. The number of units held determined the value of fishing rights for each fisher. A quota allocation formula heavily biased towards catch history resulted in a substantial redistribution of wealth in the SEF. Marketing of fish from the trawl sector was much more diverse than for SBT, with cash sales making up a significant part of the income of many fishers. Although substantial effort was put into catch verification, it was difficult to arrive at an accurate picture of the total catch taken.

In the lead up period, fishers were provided with 'indicative' quotas, which were estimates of what their quota allocations might be. In many instances these proved to be significantly in excess of the actual quotas and left many fishers disillusioned and antagonistic. In addition, the allocation formula involved the averaging of averages and from a mathematical perspective produced a meaningless result. While in most cases this had a negligible result on quota allocated to individuals, in some cases (e.g. orange roughy) it produced spectacularly biased results. On appeal by fishers, the Federal Court struck out this part of the allocation formula. This further undermined the process in the eyes of fishers. Their resentment was not restricted to formula but extended to the whole concept of ITQs. Much of this distrust of ITQs has since flowed to the rest of the fishing industry.

3. ITQs in a multi species fishery

The trawl sector of the SEF is, in a sense, a combination of fisheries each with its own characteristics. Some species, such as gemfish and orange roughy, are targeted specifically and catches taken contain few fish of other species. In other areas, especially in-shore waters, the catch includes a number of different quota (and non-quota) species. Trawl fishing by its very nature will result in a mixed catch. The proportion of individual species in the catch will vary as species populations wax and wane in response to natural forces. Thus the fisher has limited control over the species mix taken. This makes an ITQ system based on individual species difficult to implement. For most of the species in the SEF, the scientific knowledge on which to set realistic annual TACs is also deficient. Historic catch levels therefore play a significant role.

The idea behind the introduction of ITQs in the SEF was that trading in individual species quota would resolve the position where one fisher exceeds their quota for a species but where others still hold quota for that species. This leaves unresolved the question of what happens where the TAC for one species has been taken but where a considerable proportion of the TAC for other species is still available. In this circumstance, continued fishing will certainly mean that the TAC for that species will be exceeded, regardless of whether or not the landing of over-quota catch is allowed.

Part of the problem appears to lie in what different managers expect from an ITQ system in a multi-species fishery. One view would be that the main attributes of an ITQ system is its ability, over time, to remove excess fishing capacity and bring a better balance between that capacity and an acceptable level of harvesting. This view would argue for a simplified system that covers all species but with some TACs covering a number of species. Under this approach, only species that are taken as 'clean' catches would be subject to individual species TACs. The alternative view is to see each TAC as providing individual species protection. In this instance it is the individual TACs that become the focus rather than the fishery as a whole. Given the lack of detailed knowledge of the population dynamics for many species, natural variations in population size and practical difficulties of enforcement, this approach seems somewhat unrealistic.

4. High-grading and non-quota species

Two of the major difficulties in a multi-species ITQ fishery are associated with high-grading and the treatment of non-quota species. High-grading can be a problem with ITQs based on a single species as fishers discard fish with a lower market value in order to maximise the value of their allocated ITQs. With multi-species fisheries, this problem is compounded because fishers will have the incentive to discard fish for which they have limited quota or no quota so as to maximise the value of the quota they hold. Whilst management attempts to ensure that landed catch is within the TAC, actual catch (including discarding through high-grading) may, in fact, be above the TAC.

Although there are 13 species for which TACs have been set in the SEF, there are many other species taken that are not subject to quota restrictions. To set individual TACs for all of these species would be impractical. Nonetheless, this leaves open the opportunity for fishers holding very little quota to enter the SEF with the aim of targeting mainly non-quota species. The same temptation is there for established fishers as their available quota is caught. Such practices are likely to increase the incidence of high-grading and inhibit the adjustment of the fishing fleet.

5. Fleet restructuring in the SEF

Compared to the rapid restructuring that occurred in the SBT fishery, restructuring in the SEF has been very slow. Part of the reason for this was that, until all the appeals and court challenges to the quota allocation were resolved, permanent quota transfers (as distinct from quota leasing) were not allowed. The complexities of the quota system in the SEF with 13 separate ITQ units, the lack of familiarity by fishers, a level of uncertainty and a resistance to change were probably also factors. Quota leasing transaction costs involved with that number of species are much greater than with a single species. This must be expected to have an inhibiting impact on ITQ trading.

However, the truth probably is that the rapid rate of adjustment in the SBT fishery was exceptional, rather than that in the SEF. For example, a comparatively slow rate of adjustment was also observed when ITQs were introduced into New Zealand fisheries. Unless there is a very large reduction in the TAC, profitability in the fishery will not change greatly. If there is not another fishery in which the boat can be used, a fisher must consider not only the money they can obtain from the sale of quota, but also the capital loss associated with the sale of a fishing boat without fishing rights. In such a circumstance, a rational fisher will delay selling quota until the boat is at or near the end of its economic life.

APPENDIX 2

Input Control Case Study

Northern Prawn Fishery (NPF)

1. Biological structure of the NPF

The NPF comprises two separate components. The banana prawn fishery operates mainly in the southern part of the Gulf of Carpentaria in the early months of the year. The tiger prawn fishery, which extends over most of the Gulf of Carpentaria and across northern Australia, operates in the latter part of the year.

The characteristics of these two fisheries are quite different. Banana prawns spawn in relatively shallow inshore waters of the Gulf and their juvenile stages are spent in the waters of coastal rivers and streams from which they are flushed by monsoonal rains. Once in the Gulf, they form quite dense aggregations or 'boils' during daylight hours. These aggregations extend throughout the water column. During this stage the prawns grow quite rapidly.

Banana prawns are targeted using nets with a high opening. Aerial spotting is used to assist in locating schools, particularly in shallower waters. Because of their aggregating behaviour, very large catches can be taken in very short periods. The appearance of these aggregations is, however, difficult to predict and there is a significant degree of chance involved in this fishery. The abundance of banana prawns varies greatly from season to season and appears to be correlated with the timing and extent of monsoonal rains. Banana prawns live for one year but can reach sexual maturity within six months of birth.

The tiger prawn fishery comprises four main species which all have fairly similar characteristics. Inshore seagrass beds serve as nursery areas with the prawns migrating to deeper waters as they grow. They are caught on or near the bottom using nets with a shallow opening. While catch rates of tiger prawns are highest during the hours of darkness, they can also be taken during daylight hours. Although concentrations vary, these prawns are taken over a more extensive area where suitable bottom conditions are found. Although catch rates are lower, these prawns are more predictable in abundance and location than banana prawns.

2. Management history

It has to be recognised at the outset of this analysis that the NPF has features that make it unique among Australian fisheries. The area of operation was and is remote from basic support and infrastructure. A breakdown in equipment can involve major time delays and cost. While most Australian fisheries involve day trips, or at most a few days, NPF fishers are at sea for up to three months at a time.

Commercial concentrations of banana prawns were first located in the southeastern part of the Gulf of Carpentaria in the mid-1960s. From there the fishery expanded rapidly. In these early years, most boats came from the Queensland east coast prawn fishery and fished the Gulf only during the banana prawn season. These were quite small boats without refrigeration and used ice as the main method of retarding spoilage. This meant that the prawns had a very short 'shelf life' and had to be landed and processed within a few days of capture. At this time, Commonwealth, Northern Territory and Queensland Governments shared jurisdiction over the fishery. Management decisions were by consensus between the three Governments and industry had little input.

Early management decisions attempted to use the fishery to 'kick-start' regional development. It was believed that the establishment of strategically located processing plants and service facilities would provide communities and basic infrastructure from which other aspects of the regional economy could develop. To achieve this, those prepared to establish shore-based processing plants were given protection through the provision of exclusive zones around each plant in which no other processor was allowed to operate. In addition, processing boats (which bought prawns directly from boats and packed and froze prawns on the fishing grounds) were prohibited from operating within a specified distance of a shore-based plant. The processors, both shore-based and floating, also operated a pricing cartel under which they paid a fixed price for prawns. As this price made no allowance for quality it did nothing to improve on-board handling or size of prawns captured. The dumping of boatloads of prawns 'unsuitable for human consumption' was a common occurrence. Although they knew of this cartel arrangement, the respective Governments did nothing to prevent it.

The first measures that could be regarded as resource management were the use of inshore closures, introduced in the early 1970s, to prevent the taking of young prawns. Whether the motivation for doing this was based upon reasons of marketing or conservation is unclear. The importance of in-shore seagrass beds as tiger prawn nursery areas was not fully recognised until considerably later. Furthermore, the conventional wisdom at this time was that, because of their high fecundity, the risk of over-fishing was low. The early 1980s saw the collapse of the Kuwaiti prawn fishery and later the decline of the Western Australian Exmouth Gulf prawn fishery which caused this belief to be discredited.

With the continued expansion of the NPF came a change in the nature of the fishing fleet. A number of fleet operators had entered the fishery. With the development of the tiger prawn fishery, many east coast fishers found year round operation in the NPF to be a viable option. The cartel operated by prawn buyers collapsed in the mid-1970s and fishers were finally paid according to the quality and market price of prawns caught. This had a radical and rapid impact on the fishing fleet. Fishers now found that fitting refrigeration and landing frozen prawns was economically attractive. This also greatly expanded the operational range of boats and reduced their dependence on shore-based plants. Shore-based plants were still used as the overseas market continued to have a heavy demand for headless prawns packed in cartons.

3. Limited entry in the NPF

The downturn in world prawn markets in the mid-1970s led to calls from industry for limits on further entry to the fishery due to the apparent success of limited entry in other fisheries such as the Western Australian rock lobster fishery. While there were at the time no concerns about the biological state of prawn stocks and there appeared to be no particular economic justification, the collective Governments agreed to industry's request and the fishery became limited entry as from 1977.

The entry criteria introduced in the NPF were generous in many respects. They permitted the entry of boats with a history of operation in the fishery and also the entry of boats being built for the fishery. As there were no restrictions on the granting of fishing licences and no requirement to obtain permission before building a boat, it is likely that some boats that were originally intended to be used in other prawn fisheries gained NPF access. The entry criteria also allowed a fisher who had worked as an employed skipper or crewman in the NPF, and who now owned a boat in another prawn fishery, to qualify for an NPF endorsement. In all, a total of 292 NPF endorsements were granted in 1977. This represented an increase of about one-third in the maximum number of boats that had previously operated in the NPF in any one year. While there were a few quite large boats, the vast majority were relatively small boats (15 to 18 m length overall) built for operation in prawn fisheries off eastern Australia.

4. Boat replacement in the NPF

Initially, boat replacement was allowed so long as the new boat was not of greater size. There were no restrictions on the transfer of endorsements or on the number of endorsements an individual or company could hold.

The boat replacement policy soon came under stress. Marginally larger replacement boats were soon allowed. This tolerance 'stretched' so that by 1979 the margin allowed was 20 per cent larger than the boat being replaced. This situation was exacerbated by the availability of the Commonwealth Government's Shipbuilding Bounty, which applied to boats in excess of 21 metres. It meant that a subsidy-sized boat could be built for the same cost to the fisher as a much smaller boat. It was soon apparent that the boat replacement policy was not effective. While there were still no concerns as to the biological state of the resource, the total catch was not increasing and industry leaders recognised that the cost of operating a fleet of increasingly larger boats was further eroding narrow profit margins.

A boat replacement system based on tradeable units of hull volume was first proposed in 1979. It initially generated considerable interest from both Government and industry. However, prawn prices were once again improving and industry lost interest in restrictive boat replacement measures. Instead, in early 1980, Governments and industry agreed to a new boat replacement policy, which allowed boats of under 21 metres to be replaced with shipbuilding bounty-sized boats and boats of above subsidy size with boats of equivalent size.

5. The 1982 Northern Prawn Fishery Review

A period of rapid boat replacement followed with some fishers reportedly recovering the capital cost of new boats from a single year's profit. It was, however, obvious that the situation could not be sustained. A special Government/Industry Working Group was established to review the management of the fishery. In its 1982 report, this Working Group made a number of major recommendations, including supporting a greater direct role for industry in the management process.

The Working Group also recommended that the boat replacement policy be again reviewed and that the unitisation system rejected in 1979 be reconsidered. The Working Group recommended that a licence buy-back scheme be considered as a way of reducing fleet size and improving the economic position in the fishery.

In developing its new boat replacement policy, Northern Prawn Fishery Management Advisory Committee (NORMAC) industry representatives argued that to base restrictions on hull size alone was likely to have limited impact in restraining fishing capacity. They argued that restrictions on engine size would also be required. In cooperation with engine manufacturers, a formula was developed which identified each model of engine and allocated it a kilowatt-hour rating. This meant that de-rating an engine, for example by fitting smaller injectors, did not change the rating of that engine.

Hull units were calculated according to a formula. All boats were measured and their engines rated. The kilowatt-hour rating of the engine and the under-deck tonnage of the hull were then combined according to a formula to give each boat its allocation of units. These became class A units.

The fishery was, and still is, highly factionalised on certain issues. Fishers, mainly Queensland and Northern Territory based smaller boat operators who had not upgraded their boats, claimed that the proposal was unfair. They argued that it was not they who had caused the problem of excess fishing capacity but those who had upgraded boats under the discredited boat replacement system. To now allocate units on the basis of existing boat size, effectively rewarding those who had already increased boat size, was seen by the operators of small boats as a form of 'double jeopardy' and unfair.

To resolve this impasse, the concept of 'suspense units' was introduced. The minimum unit allocation to any boat was 375 class A units (this was felt to be the minimum number of units required for a boat of subsidy size). Each operator of a small boat was allocated the number of 'active' class A units assessed according to hull size and engine power with an additional allocation of 'suspense units' to bring the total allocation to 375. Suspense units could be utilised by their owner for boat replacement or to upgrade an engine. They then became and remained active units. They could be sold if the boat was sold or if all units were sold but other trading in 'suspense units' was not allowed.

NORMAC also recommended that the area of the NPF be extended westward to include Joseph Bonaparte Gulf. With this addition to the NPF, another 10 boats (non-NPF boats with a history of prawning in the added area) were allocated units. This took the maximum number of boats in the NPF to 302.

6. Licence splitting in the NPF

Many boats geared to catch prawns were initially licensed to fish in two or more of Australia's prawn fisheries. This licensing represented their traditional fishing patterns of moving between fisheries on a seasonal or opportunistic basis. Initially, most NPF boats held licences for the Torres Strait and Queensland east coast prawn fisheries.

It was soon recognised that allowing these licences to be sold separately was undermining other attempts to restrict the growth of fishing effort in each fishery. This problem was particularly acute between the NPF and the Queensland east coast prawn fishery. A dual licence holder would build a new boat for the NPF and sell the old boat with the east coast licence to another fisher. Not only did this significantly increase fishing effort in both fisheries, but also in economic terms it represented a subsidy from the Queensland east coast prawn fishery to the NPF[22].

Because this problem related to boats fishing in different jurisdictions, it became a policy issue for the Australian Fisheries Council (later known as the Ministerial Council on Fisheries and Aquaculture and now the Natural Resource Management Ministerial Council). From this arose the concept of a 'package' of fishing rights and the 'no licence splitting' policy. The basis of this policy was the concept that separation of a licence that formed part of a 'package' would not be allowed unless managers of each of the fisheries involved concurred. As a result, fishing vessels have become specialised, and in general a boat fishing the NPF, for example, is designed and geared especially for that fishery and unlikely to be operated in another fishery.

7. Area closures in the NPF

In the 1970s, CSIRO research confirmed just how important inshore seagrass beds and other inshore habitats are to juvenile tiger prawns and associated species. With assistance of fishers, these areas were identified and, following recommendations by NORMAC, progressively permanently closed to fishing. These seagrass bed closures served a dual purpose. First, they had an immediate impact by allowing juvenile prawns to grow to a more valuable size and secondly they prevented the gradual degradation of seagrass beds resulting from disturbance by trawl gear.

Other important habitat areas were identified where concentrations of small prawns were found seasonally. These were made the subject of seasonal closures. Among these was an area in the southern Gulf of Carpentaria that was closed at the beginning of each year when monsoonal rains flushed juvenile banana prawns out of coastal rivers. These small prawns attracted a very low price. CSIRO scientists made calculations that took account of growth rates, natural mortality and prices to determine the opening date, which would produce the highest total value of catch. Fleet catching capacity in the NPF is such that in most years the main banana prawn season lasts only a few weeks. Therefore, the earlier fishing commences, the sooner the season finishes. There is obviously a commercial advantage in delaying fishing until prawns reach an optimum size.

[22] This was because the capital loss associated with selling a prawn boat without a licence was avoided.

Area closures were also used later in the season to prevent fishing in areas where both large tiger prawns (representing this year's crop) and small tiger prawns (next year's crop) were found. While fishing in these areas was commercially viable, it was considered that gains from allowing fishing were more than offset by the adverse impact on the following year's catch.

Closures have been used in the NPF and other fisheries as a method of reducing total fishing effort. Both permanent and seasonal closures have been used in the NPF for a variety of reasons. These closures serve both conservation (the seagrass bed closures) and economics (the banana prawn closures). Seasonal and permanent closures should not be seen as separate types of restrictions but rather as part of the same continuum. The duration of a closure will depend on the particular situation it is designed to address. If, as in the case with juvenile banana prawns, it is a seasonal problem then a seasonal closure is appropriate. If, as is the situation with seagrass beds where trawling would cause damage regardless of when it takes place, then a permanent closure is appropriate.

8. Other developments in the NPF

Offshore Constitutional Settlement (OCS)
Two other developments, external to the NPF but which impacted on the fishery occurred around 1984. The first was the development of agreements under the OCS between the Commonwealth, Queensland, the Northern Territory and Western Australian Governments under which the Commonwealth assumed full legal responsibility for management of the NPF. This greatly reduced the complexity of management because only one set of legislative rules applied to the entire fishery and fishers now required only one licence.

User pays
The second development was the decision by the Commonwealth to extend its cost recovery policy to the fishing industry. A fundamental change in fishers' attitudes to management occurred once it was recognised that this impost could not be avoided. Previously, the cost of implementing management arrangements had not been considered by industry. For them, management had been a 'free good'. They did not consider its cost, nor to a great extent the benefit (if any) they were deriving from it. As an illustration, although in the first year only 30 per cent of applicable costs of managing the NPF were recovered from NPF operators, NORMAC saw fit to rationalise the whole pattern of seasonal closures. As a result, the total surveillance budget, a major cost item, was more than halved.

The introduction of the 'user-pays' principle also had a significant impact upon fisheries managers. For the first time they had to develop individual fishery budgets and then justify those budgets before a usually hostile industry. This gave managers a real incentive to seek cost savings.

Industry considered that as the number of class A units held represented each fisher's 'share' of the fishery, it would be more equitable to base the cost recovery levy on these

units rather than imposing a fixed payment imposed on each boat[23]. Because 'suspense units' were not income producing, they did not attract a levy.

In the mid-1980s, the *Fisheries Act 1952* was amended to provide for the making of management plans. Management plans provided a more consistent way of drawing together measures relating to a fishery than had previously been contained in a variety of Fisheries Notices, Regulations and administrative arrangements. The first NPF management plan under the FMA came into effect on 8 February 1995.

The NPF Voluntary Adjustment Scheme (VAS)

The 1982 Working Group recommended the implementation of a buy-back scheme to reduce the size of the NPF fleet. This was originally intended to be funded by the industry. However, until the passing of legislation that allowed management costs to be recovered, there had been no mechanism for collecting an industry contribution to such a scheme. The introduction of the unit system and the passage of the levy legislation provided an equitable basis on which to impose such a payment and the mechanism with which to collect it.

The introduction of the buy-back scheme was further facilitated by the Government's decision to compensate the fishing industry for the curtailment of the Fuel Freight Subsidy Scheme. This scheme aimed to reduce the cost of fuel delivered to remote areas of Australia by subsidising part of the cost difference with city prices. Fuel delivered by barge or service vessel to NPF boats working in remote localities attracted a considerable subsidy. As well as the distortion to economic efficiency that results from all such subsidies, this scheme was particularly vulnerable to abuse.

A sum of $3 million from this compensation package was used as initial funding for the VAS for the NPF. An Industry/Government committee was established to administer the VAS. It was agreed that the VAS would purchase only class A units. It would not buy the actual boats - the disposal of any boat from which units had been sold remained the responsibility of the boat owner. It was further agreed that details of individual unit purchases would not be revealed and that the VAS Committee would report to NORMAC only in terms of total purchases and average prices paid[24].

The VAS Committee first attempted to buy units through a tender process. All offers received were, however, highly speculative and the Committee resorted to negotiation with individual unit holders. This proved far more successful.

The Committee was very conscious that the whole viability of the VAS scheme would be prejudiced if it offered too high a price for units purchased. It was aware that its activities would inevitably influence the market price for units. Instead of the main determinant of unit prices being the earning capacity of boats in the fishery, it could well become the VAS price. As the VAS price increased, it inevitably distorted the market price for units. Moreover, this price distortion made it more and more difficult for the Committee itself to get a feel for a fair unit price.

[23] Basing the levy on actual catches was rejected as impractical.

[24] While the VAS Committee stuck by this rule, individual fishers did not and details of each purchase were usually well known within industry.

Buy-backs and compulsory surrenders

Buy-backs have been used in a number of fisheries in the past 25 years as a method of reducing excess fishing capacity. While these schemes have usually succeeded in significantly reducing the number of boats fishing, they have not, in most cases, resulted in a longer-term reduction in the pressure on the resource.

The earliest large scale buy-back was in the British Colombian salmon fishery. This scheme operated over three years and bought both the boat and the associated fishing rights. While a substantial number of boats were removed, these tended to be the least efficient in the fleet and the fishing effort exerted by these boats was much less than their numbers would indicate. The scheme proved much more expensive than expected because while only 'market value' was paid for the boats, the availability of so many boats without fishing rights greatly depressed the market. Considerable expenditure was also incurred in maintaining these boats in the period between their purchase and when they were re-sold. While conditions attached to the sale of these boats prohibited their use in Canadian commercial fisheries, many found their way into the Washington State and Alaskan salmon fisheries where they added significantly to excess capacity.

Buy-backs have been used with considerably more long-term success in the South Australian Gulf of St Vincent prawn fishery and the Western Australian Shark Bay and Exmouth Gulf prawn fisheries. In each case these fisheries had a fixed number of boats since they commenced. Therefore they did not have excess capacity associated with fisheries that became limited entry only after problems were evident in the fishery.

Funds were provided to buy out a pre-determined number of boats at an attractive fixed price. The first fishers to accept the offer were bought out. Money to fund the buy-back was initially provided by government. In the Western Australian fisheries, this money was later recouped by levies on the fishers remaining.

The NPF buy-back differed from other buy-backs in that it was seen as an on-going program designed initially to remove existing excess capacity and later to maintain an acceptable balance between the catching capacity of the fleet and prawn stocks. One problem was that the buy-back itself distorted the market price of fishing rights. This undoubtedly increased scheme costs. It is not possible to say by how much because the longer the scheme operated the more difficult it became to determine what the market price might be without the buy-back. Effectively, the scheme set a floor price and all other sales of fishing rights were either at or above the buy-back price.

Another problem was the cost of boat disposal. The value of boats without fishing rights was reduced. Although boats were not purchased under the scheme, this loss of value was a real cost to fishers and over time became reflected in the class A unit buy-back price.

It is not known if proportional surrenders of fishing rights have been used in fisheries other than the NPF. Most fisheries do not have the pre-requisite of a management system based on multiple units of fishing rights. Proportional surrender offers several advantages over a buy-back, the most important of which is that it is less costly, especially for the fishers themselves. With a buy-back, the price is set externally and may exceed the real value of

the fishing rights by a considerable margin. With a proportionate surrender the market price is internalised, with competition determining which fishers decide to sell units and leave the fishery and those fishers who decide to buy units and stay.

Unit surrender is likely to be most successful, where, as well as selling units and leaving or buying units and staying, fishers have the third option of staying for a time with a scaled down operation.

Despite the advantages of a proportionate surrender over a buy-back, most fishers seem to prefer a buy-back. This would appear to be because a buy-back is seen as less intrusive. With a buy-back, individual fishers are not forced to make critical life style decisions. They do not have to decide between a career change and a major capital outlay. It is easier to pay the buy-back levy and hope that it will be others in the fishery who decide to sell to the buy-back and leave the fishery.

Another difficulty relates to the disposal of boats removed from the fishery. Without a major refit, a prawn boat has very limited alternative use. The value of an NPF boat without fishing rights was therefore very low. This potential loss of value represented a major cost consideration for those wishing to leave the fishery. Participation in the VAS was thus most attractive when a boat was nearing the end of its economic life. It was evident that unless an attractive market could be found for boats, either a slow rate of progress of fleet restructuring would have to be accepted or the buy-back price would need to be substantially increased to include a 'redundant asset' component.

Despite all this, the VAS had considerable success in its first year. The future of the VAS in its then form was difficult to predict because in 1987 other events in the fishery overtook the VAS.

Tiger prawn decline in the NPF

In late 1986, CSIRO research indicated a significant decline in grooved tiger prawn stocks, apparently due to excessive fishing. CSIRO recommended an immediate reduction in fishing effort of about 20 per cent. NORMAC accepted this advice and initially supported a proposal for the surrender of 30 per cent of all class A units. NORMAC reasoned that because many units were either inactive or being used ineffectively, a 30 per cent reduction in units would be required to achieve a 20 per cent reduction in actual fishing effort.

The object of the compulsory surrender was to reduce the fishing fleet by about 30 per cent. It was reasoned that a fleet operator could accomplish this reduction by withdrawing an appropriate number of boats from the fishery and redistributing these units to the remaining boats in that fleet. The operators of small boats could, in many cases, use 'suspense units' to fully satisfy the surrender provisions. Others would, after using 'suspense units', have to acquire only a small number of additional units. Other operators would have the choice of either buying the additional units required or selling the units remaining following the surrender and retire from the fishery. The surrender would substantially increase the price of units thus ensuring a significant 'compensation' payment for those leaving the fishery. Those remaining in the fishery should experience greater profits because of higher catch rates resulting from reduced competition on the fishing grounds.

It was also argued that, despite its harsh appearance, compulsory surrender was likely to be the most cost-effective means of implementing the required restructuring. It would effectively internalise the cost of restructuring, with each fisher making decisions based on their own circumstances and the options available to them.

After initially supporting the unit surrender proposal, industry members on NORMAC were subject to intensive pressure from all sectors of the fishery. Industry support for the surrender was withdrawn and all sectors of the fishery lobbied the Senate to disallow the changes to the management plan, which were to give effect to the surrender. Following guarantees from industry that they would implement measures that would immediately reduce fishing effort by the required amount and that they would work to achieve the required reduction in fleet size in the medium term, the amendment was disallowed in the Senate.

9. The 1987 NPF management package

The measures proposed by industry and recommended by NORMAC to meet the industry's undertakings to the Senate, included the following

- the introduction of gear restrictions. This included a ban on the very efficient 'quad' gear (four nets towed - two on each side of the boat which follow bottom contours closely and are particularly effective with tiger prawns). Boats were restricted to towing two nets of varying sizes
- the fishery was closed to fishing for two separate periods, i.e. 1 December to 15 April and from mid June to August 1987
- fishing during daylight hours was prohibited from August 1987. This measure was introduced in response to industry reports that the number of egg-bearing female tiger prawns taken in daylight hours appeared to be much higher than at night
- the levy to fund the VAS was to be substantially increased and the Commonwealth agreed to provide a loan guarantee to support industry borrowings to fund the VAS
- an industry-owned company was to be established to assist the VAS, particularly in finding markets for ex-NPF boats and in general giving the VAS a more commercial edge.

Implementation of gear restrictions, extended seasonal closures and prohibition on daylight trawling during the 'tiger prawn season' represented a significant increase in the level of 'regulated inefficiency' in the NPF. These measures were essential if a further deterioration of NPF stocks was to be avoided. The only way of removing these restrictions in a responsible way would be to substantially reduce the size of the fleet. With the disallowance of the compulsory surrender proposal, the only mechanism remaining to achieve this end was through the expanded VAS.

10. The NPF since 1993

The 1993 NPF compulsory surrender

In about 1990, problems started to develop with the system of assessing unit allocations for engines. This was done according to the engine model and the rating for that model as

determined by the manufacturer. Main engines for NPF boats typically cost between $100,000 and $250,000 each. In an endeavour to establish a presence in the fishery, a manufacturer offered an operator seeking to replace several engines a deal that effectively allowed each engine a separate model number according to the rules specified in the management plan. In effect, this allowed the de-rating of the engine so that less class A units were required to achieve the same efficiency. In order to retain a presence in the fishery, other manufacturers were forced to offer a similar facility. This effectively reduced the number of class A units required for a boat of a given size and power.

Although the VAS had significantly reduced the number of boats entitled to operate in the NPF, effort creep meant that real fishing effort was increasing and the CSIRO again warned of the urgent need to reduce effort. Following a series of crisis meetings in 1990, NORMAC agreed to a target of 50,000 class A units in the fishery by the beginning of the 1993 fishing season. The VAS was to be used in an attempt to reach this target. If this target were not achieved, industry would accept an across-the-board surrender of a proportion of remaining units. For its part, the Commonwealth provided a loan guarantee of up to $40 million for industry borrowing to fund the VAS, as well as an initial grant of $5 million to be used as an interest subsidy. This was to be repaid by a levy on remaining units. Industry also agreed to the concept of a payment (over and above the cost recovery levy) representing a return to the community for the privilege of using a community owned resource for individual gain.

As a result of these arrangements, an additional 27,863 class A units were purchased under the VAS and a total of 18,374 class A units were surrendered in April 1993, leaving a total of 53,842 class A units[25]. Following the surrender, the maximum number of boats eligible to fish in the NPF was reduced to 137. The restrictions on the size of nets that could be used by boats of different sizes in the NPF were removed (the prohibition on the use of four nets was however, retained). The ban on daylight trawling during the tiger prawn season was also removed. Despite the new arrangements, improved fishing capacity by NPF operators and effort creep in the fishery resulted in an actual increase in effort.

Certain sections of the industry strongly contested the compulsory surrender with appeals to the full Federal Court ultimately upholding the validity of the provisions.

Developments in the NPF since 1993

The 1993 compulsory surrender was effective in forcing a significant restructuring of the NPF and further enhanced it's profitability. It was, however, a fairly blunt instrument in that a fisher who wished to stay in the fishery had to buy additional class A units. There was no way in which a fisher could temporarily scale back operations. This, together with the declining effectiveness of controls on engine power, caused NORMAC to look at other options for managing the fishery. ITQs were again considered but considered impractical due to the particular characteristics of the fishery. A management system based on gear units appeared the only viable alternative. Developing such a system has been the major focus of activity of NORMAC in recent years.

[25] The exclusion of suspense units from the surrender resulted in the increase above 50,000.

Despite strong opposition from some sectors of the NPF, a gear unit system to replace the existing hull/engine power units has been developed under an amended NPF management plan. Each gear unit allows the use of a fixed length of net headline. Each fisher has been allocated gear units equal to the number of hull/engine power units held. As the number of units held represents each fisher's previous share of fishing rights, no redistribution of wealth has resulted. The change to the gear units has also resulted in a reduction of about 15 per cent of the total headrope length in the fishery. This measure was considered essential because of the concern of CSIRO at the increase in total fishing effort.

The advantage of gear units over the previous system is that it allows greater flexibility with respect to compulsory unit surrenders. With gear unit surrender, a fisher wishing to stay in the fishery does not have to immediately buy additional units but can continue fishing using a reduced size of net. As the fisher will still have the same proportion of the total gear in use in the fishery, little if any decline in total catch should result. In the longer term, the fisher might buy additional gear units and use the same gear size as previously.

Operators in the fishery are aware that in order to combat effort creep, and if existing seasonal closures are to be reduced, ongoing fleet reductions must be a continuing feature of management. Most also appear to accept that periodic proportional reductions in units is likely to be much more cost effective (because it internalises the cost of restructuring) than a unit buy-back program.

An unknown in the NPF is the extent to which fishers might increase trawling speed to offset the restrictions on net size. While there are technical limits to this, it will need to be monitored. The extent to which fishers try to offset gear restrictions by increased trawling speed will undoubtedly influence the size and timing of future gear restrictions.

Opposition to the change to gear restrictions appears to have two main grounds. First, operators of small boats have traditionally used proportionately larger nets than operators of larger boats. To an extent, therefore, the gear unit system disadvantages the operators of smaller boats. However, an allocation system based on actual gear use would have resulted in a significant transfer of the established market value of fishing rights, or wealth, in the fishery. Secondly, many fishers are quite content with the level of profit already being generated in the fishery.

Closures in the NPF have been extended and the fishery is now open for five and a half months of the year – with an average season having openings from April to May and August to November.

11. Assessment of NPF management

The NPF management structure is, by any measure, complex. Especially so when it is remembered that one of the major objectives since the early 1980s has been to improve economic efficiency and to minimise dissipation of resource rents that are potentially available from the fishery. The various restructuring programs used during the period appear to have been quite successful, with the maximum number of boats entitled to operate reduced from 302 in 1982 to 114 in 2002. This is believed to be the largest

adjustment, managed through input controls, achieved in any continually viable fishery anywhere in the world.

The reduced fleet size has not been better reflected in economic and biological areas for several reasons, including

- the excessive level of fishing capacity already in the fishery when the present management structure was developed in the early 1980s
- dramatic improvements in fishing technology, especially in relation to fish locating equipment
- factional issues within the fishery that arise where structural adjustment is concerned (these factions disagree on who first caused the excess capacity).

While theoretically ITQs offer a more attractive approach to managing this fishery, the practical problems involved in setting TACs and ensuring compliance are such that this is not seen as a practical option at this time[26].

Allowing only a single operator access to the NPF would be one way of ensuring efficient harvesting. This would represent an access rights solution. The rights holder would use only the number of boats needed to most efficiently harvest the available prawns. However, given that rights to the fishery have already been allocated, this is not a practical option. It should be noted that this would not be a monopoly position as such an individual could control the cost of input but could not manipulate the world prawn market for which the NPF provides only a very small portion.

However, with all its defects, it has to be acknowledged that existing input controls have resulted in the generation of significant resource rents in the fishery. This is evidenced by the market price of units. The current market price is reportedly between $6,500 and $7,000 per unit.

12. Individual transferable quotas in the NPF

The possibility of using ITQs as the primary management tool in the NPF has been considered on a number of occasions. It has not been preferred for several reasons. The first of these is resistance from industry itself. There appears to be several reasons for this, including a reasonable level of satisfaction with the present management structure. This, with all its faults and complexities has succeeded in producing sustained profitability which is a feature not found in many fisheries. Most fishers are also optimists and believe that ITQs will actually restrict them and prevent them from using their fishing skills to maximise their share of the catch. There is also concern among some fishers, particularly single boat operators that ITQs will lead to domination of the industry by a few players. Yet another concern relates to the poor regard in which ITQs are held by most fishers following the initial problems encountered with their introduction into the South East Fishery.

[26] Even though the resource rents generated from economically efficient harvesting would appear to be very large.

The second major concern relates to the difficulty of policing ITQs in such a remote region. This particular problem is exacerbated by the presence of adjacent prawn fisheries on the west (e.g. Western Australia-managed Kimberley prawn fishery) and on the east (the Commonwealth-managed Torres Strait prawn fishery and the Queensland-managed East Coast prawn fishery). Many NPF boats are also licensed to fish in one or more of these fisheries. Identifying where prawns were caught and preventing trans-shipping between boats would be costly. Given the geographical location of the NPF, there is also concern that boats could transfer catch at sea either to freighters bound for south east Asia or Papua New Guinea, or Indonesian based boats.

The problems of industry acceptance and policing could no doubt be overcome through negotiation, persuasion and the development of an effective surveillance program. Certainly, it would appear that the resource rents potentially available from the NPF would justify costs involved. The real problem with using ITQs in the NPF is the difficulty of setting annual TACs. With long-lived fish species, annual variations in TACs are mainly designed for the longer-term regulation of stock size. It is really a matter of keeping a balance between catch taken and stock size over a period of years. A prawn fishery by contrast represents a single year's crop. This produces much greater natural variability in catch, and catches still cannot be predicted with sufficient accuracy to set realistic TACs. This is particularly so in the case of banana prawns.

It has been suggested that, given the greater consistency in the catch of tiger prawns and associated prawn species, an option might be to set a TAC and introduce ITQs for that sector and leave the banana prawn sector unregulated. It is argued that this approach will reduce regulation and allow at least the resource rent from the tiger prawn fishery to be retained. This argument fails to take account of the fact that a high proportion of potential rent from the NPF comes, in most years, from the banana prawn fishery. This is because of the exceptionally high catch rates achieved in this fishery. Given these very high catch rates and the opportunistic nature of big banana prawn catches, it seems likely that, instead of any rents generated in the tiger prawn sector being preserved, they are likely to be dissipated in an endeavour to maximise the individual fisher's share of the banana prawn catch.

APPENDIX 3

Terms of Reference for review of the *Fisheries Administration Act 1991* and *Fisheries Management Act 1991*

1. The *Fisheries Administration Act 1991*, the *Fisheries Management Act 1991* and related Acts, and associated regulations, are referred to the Committee of Officials for evaluation and report by 30 June 1999. The Committee of Officials is to focus on those parts of the legislation which restrict competition, or which impose costs or confer benefits on business.

2. The Committee of Officials is to report on the appropriate arrangements for regulation, if any, taking into account the following:

    a) legislation/regulation, which restricts competition, should be retained only if the benefits to the community as a whole outweigh the costs; and if the objectives of the legislation/regulation can only be achieved by restricting competition. Alternative approaches, which may not restrict competition, include quasi-regulation and self-regulation.

    b) in assessing the matters in (a), regard should be had, where relevant, to effects on the environment, welfare and equity, occupational health and safety, economic and regional development, consumer interests, the competitiveness of business including small business, and efficient resource allocation.

    c) the need to promote consistency between regulatory regimes and efficient regulatory administration, through improved co-ordination to eliminate unnecessary duplication.

    d) an explicit assessment of the suitability and impact of any standards referenced in the legislation, and justification of their retention if they remain as referenced standards.

    e) compliance costs and the paper work burden on small business should be reduced where feasible.

3. In making assessments in relation to the matters in (2), the Committee of Officials is to have regard to the analytical requirements for regulation assessment by the Commonwealth, including those set out in the Competition Principles Agreement. The report of the Committee of Officials should:

a) identify the nature and magnitude of the social, environmental or other economic problem(s) the *Fisheries Administration Act 1991*, the *Fisheries Management Act 1991* and related Acts seeks to address.

b) clarify the objectives of the *Fisheries Administration Act 1991*, the *Fisheries Management Act 1991 and* related Acts.

c) identify whether, and to what extent, the *Fisheries Administration Act 1991*, the *Fisheries Management Act 1991* and related Acts restricts competition.

d) identify relevant alternative to the *Fisheries Administration Act 1991*, the *Fisheries Management Act 1991* and related Acts, including non-legislative approaches.

e) analyse and, as far as reasonably practical, quantify the benefits, costs and overall effects of the *Fisheries Administration Act 1991*, the *Fisheries Management Act 1991* and related Acts and alternatives.

f) identify the different groups likely to be affected by the *Fisheries Administration Act 1991*, the *Fisheries Management Act 1991* and related Acts and alternatives.

g) list the individuals and groups consulted during the review and outline their views, or reasons why consultation was inappropriate.

h) determine a preferred option for regulation, if any, in light of matters set out in (2).

i) examine mechanisms for increasing the overall efficiency, including minimising the compliance costs and paper burden on small business, of the *Fisheries Administration Act 1991*, the *Fisheries Management Act 1991* and related Acts and, where it differs, the preferred option.

4. In undertaking the review, the Committee of Officials is to advertise nationally, consult with key interest groups and affected parties, and publish a report.

After receiving the Committee of Officials report, the Government intends to announce at a time to be decided what action is to be taken after obtaining advice from the Minister and, where appropriate, after consideration by Cabinet.

APPENDIX 4

National Competition Policy Review of Commonwealth Fisheries Legislation

Issues Paper

April 1999

Note:

This paper is not intended in any way to present an opinion or a policy position on the issues addressed by the Committee. The Secretariat of the Committee of Officials prepared this issues paper using publicly available information. This paper is intended to stimulate broad discussion and encourage input into the review process.

The Committee of Officials encourages all interested parties to participate in this review. Under the terms of reference for the review, the Committee of Officials is to focus on those parts of the legislation which restrict competition, or which impose costs or confer benefits on business.

Please note that all submissions made to the Committee of Officials will be regarded as public documents and may be made available to the general public on that basis unless the Committee is advised otherwise.

Please send submissions to the following address no later than Friday, 18 June 1999.

Howard Allen
Secretary
Committee of Officials – Commonwealth Fisheries Legislation Review
Fisheries and Aquaculture Branch
Agriculture, Fisheries and Forestry - Australia
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1 National Competition Policy and the Review of Laws that Restrict Competition

In April 1995, the Council of Australian Governments signed three agreements establishing a National Competition Policy (NCP) for Australia. These agreements are:

- the Competition Principles Agreement (CPA);
- the Conduct Code Agreement; and
- the Agreement to Implement the National Competition Policy and Related Reforms.

These agreements define a comprehensive package of reforms. Among other actions, these require the review and, where appropriate, the reform of all laws that restrict competition by the year 2000. Each jurisdiction (Commonwealth, State and Territory) is responsible for the reviews of their own legislation.

The Commonwealth Government has established the National Competition Council (NCC) to advise on progress of the States and Territories in fulfilling their NCP requirements. It publishes an annual consolidation of progress reports by the various jurisdictions.

Generally speaking, legislation should not restrict competition unless the Committee of Officials is of the opinion that:

1. the benefits of the restriction to the community as a whole outweigh the costs; and
2. the objectives of the legislation can only be achieved by restricting competition.

Although restrictions on competition impose costs on the community, it is acknowledged that under particular circumstances these restrictions may provide benefits. Nonetheless, the presumption underlying NCP is that restrictions will be removed unless proven to be beneficial.

Where a particular restriction on competition generates benefits for the community, the question to be answered is whether these benefits can still be retained without the imposition of that restriction. While a restriction may not impose any costs on the community, this fact by itself does not mean the restriction should be retained. A restriction on competition can only be retained where a net benefit to the community can be identified.

Restrictions and community-wide benefits

If legislative restrictions on competition are to remain, it must be demonstrated that benefits flow to the Australian community 'as a whole' as a result of retaining the restrictions — not just benefits to vested interests or regional interests. To determine the extent to which it is in the public interest for a restriction to be maintained, the Committee of Officials is interested in receiving submissions from all groups or organisations that may be affected by the Commonwealth's fisheries legislation. While the Committee of Officials is not seeking to limit discussion on the broader impact of the legislation under review, the Committee is bound by the terms of reference for the review (see in particular paragraph 1 of the Terms of Reference set out in the Appendix) to focus upon those parts of the legislation which restrict competition, or which impose costs or confer benefits.

Obligations of the Commonwealth

The Government has an obligation to take into account the aspirations of a whole range of people, including commercial, recreational and traditional fishers in an effort to benefit the broader Australian community.

Under the Competition Principles Agreement the Commonwealth Government has agreed that it will:

- identify the nature of the restrictions of an Act on competition;
- clarify the objectives of the legislation;
- analyse the likely effect of any identified restriction on competition on the economy generally;
- assess and balance the costs and benefits of the restriction;
- consider alternative means for achieving the same result, including non-legislative approaches;
- ensure that any proposals for new legislation which restrict competition be accompanied by evidence that it is consistent with the net public benefit principle;
- review retained legislation which restricts competition under these principles at least once every ten years; and
- report annually on progress on the requirement to review existing restrictive legislation by the year 2000.

The Competition Principles Agreement provides that the Committee of Officials may take into account in assessing the costs and benefits of each particular restriction the following matters, where relevant:

- Government legislation and policies relating to ecologically sustainable development;
- social welfare and equity considerations, including community service obligations;
- Government legislation and policies relating to matters such as occupational health and safety, industrial relations, and access and equity;

- economic and regional development, including employment and investment growth;
- the interests of consumers generally or of a class of consumers;
- the competitiveness of Australian businesses; and
- the efficient allocation of resources.

What Is A Restriction On Competition?

There is no rigid definition of what constitutes a restriction on competition. However, the NCC has established some criteria that identify what such a restriction are. According to the NCC, an act (together with its subsidiary regulations, orders, etc.) could restrict competition if it:

- governs the entry and exit of firms or individuals into or out of markets;
- controls prices or production levels;
- restricts the quality, level or location of goods and services available;
- restricts advertising and promotional activities;
- restricts price or type of input used in the production process;
- is likely to confer significant costs on business; or
- provides advantages to some firms over others by, for example, sheltering some activities from pressures of competition.

2 Rationale for Government involvement in Fisheries Management

Marine fish in the wild are generally regarded as a community owned resource. This is because it is difficult to allocate effective individual rights to a resource that cannot be kept within well-defined boundaries. The result of this is that generally a fish does not become the property of an individual fisher until it is actually caught. This situation presents a temptation for fishers to attempt to maximise the size of their catch with the accompanying risk of over fishing what is essentially a limited, although renewable, resource.

The experience of fisheries worldwide has shown that unregulated fisheries suffer from over-capitalisation and falling productivity and, with increasing regularity, face the threat of biological collapse. Widespread acceptance of this possibility has produced a consensus that government intervention of some sort is necessary for the ongoing sustainability of the marine resources upon which the industry depends.

These problems arise due to the common property nature of the resource and a lack of exclusive individual rights over marine resources. This lack of individual rights means that the actions of individual fishers create costs for other fishers and the wider community. Contrary to what might otherwise be expected, the total investment in fisheries does not cease at the point where total profits are maximised. What happens instead is that the level of investment by the competing fishers in boats and fishing equipment increases within the particular fishery. As a consequence of this, fisheries tend to become significantly overcapitalised, economically inefficient with increasing pressure on the biological sustainability of fisheries resources.

The result of this behaviour which is economically rational at the individual level may result in unnecessary costs, excessive fishing effort and possible resource over-exploitation at the industry level, resulting in a wastage of resources and a loss of profit.

As fisheries are a community owned resource, the Government must ensure that biological over-exploitation does not occur, that resources are not wasted, and that the level of exploitation is consistent with the likely demands of present and future generations. The role for Government is therefore to allocate access to fisheries resources in order to ensure that the community does not over-exploit these resources and uses them as efficiently as possible.

The Government recognises that commercial fishing operations aim to maximise profits. It also recognises the propensity for fisheries to attract excess investment, resulting in over-exploitation and reduced profitability. The Government's aim in managing fisheries is, therefore, to provide for the sustainable use of fisheries resources. The Government does this by creating conditions where commercial fishers can pursue business aspirations while at the same time safeguarding the fishery resource.

Governments intervene to determine access to the resource and the terms and conditions attached to access rights, including the appropriate management arrangements. Once the Government has determined access, it is desirable that market forces play a major role in industry investment decisions

3 NCP Review of Commonwealth Fisheries Legislation

The role of the Commonwealth in managing fisheries is set down in the *Fisheries Administration Act 1991* (the Administration Act) and the *Fisheries Management Act 1991* (the Management Act).

The Commonwealth does not have responsibility for recreational fishing. The only way that recreational fishing can be brought under Commonwealth jurisdiction is under a management plan approved by the Commonwealth Minister for Agriculture, Fisheries and Forestry. There are no management plans that include recreational fishing, which is managed by the States and the Northern Territory.

The Management Act and the Administration Act set out the objectives of the Commonwealth's involvement in fisheries management and the methods by which these objectives can be pursued by the Commonwealth Minister for Agriculture, Fisheries and Forestry and the Australian Fisheries Management Authority (AFMA).

The Administration Act establishes AFMA and sets down the powers and structure of the organisation.

The objectives of the Management Act are set down in section 3 of the Management Act:

> **3** Objectives
>
> (1) The following objectives must be pursued by the Minister in the administration of this Act and by AFMA in the performance of its functions:
>
> (a) implementing efficient and cost-effective fisheries management on behalf of the Commonwealth; 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 long term sustainability of the marine environment; and

(c) maximising economic efficiency in the exploitation of fisheries resources; and

(d) ensuring accountability to the fishing industry and to the Australian community in AFMA management of fisheries resources; and

(e) achieving government targets in relation to the recovery of the costs of AFMA.

(2) In addition to the objectives mentioned in subsection (1), or in section 78 of this Act, the Minister, AFMA and Joint Authorities are to have regard to the objectives of:

(a) ensuring, through proper conservation and management measures, that the living resources of the AFZ (the Australian Fishing Zone) are not endangered by over-exploitation; and

(b) achieving the optimum utilisation of the living resources of the AFZ;

but must ensure, as far as practicable, that measures adopted in pursuit of those objectives must not be inconsistent with the preservation, conservation and protection of all species of whales.

Section 3 refers to section 78 of the Management Act, which relates to the power of AFMA to enter into arrangements with State or Territory Governments to manage fishing operations in particular waters in accordance with Commonwealth law.

Fisheries management is a complex matter. Originally the Commonwealth controlled fishing activity out to 12 nautical miles off shore. In 1979 Australia established the Australian Fishing Zone (AFZ) under the United Nations Convention on the Law of the Sea (UNCLOS).

The AFZ is broadly comprised of the waters adjacent to Australia and its external territories excluding the coastal waters and the Torres Strait and the Antarctic Territories. The AFZ extends for 200 nautical miles out to sea from Australia's shores.

The Commonwealth has a range of responsibilities under UNCLOS and these are broadly reflected in subsection 3(2) of the Management Act. UNCLOS also requires Australia to protect and conserve the marine environment, implement measures to prevent marine pollution and carry out scientific research to increase our knowledge of the marine environment.

While the main focus of this review will be *Fisheries Administration Act 1991* and the *Fisheries Management Act 1991*, the review will also include the following pieces of Commonwealth fisheries legislation:

Fisheries Legislation (Consequential Provisions) Act 1991
Northern Prawn Fishery Voluntary Adjustment Scheme Loan Guarantee Act 1985
Statutory Fishing Rights Charge Act 1991
Fisheries Agreements (Payments) Act 1991
Fishing Levy Act 1991
Foreign Fishing Licences Levy Act 1991
Fisheries Levy Act 1984

The scope of the review includes issues raised under all subordinate legislation such as regulations, rules and guidelines made under the above Acts.

Restrictions on Competition in Fisheries

On the basis of the information provided by the NCC, any regulation that restricts entry or exit, limits production or prescribes how people compete and produce, would be on the face of it a restriction on competition. So too would be any regulation that leads to price or cost advantages for some people over others. However, it should not be assumed that all regulations are anti-competitive.

The regulation of fisheries management is frequently discussed in terms of 'input' and 'output' controls. Input controls refer to the range of restrictions on fishing operations that reduce the efficiency of fishing operations. Many input controls are used in Australia and around the world including limited entry restrictions, vessel size, engine horsepower, type of harvesting gear that may be used, number of trips a vessel can take per day, season closures, length of nets, the number of hooks used etc.

Output controls affect the amount of fish that can be taken rather than the way in which they are caught. The best-known example of output controls is "individual transferable quotas" which are allocated to individual fishers. For example, if it is determined that 500 tonnes of a particular fish species can be harvested, then 10 individuals could each be allocated a quota of 50 tonnes each.

Some examples of areas regulated by fisheries legislation, which may have the potential to restrict competition, are listed below.

Restrictions on entry to or exit from fisheries

Entry restrictions apply to many fisheries for a range of reasons and in a range of ways. The Committee is, for example, interested in looking at the following aspects of licensing for fishers and their boats:

- The need for an appropriate fishing concession (either a permit, licence or a statutory right to fish) to conduct fisheries operations.
- The ease of transferability of fishing concessions.

Restrictions on marketing

- Requirements that fish receiver permits be used to verify the quantities and species of fish caught and that fishers must sell to holders of fish receivers permits.

Controls on production levels

Many regulations and restrictions applying to fishing in Australia fall under this heading, such as the use of competitive total allowable catches (TAC) or the use of individual transferable quotas.

- Ease of trading between quota holders in different fisheries.

Output quotas for commercial fishers:

- The linkage of quotas to particular categories of fishers or the boats or the gear they use (only applies to Patagonian Toothfish).
- Restrictions on the minimum or maximum quota holdings of fishers.
- Difficulties in transferring rights between permit holders and statutory fishing right holders.

Restrictions on inputs used

- The impact on fishing rights and the cost of production (e.g. boats or gear).
- The impact of restrictions on boat sizes, engine power, underdeck storage etc.
- The impact of restrictions on boat replacement.
- The impact of boat, gear or use requirements on different categories of fishers.
- The impact of area closures.
- The suspension or cancellation of fishing concessions.

Cost impositions on business

- The impact of cost recovery for fisheries management on fishers.
- The availability of alternative fisheries management providers.
- The impact of compliance costs upon different categories of fishers.

Different impacts on concession holders and investors

- The impact of different regulations and treatment of owner operators, non-owner operators, companies, co-operatives, full/part-time operators, commercial/recreational fishers etc.
- The use of auction tender processes or ballot to decide who receives a fishing concession.

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4 The Review Process

The Commonwealth Department of Agriculture, Fisheries and Forestry has established a Committee of Officials to conduct this review and report its recommendations by the end of 1999. The Committee of Officials consists of an independent Chair appointed by the Minister for Agriculture, Fisheries and Forestry and representatives from:

- Australian Fisheries Management Authority.
- Australian Seafood Industry Council.
- Commonwealth Department of the Environment.
- Commonwealth Department of Agriculture, Fisheries and Forestry.
- Commonwealth Scientific and Industrial Research Organisation.
- Recfish Australia (representing recreational fishers); and
- the commercial fishing industry.

The review of the Commonwealth fisheries legislation is required to:

- follow the Competition Principles Agreement process and clarify the Government's objectives for the legislation;
- identify the restrictions in the legislation;
- analyse the effects of any restrictions and assess their costs and benefits;
- consider alternative (including non-legislative) methods of achieving the same results; and
- ensure that any retained restrictive legislation is consistent with the net public benefit principle.

The fundamental objective in examining the effect of restrictions is to identify the 'without change' and 'with change' situations for industry and the marine resources. This

will allow identification of the impacts of removing any restrictions, and hence assess the costs and benefits of moving to a less regulated environment

In assessing the costs and benefits of moving to a less regulated environment, the Committee needs to take into account a range of issues. These issues include economic and regional development (including investment and growth), the interests of consumers generally, the competitiveness of Australian businesses, the principles of ecologically sustainable development, and the efficient allocation of resources.

This paper has touched upon a number of fisheries issues that are relevant to NCP. The Committee of Officials is seeking submissions on these and other issues from any person or groups who are affected by the relevant fisheries legislation or involved in fisheries.

It is envisaged that the Committee will conduct a number of hearings to gather information to assist it in the review. Once the Committee of Officials has identified the issues from written submissions received and the information obtained from hearings, the Committee will then conduct the necessary assessment in terms of guidelines prepared by the NCC.

Submissions to the Committee

There is no prescribed format to be used for the drafting of written submissions. It would, however, be appreciated if submissions could be typed or neatly hand-written and sent to the Secretary of the Committee of Officials by 18 June 1999.

The Committee will treat all submissions as public documents and may on occasions circulate the submissions and quote from them on that basis unless advised otherwise. Some information relevant to the review may well not be suitable for public disclosure. Examples of such information include ‘commercial in confidence’ information and information of a culturally sensitive nature supplied by indigenous people. The

Committee undertakes to respect the confidentiality of such information where it is requested to do so.

Further information on submissions to the Committee and the conduct of the review can be obtained from the Secretary of the review:

Howard Allen
Secretary
Committee of Officials – Commonwealth Fisheries Legislation Review
Fisheries and Aquaculture Branch
Agriculture, Fisheries and Forestry - Australia
GPO Box 858
CANBERRA ACT 2601

Telephone: (02) 6272 4387 Facsimile: (02) 6272 4215

E-mail: howard.allen@affa.gov.au

Timetable for the Review

The Committee of Officials invites written submissions from all interested groups and individuals by Friday, 18 June 1999. While the deliberations of the Committee will be ongoing, the concerns raised in written submissions will provide direction for the review. Depending on the issues raised and the availability of people to meet with the Committee, it is anticipated that consultations will probably be held in the period late June to late July 1999. The Committee expects to be able to submit its final report to the Minister for Agriculture, Fisheries and Forestry by December 1999.

APPENDIX 5

Notice of the Review

The following notice appeared in national newspapers on 8 May 1999:

NATIONAL COMPETITION POLICY REVIEW OF COMMONWEALTH FISHERIES LEGISLATION

In 1995 the Australian Commonwealth, State and Territory Governments agreed to carry out a review of legislation that had the potential to restrict competition. In accordance with this agreement, the Commonwealth is undertaking a review of the following pieces of Commonwealth fisheries legislation:

Fisheries Administration Act 1991
Fisheries Management Act 1991
Fisheries Legislation (Consequential Provisions) Act 1991
Northern Prawn Fishery Voluntary Adjustment Scheme Loan Guarantee Act 1985
Statutory Fishing Rights Charge Act 1991
Fisheries Agreements (Payments) Act 1991
Fishing Levy Act 1991
Foreign Fishing Licences Levy Act 1991
Fisheries Levy Act 1984

The scope of the review includes issues raised under all subordinate legislation such as regulations, rules and guidelines made under the above Acts.

A Committee of Officials has been established to undertake the review. The review will focus on those aspects of the legislation, which restrict competition or appear to impose costs or confer benefits upon business. The Committee invites submissions from any interested party.

Submissions should be sent to the Committee at the address given below by Friday 18 June 1999. Groups and individuals who may be interested in making a submission are strongly advised to obtain a copy of the terms of reference and an issues paper providing more information about the review before lodging a submission. Issues papers and further information can be obtained from:

Mr Howard Allen
Secretary
Committee of Officials - Commonwealth Fisheries Legislation Review
Fisheries and Aquaculture Branch
Agriculture, Fisheries and Forestry - Australia.
GPO Box 858
CANBERRA ACT 2601

Telephone: 02 6272 4387 Facsimile: 02 6272 4215

E-mail: howard.allen@affa.gov.au

APPENDIX 6

List of Submissions Received

Submission No.	From
1	Ms Jenny Puglisi "Torina M" Partnership Trawler Operators
2	John D Thompson Secretary Tasmanian Giant Crab Company Pty Ltd
3	Albert Menzel Trawler "Dynasty"
4	Theresa Lowe Secretary Northern Prawn Fishery (Qld) Trawl Association Inc.
5	Martin Exel Manager Fisheries and Environment Kailis and France Group
6	Harry Moody MAC Representative for Region 3
7	Author Unknown Concerned Fisherman
8	AJ & H Shelton
9	Diane Tarte The Marine & Coastal Community Network
10	Hans Jusseit Executive Director East Coast Tuna Boat Owner's Association Inc.
11	Frank Meere Managing Director Australian Fisheries Management Authority
12	Australian Seafood Industry Council

APPENDIX 7

Glossary of Terms

Access right	A right to carry out specified fishing activities.
Australian Fishing Zone (AFZ)	Waters adjacent to Australia and its external territories (excluding Torres Strait and the Antarctic Territories) which extend from defined baselines to 200 nautical miles seawards, but not including coastal and excepted waters. Agreed boundaries apply where these zones intersect the 200 nautical mile zones of other nations. Within the AFZ, Australia exercises jurisdiction over all fishing by Australian and foreign boats.
Bilateral Agreement	This is a Government-to-Government agreement between Australia and another nation allowing vessels of that nation to fish within the AFZ.
Bycatch	All non-targeted catch including by-product, discards and other interactions with gear.
Demersal fish	Fish that normally live on or near the seabed.
Fishing capacity	The amount of fishing effort that a fishing boat, or a fleet of fishing boats, could exert if utilised to its/their full potential.
Fishing concession	A Statutory Fishing Right, a Fishing Permit, a Foreign Fishing Boat Licence or a Scientific Permit granted under the provisions of the *Fisheries Management Act* 1991.
Fishing permit	A type of fishing concession granted under section 32 of the *Fisheries Management Act 1991* to a person and authorising the use of a specified Australian boat for fishing in a specified area of the AFZ or a specified fishery for specified species using specified equipment.
High-grading	Discarding a part of the catch in favour of catch of a higher value.
Individual Transferable Quotas (ITQs)	ITQs refer to individual portions of a TAC – units of quota - that allow the holder to catch that portion of the TAC each season.

	The weight value of the ITQ changes proportionally to changes in the TAC set for a species each season. ITQs are fully tradeable and can be sold or leased to other persons.
Input controls	Restrictions placed on the amount of effort input into a fishery, for example by restricting types and size of fishing gear and boats and the amount of fishing time.
Joint Authority	A fishery may be co-managed by the Commonwealth and one or more States/NT through a Joint Authority.
Limited entry	Management arrangements whereby only a fixed number of operators are allowed to fish in a particular fishery. New operators may only gain access to the fishery by purchasing an existing right.
Longline fishing	A method of fishing that can be either surface set (pelagic) or bottom set (demersal) line fishing. Both methods comprise a main line to which are attached branch lines, each fixed with one or more baited hooks or artificial lures.
Offshore Constitutional Settlement (OCS)	An agreement between the State(s) and the Commonwealth whereby the State or the Commonwealth is given jurisdiction for a particular fishery occurring in both coastal waters and the AFZ. When no OCS agreement has been reached, the fishery remains under the jurisdiction of the State to 3 nautical miles, and the Commonwealth from 3 to 200 nautical miles.
Output controls	Restrictions imposed on the quantity of fish that can be taken from a fishery within a specified period of time. This can be by either a competitive TAC or a TAC allocated to participants as ITQs.
Pelagic fish	Fish that are normally found at the sea surface or in the water column.
Precautionary Principle	Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
Purse seining	A method used to capture schooling pelagic fish whereby an area of water is surrounded by a net set at the surface, which is then

	'pursed' at the base to enclose the fish school from beneath.
Resource Rent	A component of profit or economic surplus reflecting the productive quality of the natural resource such as land, minerals, forests and fisheries. True resource rents are long run phenomena, are attributable to access to the resource and are not short run (such as returns to fishers' skills or information).
Resource Rent Tax	A tax imposed by Government on those given the right to utilise a community owned natural resource for private gain. Such a tax aims to appropriate part or all of the resource rent to the community as owner of the resource.
Statutory Fishing Rights (SFRs)	Rights granted under section 21 of the *Fisheries Management Act 1991*. The nature of SFRs in a fishery is detailed in the plan of management, which creates those rights. A SFR may be a right to use a boat, a unit of fishing gear, or a quantity of catch or other rights as identified in the plan.
Sustainable yield	The maximum catch that can be taken from a fishery over an indefinite period without causing the stocks to be depleted.
Technological creep	A cumulative increase in fishing effort through technological improvements in fishing gear, such as fish finding equipment and navigation equipment.
Total allowable Catch (TAC)	A TAC represents the amount of fish of a particular species that fishers are allowed to take from a fishery in a prescribed period. TAC is set for fish species managed through ITQs.

APPENDIX 8

List of Acronyms

AFFA	Department of Agriculture, Fisheries and Forestry – Australia
AFMA	Australian Fisheries Management Authority
AFZ	Australian Fishing Zone
COAG	Council of Australian Governments
CFBL	Commonwealth Fishing Boat Licence
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EEZ	Exclusive economic zone
ESD	Ecologically sustainable development
FAA	*Fisheries Administration Act 1991*
FMA	*Fisheries Management Act 1991*
GPS	Global Positioning System
ITQ	Individual transferable quota
IUU	Illegal, unreported and unregulated fishing
MAC	Management Advisory Committee
MOU	Memorandum of Understanding
NCC	National Competition Council
NCP	National Competition Policy
NORMAC	Northern Prawn Fishery Management Advisory Committee
NPF	Northern Prawn Fishery
OCS	Offshore Constitutional Settlement
OH&S	Occupational Health and Safety

RFMO	Regional Fisheries Management Organisation
SBT	Southern Bluefin Tuna
SEF	South East Fishery
SENTF	South East Non-Trawl Fishery
SETF	South East Trawl Fishery
SFRs	Statutory Fishing Rights
SSF	Southern Shark Fishery
TAC	Total Allowable Catch
VAS	Voluntary Adjustment Scheme