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**SOUTH PACIFIC COMMISSION**

**TWENTY-FIRST REGIONAL TECHNICAL MEETING ON FISHERIES**
**(Nouméa, New Caledonia, 7 - 11 August 1989)**

# Country Statement

# Australia

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(NOUMEA, NEW CALEDONIA, 7 -11 AUGUST 1989)
COUNTRY STATEMENT - AUSTRALIA

## 1. INTRODUCTION

Until recently, the Australian fishing industry had been based almost completely on inshore and continental shelf fisheries resources. These resources, like those of many other nations, are considered to have reached, or be nearing, full exploitation. The decline in production foreshadowed by high exploitation rates and increasing inefficiencies in harvesting have prompted the introduction or development of management plans for most of Australia's major fisheries. In the last three years greater interest has been shown in developing trawl fisheries on the continental slope, particularly in south eastern Australia, as well as in other regions including the east coast, west coast , Great Australian Bight and the Northwest Shelf. There is increasing interest by Australians to fish in waters beyond the Australian Fishing Zone. These developments occur, they should cause an increase in the relative importance of finfish in the total Australian catch, both in value and quantity.

A major development in pelagic fisheries in the last 4 years has been the exploitation of jack mackerel on an industrial scale off eastern Tasmania. In 1987/88 the fishery landed 37,000 tonnes of catch, now making this the largest single species fishery in Australia. The 1988/89 catch was greatly reduced, probably as a result of oceanographic conditions.

There is increased interest in Australia in further processing of, and value adding to, catch, such as fish skin tanning, fish oil extraction, chitin extraction, flavour extracts, fish smoking and live exports.

The following sections of this Country Statement deal briefly with major features of commercial fisheries activities in Australia.

## 2. PRODUCTION

(a) Fleet:

In 1988, approximately 9,100 commercial fishing boats were licensed, however, only 4269 held Commonwealth fishing boat licences which are required for operations in Commonwealth controlled fisheries. Although boat numbers have not increased in recent years due to limits on numbers of fishing licences, fishing effort has risen significantly from upgrading of

vessels and technological advances in fishing gear, fish finding gear and navigational equipment. In developing offshore fisheries, impetus for gear advances has come from the demands of locating and targeting fish schools in the deep water environment.

(b) Production:

The value of the Australian commercial fish harvest continued to grow. Total production by domestic vessels was estimated at 215 000 tonnes live weight in 1987/88, valued at $A982 m. This is an increase of 3% in volume and 24% in value compared with 1986/87. Production of shellfish increased by 6% while that of finfish increased by 2%.

The increase in the value of the Australian fisheries production reflects strong overseas markets for Australia's major exports, increased landings and higher domestic prices. The depreciation of the Australian dollar was also a contributing factor. There were major increases in the value of rock lobster (35%), non tuna finfish (15%), abalone (14%) and prawns (14%).

The added attention being given by the Australian fishing industry to the improvement of product quality, the regularity of supply and the relatively low value of the Australian dollar are enhancing Australia's market position.

(c) Imports and Exports:

The value of Australia's imports of marine produce in the year ending June 1988 was $A415m, a fall of 3% over the previous year. Exports were valued at $A724 m, an increase of 22%.

Australia's main exports in 1987/88 were rock lobster (8 600 tonnes, $A268m), prawns (15 200 tonnes, $A261m), abalone (3 800 tonnes, $A123m) and scallops (1 300 tonnes, $A24m).

Japan is Australia's largest market for fish and fish products, accounting for 52% ($A375m) of exports in 1987/88. The main products include prawns ($A201m), rock lobster ($A87m) and abalone ($A63m). Australia's second largest market is the USA which accounts for 25% of exports ($A183m). Rock lobster worth $A157m was exported to that market in 1987/88. Other important markets include Hong Kong, Spain, Taiwan and Singapore.

The $A415m imports into Australia are comprised principally of shellfish valued at $A156m (mainly prawns) and frozen and filleted fish valued at $A124m. Canned fish are also significant with $A86m imported. The major sources of Australia's imports are New Zealand (finfish), Thailand (prawns and tuna) and Malaysia (prawns).

## 3. MANAGEMENT OF DOMESTIC FISHERIES

### (a) General

Management plans for Australia's major fisheries are being developed, modified and implemented to conserve stocks and to promote economically efficient development and exploitation within sectors of the fishing industry. Management policies are jointly developed by the Commonwealth, State and Territory governments and industry through management advisory committees and ultimately the Australian Fisheries Council. Most fisheries are managed through a system of limited entry provisions, supplemented by other input controls aimed at limiting fishing effort to acceptable levels. Gear restrictions, seasonal closures, buy-back of fishing rights and restrictions on upgrading of vessels are features of some management schemes. The southern bluefin tuna fishery, the gemfish fishery and the abalone fishery are managed through a system of individual transferable quotas.

Of recent interest is the continuing development of a comprehensive management program for the east coast tuna fishery geared mainly to yellowfin and bigeye. Close consultation with the appropriate industry organisations, State Governments and recreational angling groups has been maintained. A management plan, introduced in July 1988 for a three year interim period, provides for controls for the longline component of the fishery with a view to incorporate other methods for taking tunas off the east coast into these arrangements. There are approximately 200 endorsed longline fishermen operating in the fishery.

A National Fisheries Adjustment Program has been introduced, funded by a $A6m grant from the Commonwealth Government. Funds are being used in capacity reduction schemes in effectively managed fisheries with demonstrated over-capacity. The provision of assistance is conditional on fishermen agreeing to contribute to the continued funding of the Program.

### (b) Torres Strait Treaty:

The Torres Strait Treaty which Australia and Papua New Guinea (PNG) signed on 18 December 1978, came into force on 15 February 1985. It represents a unique border agreement between independent sovereign nations in that it establishes a Protected Zone (PZ) within which both nations have rights and obligations, rather than a single border line. Within the PZ are lines dividing the areas of primary fisheries and seabed jurisdiction between the two nations. The Treaty protects the rights of the traditional inhabitants of the PZ and adjacent areas by recognizing and preserving the existing pattern of traditional fisheries activities. A Commonwealth government research program has been developed to support management programs in the PZ.

Australia and PNG have entered into arrangements under Article 22 of the Treaty, setting out joint management arrangements for commercial fisheries for prawns, Spanish mackerel, pearl shell, dugong, turtles and rock lobster and for the commercial rock lobster fishery in the Gulf of Papua north of 9 degrees S. These are valid to 15 February 1990.

(c) The Great Barrier Reef Marine Park:

The Great Barrier Reef covers an area of almost 350 000 square kilometres off the north east coast of Australia. Of this area, 98.5% has been declared Marine Park, under the auspices of the Great Barrier Reef Marine Park Act.

The area contains fishing grounds of major significance to the Queensland fishing industry and to recreational fishermen. Fisheries authorities are closely involved in developing management policies for the marine park to ensure the continued productivity of fish stocks and to ensure that commercial and recreational fishing interests are considered, along with conservation and tourism. As yet, the effects of different fishing techniques on fish stocks and the reef habitat are little understood and have been identified as priority areas for research.

(d) International Management of Southern Bluefin Tuna:

Since December 1982, officials and scientists from Australia, Japan and New Zealand have held regular meetings to consider international management arrangements for southern bluefin tuna. The need for management was recognised as a result of unanimous scientific concern at the status of the spawning stock which, after heavy and increasing fishing effort by Japanese and Australian vessels, had been depleted to less than 25% of its pre-exploitation level.

Grave concerns on the southern bluefin stock situation led to the setting of a global catch quota of 15 500 tonnes in 1988/89. Catch limits of 8 800 tonnes for Japan, 6 250 tonnes for Australia and 450 tonnes for New Zealand were imposed. This represented a 57% reduction in quota from the previous year. In 1989/90 Australia will be using every opportunity open to it to convince all nations involved that SBT stocks remain under the gravest of threats. Australia will press for a moratorium on the taking of SBT.

(e) Management controls in the Southern Shark Fishery

In response to scientific advice that stocks of school and gummy sharks are being seriously over-exploited, the Commonwealth introduced a management plan for the Southern Shark Fishery in 1988. The plan was designed to achieve a 20% reduction in fishing effort by limiting the use of bottom set

or demersal nets. Access to the fishery was determined on the basis of past catch history and in some cases, financial commitment to the fishery.

At present some 190 vessels are involved in the fishery on either a full time or part time basis and sell 15-20 million worth of product on the domestic market each year. Recent scientific advice is that further significant cuts in shark fishing effort may be needed and options for achieving this are being developed.

## 4. FOREIGN FISHING

The Australian-Japanese Subsidiary Agreement on tuna longline fishing was renegotiated in August-September 1988 for the twelve months commencing 1 November 1988. It will be renegotiated in August-September 1989 for the twelve months commencing 1 November 1989. From then it is anticipated that Japanese longline vessels will be limited to operations seawards of 50 miles off the east coast. This is in response to the development of the domestic longline fishery in inshore waters. The taking of SBT will depend on the success Australia has in seeking the moratorium referred to above.

Australia, together with the other FFA member countries, benefits from the multilateral access agreement negotiated between the FFA and the USA. The agreement has operated satisfactorily. Under it US vessels are permitted to fish in a restricted area of Australia's fishing zone in the Coral Sea. Fishing operations in this area are subject to careful monitoring and review.

Australia has also participated in discussions hosted by the FFA concerning a possible multilateral arrangement with Japan. Such an arrangement would most likely be very different to the US Treaty, due to the differences in fleet composition and the range of existing bilateral arrangements.

The current twelve months agreement with the Australian agents for the commercial fishing interests of Taiwan expires on 31 October 1989. Negotiations will soon be held for the possible renewal of the agreement for the year from 1 November, 1989.

A one year fishing agreement with the People's Republic of China came into effect on 1 March, 1989, allowing Chinese trawlers to operate in sections of the Northwest Shelf and Timor Sea. Like the arrangement which permits fishing by Taiwanese interests, the agreement provides for the payment of an access fee to the Australian Government.

Australia and the USSR have been discussing possible fisheries and commodities agreements. The draft text of a fisheries cooperation agreement has now been developed for consideration of both Governments. It does not make provision for commercial

fee fishing by the Soviet Union, but provides for the possibility of feasibility fishing under a subsidiary agreement. A draft commodity agreement, which is less advanced, is also being considered and is designed to facilitate more stable and improved trade for a range of agricultural and mineral commodities. the Government intends to proceed with the fisheries cooperation and commodities agreements, only if the final package offers genuine and tangible benefits to Australia.

The Republic of Korea has opted not to renegotiate the Subsidiary Agreement on squid fisheries for the 1989/90 round. This is the second consecutive year the Republic of Korea has not renegotiated the agreement which was first signed in 1983.

Australia has one joint venture agreement with a company involving commercial fishermen of Thailand. This agreement was renewed in October 1988, allowing the company to operate foreign trawlers in sections of the Arafura and Timor Seas. Access is generally on a three year basis, but rights to a component of the Arafura Sea resources are restricted to a single year's tenure. Anticipated benefits for the Australian fishing industry include construction of shore facilities and processing of catch in Australia.

Specific controls are placed on foreign fishing vessels which are required to report their position every day and their catch every 6 days as well as to complete comprehensive logbooks.

Australia strongly supports the expression of concern by South Pacific countries about the activities of distant water fishing vessels engaged in drfit net operations in the South Pacific and their ikmpact on southern albacore tuna stocks and the communities which depend on them. Incidental catches of sea birds, sea mammals and other fish stocks by driftnetters are also cause for concern. Australian fisheries legislation has been effective in deterring driftnet operations in Australian waters and in denying support to high seas drift net vessels. In 1986 the Government introduced stringent controls on the length of driftnets in northern Australian waters. Since then no foreign driftnetters have operated in Australian waters. The Australian Government has recently extended the net length restriction to cover the whole of the Australian Fishing Zone, and will continue to deny access by driftnet vessels to Australian ports, except in cases of emergency, as well as prevent trans-shipment of fish caught by drfitnets in the Zone. Australia views drfitnetting as a global problem and will use every opportunity open to it to press for a global ban on driftnet fishing.

## 5. COMMONWEALTH FINANCING OF FISHERIES RESEARCH AND DEVELOPMENT

The major program is the Fishing Industry Research and Development Trust Fund (FIRDTF), established under the Fishing

Industry Research and Development Act 1987. It supports a wide range of fisheries R&D directed towards the needs of both Commonwealth and State-managed fisheries. The total expenditure on R&D through the Fund is expected to be about $A6.8m in 1988/89. Funding priorities include fish resource assessment, aquaculture, post harvesting technology, economic assessments, marketing, management and information dissemination.

The Fisheries Development Trust Account is a small program focusing on exploratory and development type projects which are high risk and unlikely to be funded by industry.

Research is primarily undertaken by the Commonwealth Scientific and Industrial Research Organisation, State Government bodies, the Australian Bureau of Agricultural and Resource Economics and to a lesser extent by the Bureau of Rural Resources, State Government bodies, universities, private companies and individuals.

## 6. MARICULTURE

Mariculture production in Australia continues to be led by the culture of oysters, chiefly Sydney Rock Oyster (Crassostrea commercialis) and the Pacific Oyster (C. gigas). Production of pearls from the gold and silver lipped pearl oyster, Pinctada maxima, has been valued at about $60m in 1987/88 in Western Australia. There has been a dramatic rise in Atlantic salmon and ocean trout production in Tasmania. Production is expected to be around 4000 tonnes in 1989/90. The industry has adapted Norwegian technology and has progressed rapidly to the commercial production stage.

Public investment and interest in mariculture is increasingly directed towards penaeid prawn and barramundi farming ventures, especially in northern New South Wales, Queensland and the Northern Territory. Many of the commercial ventures now underway are adapting technologies from Asia, particularly Taiwan. At this stage actual production is still fairly small (50 t of crustaceans in 1987/88) and results over the next few years will need to be assessed to determine the short term viability of the industry in Australia.

## 7. INTERNATIONAL DEVELOPMENT ASSISTANCE

### (a) Australian International Development Assistance Bureau (AIDAB)

Through its aid program, Australia has provided approximately $1.267 million in support of the SPC's Tuna and Billfish Assessment Programme (TBAP) since its inception 8 years ago. It similarly supported the earlier SPC Skipjack Survey and Assessment Programme. In 1988/89, $175,000 was provided to the TBAP for scientific research, data collection and analysis services, to assist member countries to develop, manage and rationally exploit renewable oceanic resources.

In 1988/89, the Australian International Development Assistance Bureau (AIDAB) also provided the SPC with an extra-budgetary allocation of $70,000 to support the Regional Fisheries Training Project. In addition to supporting the organisation of national and international fisheries training courses, these funds assist in review and assessment activities to identify training requirements and opportunities.

Australia also assists regional fisheries development activities through its membership of the Forum Fisheries Agency (FFA). Through the aid program, Australia contributes one third of FFA's regular budgetary funds and also provides annual extra-budgetary support. In 1988/89, AIDAB provided a total of $937,000 to FFA.

### (b) Australian Centre for International Agricultural Research (ACIAR)

#### (i) Mariculture of Giant Clam (Phase II) (3 yrs A$1,775,000)

The Fisheries Program in ACIAR has been developing Phase II of the Giant Clam Project. The first phase of the Giant Clam Mariculture project culminated in the International Workshop on Giant Clams in April 1988 involving eighty delegates from Southeast Asia and various Pacific nations, and from commercial, management and research interests within Australia.

The Phase II project addresses a number of the issues identified at the Workshop as requiring further research for the setting up of viable and appropriate mariculture. The objectives of the new project are:

1. To undertake farming trails for ocean-nursery and growout culture of giant clams with coastal fishing villages.

2. To develop management strategies to assist Pacific island countries with stock assessments of giant clams, management, training and mariculture technology.

3. To make further studies of the environmental factors and culture conditions which optimise growth and survival of giant clams.

4. To obtain production data and costs for giant clam culture for use in economic analyses and marketing trials.

5. To investigate the genetics of giant clams with regard to geographic variation and the selection of optimal culture traits.

6. To determine the normal flora' and pathegenic organisms in field and cultured clams and the pathology of diseased clams.

7. To produce a Manual on giant clam stock assessment and mariculture methods.

This Project will concentrate on Tridacna gigas where this is feasible and appropriate.

Another issue raised at the Workshop, the need for more socio-economic studies of giant clam mariculture and marketing, is addressed by a complementary project of ACIAR's "Economics of Giant Clam (Tridacnid) Mariculture".

James Cook University is collaborating with three of the overseas institutions from the earlier Project, Fiji Fisheries Division, Marine Science Institute of the University of the Philippines and Silliman University Marine Science Laboratory. Four additional countries involved are Cook Islands, Kiribati, Tonga and Tuvalu.

(ii) Baitfish Research (3 yrs A$704,000)

The project on research of Tuna Baitfish in the Solomon Islands, Maldive Islands and Kiribati is conducting a Workshop on "Biology of Tuna Baitfish in the Indo-Pacific Region" in Honiara, Solomon Islands, 12-14th December 1989. The objectives of the Workshop are:

1. To report on the collaborative research program funded by ACIAR, the Government of the Solomon Islands and the Government of the Maldives in 1986-89.

2. To examine and review the status of knowledge of tuna baitfish biology and population dynamics throughout the Indo-Pacific Region.

3. To make avilable this knowledge to other countries which may benefit in the management and exploitation of their tuna baitfish resources.

4. To discuss the implications of the above three for management options in the various bait fisheries.

Inquiries regarding the Workshop can be sent to:
The Director, ACIAR, GPO Box 1571, Canberra, ACT 2601
Australia.

(iii) Reef Fish Stock Assessment (18 months A$222,000)

Preparatory work has been undertaken with regard to developing a research project on Cost-Effective Techniques for Assessing Shallow Water Reef Fish Stocks in the South West Pacific. These techniques of fish stock assessment are usually based on Visual Census Techniques. These methods being relatively simple, cheap and non-destructive can be widely used in reef fish studies of population dynamics and management. The techniques can provide a rapid measure of standing stocks of fish, from which potential yields and the impacts of fishing may be determined. The method can be developed on coral reefs due to their shallowness and clarity of water. The methods are suitable for many species and habitat type is taken into account for comparative purposes.

The visual census technique could be utilised to provide adequate and inexpensive management data if carried out on a regular and systematic basis. The project is in a development stage.

## 8. TRAINING IN PRACTICAL FISHERIES

The School of Fisheries at the Australian Maritime College provides education and training for practicing fishermen, degree students and at the Post Graduate Diploma level. All courses are structured around the following main subject areas: Fishing Gear Technology (small scale and industrial methods), Seafood Handling and Processing, Resource Assessment and Management, Fisheries Economics and Business Practice. the importance of Australia's tropical fisheries ensures that the courses have a tropical emphasis and meet training needs in the Australian region.

Numerous students from the Pacific and South East Asia have already attended courses and their numbers continue to grow. The College would also welcome initiatives leading to special courses, on or off campus, designed specifically for the needs of the South Pacific region.

For further details please contact:
School of Fisheries
Box 21, Beaconsfield 7270
Tasmania, Australia.

## 9. BUREAU OF RURAL RESOURCES

Coordination of research into scientific aspects of those fisheries in the Australian Fishing Zone for which the Commonwealth has management responsibility is the function of the Bureau of Rural Resources. the major roles of this group are to:

- coordinate and undertake specific research projects on fisheries managed by the Commonwealth
- provide scientific advice to fisheries managers within the Commonwealth government
- critically review scientific research carried out on fisheries managed by the Commonwealth and to recommend on priorities for future research.

Major projects being undertaken in Bureau at present are:

-the production of a fisheries resources atlas of Australia
-the conduct of an Australia-New Zealand southern trawl fisheries conference in May 1990
-field surveys of pearl shell beds in Torres Strait and the Northern Territory
-a review of the distribution of major trawl fish species in southern Australia

Further information about the Bureau of Rural Resources can be obtained from:

The Assistant Director
Fisheries Resources Branch
Bureau of Rural Resources
Department of Primary Industries and Energy
CANBERRA ACT 2600.

## 10. CONCLUSION

This paper provides but a brief list of Australian fisheries activities. Further details of any aspect may be readily obtained from the Director, Australian Fisheries Service, Department of Primary Industries and Energy, Canberra, ACT 2600.