

Australian Interests and Resource-Use Conflicts in the Indian Ocean*

Clem Tisdell

Abstract

Australia has extensive resource interests in the Indian Ocean. This is partly because Australia has a longer coastline bordering the Indian Ocean than any other nation and has several possessions in the Indian Ocean. The largest of these is the Australian Antarctic Territory which exceeds mainland Australia in area, accounts for 40 per cent of Antarctica and involves the largest territorial claim in Antarctica. The interests of Australia in the fish resources and mineral and energy resources of the Indian Ocean are outlined and consideration is given to the value of the Ocean to Australia for communications and transport. Conflicts about the use of these resources both within Australia and with other nations such as Indonesia and Japan are considered. Particular attention is given to the resources of Antarctica and to the southern bluefin tuna resource which is jointly harvested by Australia, Japan and New Zealand.

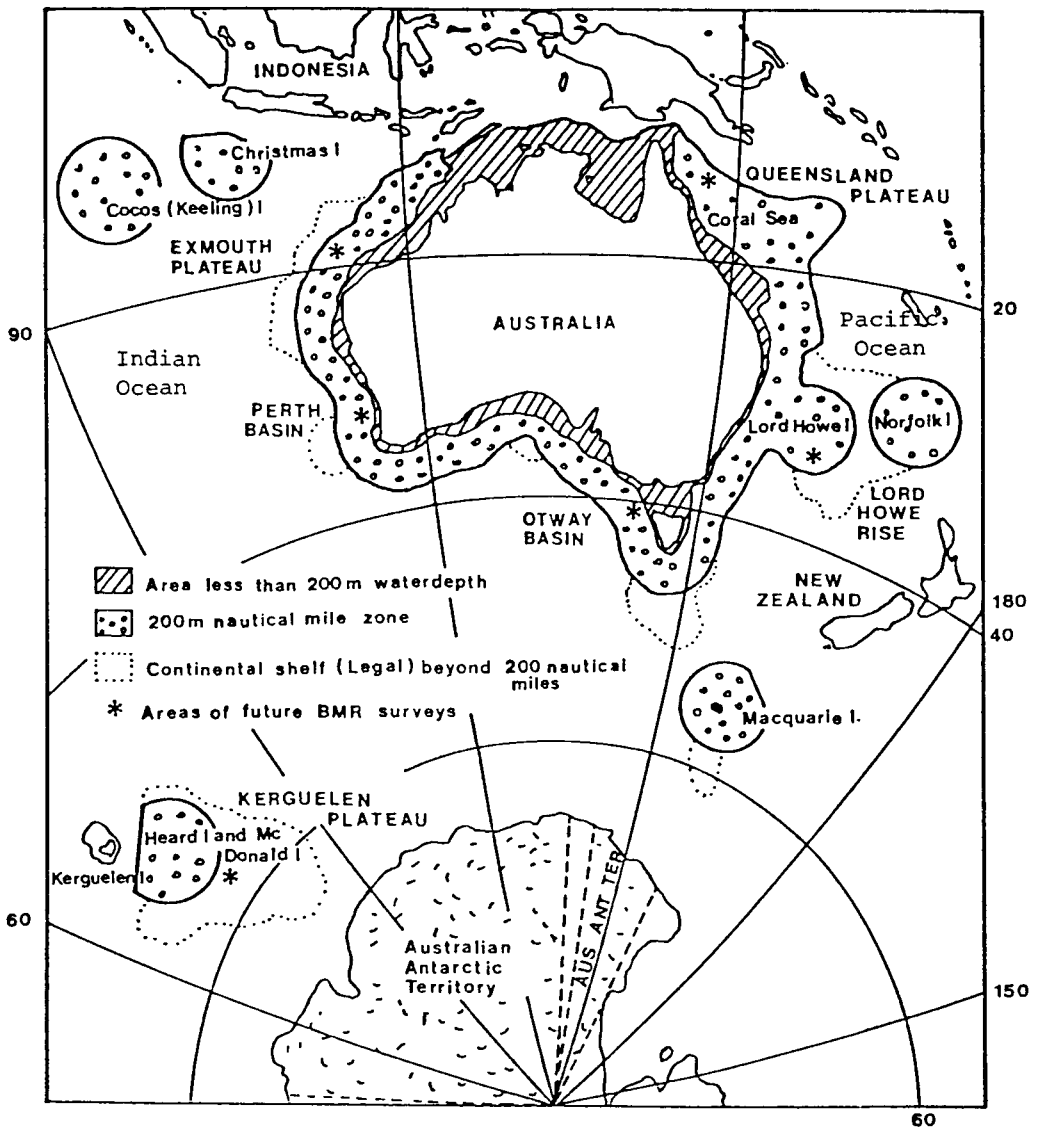
Introduction

Australia is an Indo-Pacific country with at least half of its coastline abutting the Indian Ocean. Since only the east coast of Australia actually adjoins the Pacific Ocean, it can with justification be claimed that most of Australia is located within the Indian Ocean, and that no other nation has as long a continuous coastline in this ocean. On this score alone, Australia has a major interest in the Indian Ocean.

However, in addition, Australia claims sovereignty over a number of territories

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in the Indian Ocean. The largest of these territories is the Australian Antarctic Territory (AAT) which accounts for 40 per cent of Antarctica and involves a land mass bigger than continental Australia. Other possessions include Christmas Island and the Cocos Island group which lie to the southwest of Indonesia, and Heard and McDonald Islands which are situated north of the Australian Antarctic Territory near the Kerguelen Islands, French possessions. Map 1 gives an indication of the extent of Australia's possessions in the Indian Ocean.



MAP 1 Australian Claims to Resources in Marine Areas — Australia's Continental Margins and Offshore Territories. (Based on Bureau of Mineral Resources, 1984).

Australia has particular interests in the mineral and fish resources in the marine areas of its Indian Ocean possessions and requires peace and security in the Indian Ocean because a large proportion of its imports and exports, especially its trade with Europe and Japan, pass through the Indian Ocean. For instance, most of Australia's iron ore exports originate from the west of Australia and Australia, even though 70 per cent self sufficient in oil, still imports a substantial proportion of its crude oil from the Middle East, because heavy crude is not available from local wells. It is important from its point of view that international shipping be not subject to hindrance in the Indian Ocean. In addition, the iron ore mines of Australia's west supply by sea the steel mills located in eastern Australia and Western Australia is an important source of other minerals for Australian industry and for exports.

It is impossible, in a short contribution, to do full justice to the diversity of Australian resource interests in the Indian Ocean and the conflicts which their use entails but at least an overview of such problems is possible. To provide this, I shall first outline Australia's main resource interests in the Indian Ocean, then indicate the main international conflicts that have arisen and some of the conflicts that have occurred within Australia over their use. This will be followed by a more detailed consideration of two cases: the southern bluefin tuna which has involved conflict with Japan, and territorial sovereignty in Antarctica which poses particular problems.

Australia's Main Interests in Indian Ocean Resources

The area contained within Australia's 200-mile Exclusive Economic Zone (EEZ) is the second largest in the world being only slightly less than that of the U.S.A. (Cf. Couper, 1983, p.227). The legal continental shelf which Australia may claim under the provisions of the 1982 Law of the Sea Convention (LOSC) could well be the largest in the world and extends in many cases beyond the 350 nautical mile limit (see Map 1). Most of this area is within the Indian Ocean. Let us consider the fish and then the mineral resources of these areas.

Despite Australia's large fishing zone, it is not a major producer of finfish but it is an important producer and exporter of shellfish and molluscs. Prawns and shrimps are Australia's most valuable fisheries export, closely followed by rock lobsters, then comes abalone and finfish exports, principally southern bluefin tuna

(see Tisdell, 1986 b). If one only regards the area along the east coast of Australia as belonging to the Pacific, then most of these fisheries exports come from the Indian Ocean. For instance, Western Australia is the main producer of rock lobsters. The Northern Territory and the Gulf of Carpentaria are important sources of prawn production. Production in Western Australia and South Australia is also significant. Again, Western Australia and South Australia are major suppliers of abalone.

There is also a significant shark fishery off South Australia (an important supplier of fish to the 'fish and chip' trade), and pearl culture is an important industry in the Broome area of Western Australia where black-lipped oysters are used in co-operation with Japan for this purpose.

As for finfish, Australia's main interest in the Indian Ocean region is in harvesting southern bluefin tuna but, as discussed below, this has in the past resulted in rivalry between Australian states and with Japan because this is a highly migratory species. Because it is highly migratory, there are incentives to overharvest the species or harvest it prematurely. Stocks of finfish in north-western and northern Australian waters have not been exploited to any great extent by Australian fishermen and Australia, as discussed below, has given rights to Taiwan and to Thailand to harvest these in defined areas.

Turning to minerals and energy resources, the offshore areas of northwest Australia contain one of the largest gas deposits in the world. At the present time only the North Rankin Field on the North West Shelf is being developed, but large deposits are also known to exist further north for instance at Scott's Reef and in the Timor Sea, where significant oil deposits have been found. The North Rankin/Goodwyn natural gas field is being developed by a consortium consisting of BHP (Broken Hill Proprietary), Woodside, Shell, BP (British Petroleum), Calasiatic, Mitsubishi and Mitsui. This project, one of the largest energy projects to be undertaken in the world, will supply gas to Perth in Western Australia by pipeline and LNG for export to Japan. In fact, domestic natural gas supplies to Perth commenced in 1984 and deliveries to Japan of LNG to supply eight Japanese gas and electricity utilities will begin in October 1989. Under the conditions set out in the long-term agreement, deliveries will continue into the next century.

Significant oil discoveries have also been made in the Browse Basin of the Timor Sea by BHP. These are too distant from shore for it to be economical to pipe the oil ashore. Consequently, when BHP bought the Jabiru 1-A well into production in

1986, it decided to load the crude directly onto a storage tanker and then, as required, to other tankers for direct export.

Potentially, the Torres Strait contains oil and natural gas but a moratorium on exploration exists there because of the possible ecological damage to fisheries and coral reefs from offshore mining in this area. In addition, the offshore areas of Christmas Island, Cocos Islands, Heard and McDonald Islands and the Australian Antarctic Territory may contain petroleum resources. The potential of these areas is as yet imperfectly known but the Australian Bureau of Mineral Resources has commenced surveys to evaluate the mineral prospects of the continental shelf off Heard Island and McDonald Island. However, polymetallic nodules with high concentrations of cobalt, nickel, copper and manganese are known to occur in marine areas near Cocos and Christmas Islands and near Heard and McDonald Islands, even though the commercial utilisation of such deposits appears to be far off.

As for other minerals obtained by Australia from the Indian Ocean, mineral sands (rutile, zircon and monazite) are obtained mostly by offshore dredging or inshore mining and a substantial amount of these minerals is obtained from Western Australia. Australia is the world's major producer and exporter of mineral sand concentrates.

Australia and Mexico dominate total world trade in salt (Driessen, 1984). Shipments from Western Australia go mostly to Japan but Korea and Taiwan also receive appreciable supplies of Australian salt, an important feedstock in the production of industrial chemicals. Parts of Western Australia are especially suited to the production of salt from sea water because of the high evaporation rates that can be achieved.

As mentioned earlier, Australia also has a particular interest in the Indian Ocean for shipping purposes. In this respect, it might be noted that the total volume of cargo handled by Western Australian ports exceeds that for all other Australian ports combined (*Australian Year Book*, 1985). Sea lanes in the Indian Ocean are important for Australian imports and exports as well as for interstate trade. The basic pattern of interstate trade is that natural resources from the west of Australia are shipped to the east and in return manufactured goods sent from the east of Australia. In addition, the Indian Ocean is clearly important for shipping to and from Australian outposts, e. g., the shipment of superphosphate from Christmas Island

and the transport of supplies to the Island, for supplying Australia's Antarctic bases and so on.

As for other forms of communication and transport, the Indian Ocean may now be less significant to Australia than in the past. For instance, modern aircraft now have longer ranges. Whereas aircraft needed to go via Cocos Island and Mauritius in the past from Perth to Southern Africa, it is no longer necessary to include the Cocos Island stopover. Possibly even the Mauritius stopover could be eliminated. In addition, Australian contact with Africa has tended to decline in recent times for a number of reasons. However, Australian aircraft do extensively use Bahrain as a stopover on the European route. Again, as far as telecommunications are concerned, the advent of the space satellite has much reduced the importance of sea cables, repeater stations, etc., and so reduced the significance of small Indian Ocean island states in this respect. Furthermore, since World War II the main growth in Australian trade and communications has been with Pacific Basin countries, e.g., Japan, U.S.A., Korea, Taiwan, ASEAN countries (and now mainland China) and relatively away from Europe, Africa and the Indian subcontinent.

Nevertheless, Australia does retain a political interest in Indian Ocean countries, even though its role in the area is less significant than in the South Pacific. For instance, it has targeted the smaller island states of the Indian Ocean for special aid assistance, e.g. the Maldives and Mauritius. (See, for example, Lim, 1985). Indonesia also is a recipient of a significant amount of Australian aid.

International Conflicts and Accommodations Arising from Australia's Indian Ocean Interests

Because of its extensive interest in Indian Ocean resources, Australia has been unable to avoid international conflict about their use and rights to their use. In many cases these disagreements have been settled by appropriate accommodation on the part of both parties.

A long standing dispute in the Indian Ocean was a demarcation disagreement between Australia and Indonesia over seabed rights in the northern Browse Basin, the so-called Timor Gap. This involved an area containing the Kelp Prospect where Burmah Oil discovered oil and which is reputed to contain extremely large oil and gas reserves. Depending upon demarcation of the boundary based on rival claims,

there was a prospect of reserves going entirely to Indonesia or entirely to Australia.

In September 1988, Australia and Indonesia reached agreement at official level for some resolution of the Timor Gap dispute. Officials from both countries agreed in principle that the 65,000 square kilometre area become a Zone of Co-operation to be divided into three zones. Of these zones, one is to be under Australian administration, another is to be administered by Indonesia and a third is to be under the joint administration of Australia and Indonesia (*The Australian*, 6 September, 1988). Oil and gas exploitation in the Australian zone will be subject to the Australian Resource Rent Tax and a proportion (about 16 per cent) of the revenue from this will be shared with Indonesia. Similarly, Australia will be granted a share of taxes collected by Indonesia on oil and gas in its zone. It is anticipated that tax revenue from oil and gas will be shared equally in the zone of joint administration but as at September 1988, details had yet to be finalized (*The Australian*, 6 September, 1988). The agreement which has yet to be finalised at ministerial level, promises progress in the long-standing (nine years) dispute between Australia and Indonesia over the Timor Gap and if finalised will ensure that both countries share in the petroleum resources of the Timor Gap until a permanent seabed boundary can be agreed.

By contrast, Australia and Papua New Guinea have reached agreement on delineation of their exclusive economic zones and on management of their shared living resources in the Torres Strait without major conflict.

In order to protect its interests and territory in Antarctica Australia has tended to rely on international agreements. It was a signatory to the Antarctic Treaty which came into force in 1961. Apart from the seven claimant states, other signatories included Belgium, Japan, South Africa, U.S. and U.S.S.R. The Treaty 'ensures' the use of Antarctica for peaceful purposes only, outlaws nuclear explosions and the dumping of nuclear wastes there and ensures access for scientific purposes by all interested nations and exchange of scientific information. In effect, it also freezes territorial claims. Possibly the Treaty has served Australia well. However, there is provision in the Treaty for it to be reviewed in 1991. What changes, if any, will be wanted by Australia then will remain to be seen. However, it is becoming clear that commercial exploitation in Antarctica, e.g., fishing and krill harvesting, and the possibility of mining for minerals may require initiatives on Australia's part and other nations claiming sovereignty. This will be discussed in

more detail below.

Closer to continental Australia's shores, conflict has arisen with Japan over levels of catch of southern bluefin tuna. Catch in relation to effort has been declining and the view has been put that overharvesting both by Japan and Australia has depleted breeding stock. These fish breed in the area of Australia's North-West Shelf and the young fish then migrate along Australia's coast towards the south. Restraints on the level of harvesting by both parties seem to be required but the conflict has been about the amount by which each nation should reduce its catch. The dispute led effectively to the exclusion of Japanese southern bluefin tuna vessels from the Australian Fishing Zone (AFZ) in 1984. Japan had paid an access fee of approximately Aust. \$. 1.4 million per year for access to southern bluefin tuna in the AFZ. More details on this case are given below.

Other countries, however, have been granted limited access to the Australian Fishing Zone. Agreement has been reached with Taiwan to catch finfish off the northwest of Australia operating through a joint venture company. The fish are shipped to Taiwan and Australia receives a royalty payment of Aust. \$ 1 million per year. The agreement appears quite favourable to Australia because in addition it requires that over a period of time Taiwanese vessels be replaced by Australian vessels, that the joint venture company purchase 300 tonne of pelagic or demersal fish from Australian fishermen per year, spend at least 10 per cent of the value of their catch on Australian commodities and make maximum use of Australian shore facilities.

An agreement has also been reached with Thailand to catch finfish to north of the Northern Territory. In both cases, basically fish stocks are being exploited that would not be exploited by Australian fishermen so this minimizes potential conflict with indigenous fishermen.

Conflicts and Concerns within Australia about the Use of Indian Ocean Resources

Concern and conflict within Australia about Indian Ocean resources has not been as intense as in relation to the Pacific. Partly this reflects the fact that most of Australia's population is located in the east and large parts of Australia's coastline on the Indian Ocean are considered to be remote. For instance, there appears to

have been little opposition from environmentalists and ecologists to oil and gas production off the Western Australian coast but the possibility of this off the Queensland coast was staunchly resisted. While the presence of the Great Barrier Reef in this area helps to explain the degree of resistance on the part of environmentalists, it appears to be only part of the explanation. The northern coastline of Western Australia also has corals and some rare marine communities. Yet there has been no effective move to establish a large marine park there akin to the Great Barrier Reef Marine Park, although a small marine park, Ningaloo Marine Park, has been established. I am not suggesting that a marine park of the status of the Great Barrier Reef Marine Park is called for but am merely pointing to a significant difference. Presumably, the fact that few tourists visit the areas involved reduces the likelihood of extensive marine parks being established in Australia's Indian Ocean area.

This is not to say that Australians have been unconcerned with conservation issues that affect the Indian Ocean. For instance, Australia's last whaling station was based at Albany in Western Australia and carried out operations in the Indian Ocean. Due mainly to pressure from conservationists, combined with changing economic conditions, it was closed in the 1970 s.

Australia was one of the 14 nations which signed the International Convention for the Regulation of Whaling in 1946 and is still a member of the International Whaling Commission (IWC). It was originally committed to the concept of operating whaling as a sustainable yield fishery on a worldwide basis. However, in 1978 the Australian Government instituted an independent inquiry into whaling chaired by Sir Sydney Frost (Australia, 1978). The Australian Government adopted its recommendations that all whaling be prohibited in the AFZ and that Australia seek a worldwide ban on commercial whaling. The IWC with Australia's support has in fact adopted a resolution calling for the cessation of all commercial whaling.

Competition and conflict has of course been present amongst commercial fishermen relying on fisheries resources with the AFZ in the Indian Ocean. In order to control this and prevent over-exploitation of these resources government, e.g., the Western Australian Government, has introduced limitations on effort. For example, entry to abalone fishing is restricted in Western Australia and this is also true in the rock lobster industry where additional controls operate such as limits on the number of pots to be used for catching rock lobsters. As discussed below, the

Australian Government has introduced transferable quotas to limit the catch of southern bluefin tuna.

On a rather different tack, Australia is an ally of the United States and has agreed to the United States installing an important nuclear submarine communication facility at North West Cape. This base has been the subject of a number of anti-nuclear and/or anti-American demonstrations by small groups. Similarly, visits by nuclear armed American ships have been the cause of protests. It is, for instance, claimed that the presence of the North West Cape facility, far from deterring attacks on Australia, will encourage them. The facility seems to be an important part of the U. S. defence system in the Indian Ocean.

In order to illustrate in more depth the problem and conflicts faced by Australia in using resources in the Indian Ocean, it may be useful to consider two cases, namely Australia's Antarctic marine resources, and the exploitation of southern bluefin tuna. Both involve international issues and the latter also entails internal conflicts.

Australia's Antarctic Marine Resources

Australia has declared a 200 nautical mile exclusive fishing zone (EFZ) along the whole coast of the Australian Antarctic Territory (AAT) but only applies its regulation to Australian fishermen. From a conservation point of view this is far from satisfactory. However, realistically speaking Australia is not in a position or would not find it economic to exclude or regulate foreign fishermen from these zones, for example by use of naval patrol boats as it does around continental Australia. The fact too that Australia is not a long distance fishing nation and has no fishing vessels in Antarctica means that there is little political pressure within Australia to enforce exclusion. However, there may be considerable royalties to be earned by Australia from foreign nations by enforcing exclusion. Annual catches of fish in Antarctica in recent years have ranged between 125 thousand to 250 thousand tonnes approximately and the annual harvest of krill has reached almost a half million tonnes. This means that the fish catch alone is up to 4 times that for the whole of Australia.

Exemption for foreign vessels has not been granted in Australia's EFZ around Heard-McDonald Islands and around Macquarie Island. However, Australia has not

been in a position to enforce exclusion. Large stocks of fish occur in the EFZ of Heard-McDonald Islands, and the French have been successful in the nearby Kerguelen Island area in obtaining a three year agreement with the USSR to trawl for fish in the declared fishing zone of Kerguelen. As suggested by Chittleborough (1984), Australia should consider a similar arrangement for its fishing zone surrounding Heard and McDonald Islands.

As Chittleborough (1984, pp.147 – 148) points out, “present Australian policy towards the management of marine resources of Australian Antarctic Territory is far from clear”. Indeed, Australia does not have any effective enforcement policy at present but relies on international agreement to exert whatever control exists, for instance through the International Convention for the Regulation of Whaling, and the Convention on the Conservation of Marine Living Resources (CCAMLR).

The primary objectives of CCAMLR seem to be well framed but are too general for operational purposes. Chittleborough warns that Australia must frame its own management policy on Antarctic marine resources and not leave it to international fora, such as the Commission for the Conservation of Antarctic Marine Living Resources, to do so. He says, “In the absence of a clear management policy of its own, Australia may find that its decisions on the form of management of living resources off Australian Antarctic Territory are made elsewhere” (Chittleborough, 1984, p. 160).

While there is little immediate prospect of mining of minerals in the continental shelf of AAT, there may be a long-term prospect of this. Certainly, commercial mining prospects can be expected to make it more attractive to claimant states to consider enforcing sovereignty (Cf. Auburn,1984). On the other hand, they may also lead to renewed claims by less developed countries to share in the rents or royalties which may be obtained from such exploitation (Cf. Harris, 1984, pp. 20 – 21). [For further discussion of Australia’s Antarctic resource interests see Tisdell, 1986 a.]

Southern Bluefin Tuna

Southern bluefin tuna (SBT), *Thunnus maccoyii*, stocks are an important Indian Ocean resource harvested principally by Japan, Australia and New Zealand. SBT breed off the northwest of Australia (south of Indonesia) and the juveniles move slowly south along the coastal area of Western Australia, then many turn east

to move along the southern coast of Australia. Some enter the Pacific Ocean for a short time swimming south of Tasmania before turning west again and dispersing into the Indian Ocean. Some eventually travel as far as South Africa and other parts of Africa bordering the Indian Ocean but return to breed off the northwest coast of Australia. The journey of the young fish along the Australian coast takes about 4 – 5 years, and during this period they grow in size.

Both Japan and New Zealand take older fish whereas Australia lands younger fish. Japan catches SBT on the high seas using long- liners whereas Australia and New Zealand Trawl for SBT mostly within their own fishing zone. By weight, the Japanese catch is largest but in terms of number of tuna taken the Australian catch is greatest. By comparison with both countries New Zealand's catch is very small. In recent years, the level of the Japanese catch has tended to fall and the Australian catch has increased so as to approach the Japanese catch.

Japan began longlining for SBT in 1952 and rapidly increased its catch to reach a peak of 77,491 tonnes in 1961 but it has since fallen to a quarter to one-third of this level, to around 20,000 tonnes or less. During the period the level of the Australian catch also expanded and continued to do so even when the level of the Japanese catch began to fall. Australian landings reached a peak by weight around 20,000 tonnes in the early 1980 s. The total weight of the catch by both nations halved in the 20 years between the early 60 s and the 1980 s, although the total number of tuna fish taken tended to increase until about the end of the 1960 s and then remained stationary with some fluctuations.

After the early 60 s, Japan experienced a substantial reduction in its catch in relation to its fishing effort. The number of tuna caught per year in relation to number of hooks used fell from 4 in the early 60 s to approximately 0.4 at the beginning of the 1980 s (Shingu, 1978). It was also becoming clear by the early 1980s that Australian effort in relation to catch was increasing.

A meeting between Australia, Japan and New Zealand took place in Japan in 1983 to discuss the situation. A view was put that there as over harvesting of the species by the nations concerned, that this was adversely affecting SBT recruitment and was an important factor in falling total catches and in rising effort to catch ratios. It was agreed that measures to restrict catch should be instituted by the nations concerned so as to prevent the breeding stock of SBT from falling below a level of 220,000 tonnes, its approximate level in 1980.

The question then arose of the *relative* reduction in catch which each nation should make. This was a source of conflict between Australia and Japan. Japan would have been agreeable to a 25,000 tonnes limit for itself and a 10,000 tonnes limit for Australia. This proved to be unacceptable to Australia and a period of negotiation and bargaining followed, with Japan not being agreeable to a lower limit suggested by Australia. Consequently, in 1984 Australia introduced, after an Industries Assistance Commission inquiry (1984), a quota of 14,500 tonnes for SBT for Australian fishermen, and effectively excluded Japan from fishing in Australian waters for SBT.

In 1985, an understanding was reached between Australia, Japan and New Zealand to limit their catches of SBT in 1986 to 14,500 tonnes, 23,150 tonnes and 1,000 tonnes respectively. Consequently, Australia withdrew its restriction on Japanese SBT fishing in the Australian Fishing Zone south of latitude 34° S. However, in 1986 scientists from Australia, Japan and New Zealand expressed concern that these rates of catch were still so high as to threaten the future breeding population of SBT and recommended a reduction in the quotas of Australia and Japan. It was agreed that for a period of 3 years the Japanese quota would be reduced commencing 1987 to 19,500 tonnes per year, that 3,000 tonnes of the Australian catch would be 'frozen' making it effectively 11,500 tonnes per year and that the New Zealand quota would remain at 1,000 tonnes per annum. To compensate Australian SBT fishermen for the 'freezing' of 3,000 tonnes of the Australian quota, the Japanese Tuna Association renegotiated a financial transfer to Australian SBT fishermen. To pay for this transfer, Japanese SBT boat owners are required to pay a levy. So in recent years there has been considerable progress between Australia, Japan and New Zealand in devising a co-operative approach towards the harvesting of southern bluefin tuna. [For more information on the history of SBT management see Kuronuma (1987) and Australian Bureau of Agricultural and Resource Economics (1989)].

In theory, it ought to be possible for Australia, Japan and New Zealand to reach agreement on the best management policies for this highly migratory species but conflict exists about how each nation should share in economic gains from better management of the resource. This conflict may stand in the way of optimal economic management of the resource from a global perspective. The situation can be modelled as a potential co-operative game (Cf. Tisdell, 1983; Tisdell, 1966).

There has also been a problem of interstate rivalry in Australia in exploitation

of the stock in the past. Premature capture of fish tended to occur in Western Australia before they were able to migrate east and grow larger, thus depriving the eastern states of stock and reducing the overall value of the Australian catch.

The introduction of a system of transferable quotas for Australian fishermen in 1984, however, overcame this problem because it enabled tuna fishermen based in the eastern states to buy catch entitlements from those in the west. In practice catch entitlements have tended to transfer east, particularly to South Australia.

The question remains of whether Australia should be catching immature SBT in its fishing zone. Kennedy and Watkins (1974) argue that maximum world economic gain would be achieved by Japan taking over all harvesting of SBT. They claim that "the elimination of Australian harvesting of fish under four years of age is in the overall interests of Australia and Japan... The results suggest that Japan could profit by more than compensating Australia for agreeing to reduce harvesting and even by agreeing to cease harvesting altogether", (Kennedy and Watkins, 1984, pp.24-25). However, this result is based upon the assumption that Australian caught SBT will not be supplied to the high valued Japanese *sashimi* (raw fish) market. It may now have to be modified because Australia has started to send tuna to this market. In any case, Australia is likely to require tangible compensation from Japan if Australia agrees to reduce its catch. In fact, as mentioned earlier, when Australia agreed to freeze 3,000 tonnes of its annual quota for three years commencing 1987, the Japanese Tuna Association in return paid compensation to Australian SBT fishermen.

At this time, there is also need for more scientific information about SBT stocks. The possibility should be considered, for example, that factors other than overharvesting have been responsible for the fall in catch in relation to effort. One hypothesis that is being considered is that there has been a fall in baitfish populations in and near breeding grounds because of fishing activities in Indonesia. This hypothesis is being researched by the Australian Centre of International Research (Dr J. Remenyi, personal communication). Given the dependence of SBT on baitfish for food, this will also reduce recruitment of SBT. Australia, Japan and Indonesia have a common interest in the Indian Ocean in such matters, so there is continuing room for co-operation and conflict. If Indonesian economic activities are found to be having an adverse impact on baitfish supply for SBT, this will add an additional 'player' to the SBT game.

Concluding Comments

As can be seen, the Indian Ocean is an important source of natural resources for Australia and plays a major role in Australia's import and export of natural resources, mainly minerals. Australia's interests are not limited to the areas adjoining mainland Australia's long Indian Ocean coastline (the longest such coastline of any nation), but it has direct territorial interests further afield in the Indian Ocean, namely in and near Antarctica and near Indonesia. However, the extent of Australia's Indian Ocean interests appear to be still inadequately appreciated in Australia, even though the mineral boom in Western Australia in the late 1960s and the North West natural gas finds have modified Australian perceptions somewhat.

As pointed out, the use of Australia's Indian Ocean or shared ocean resources has not been free of conflict. Conflicts have occurred between interested parties within Australia and with other countries such as Indonesia and Japan. There is also potential for conflict over Antarctica. On the whole, however, none of these conflicts have reached crisis proportions. From this point of view Australia has been more fortunate than many other Indian Ocean countries.

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