

The spawning of hard corals as a synchronous activity effectively results in all reproductive activity of the majority of hard corals of the Great Barrier Reef occurring on only a few predictable days of the year.

My objective in this talk has been to draw to your attention the different aspects of the Great Barrier Reef which may represent significance in your individual opinions.

Only the individual can express the particular sentiment which represents their own interpretation of "significance" but one would hope that in the variety of life forms, in the variety of aesthetic pleasures, in the variety of food resources, and in the variety of chemical products that can be obtained from the different marine organisms, we will, together, communicate a sense of significance which will result in the long term protection of the Great Barrier Reef and in the conservation of its diversity and form, undisturbed by human activities, so that it can be enjoyed by future generations in the same way that you and I have been able to enjoy it in our lifetime.

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CONSERVATION AND ZONING OF AUSTRALIA'S GREAT BARRIER REEF

Peter McGinnity

Introduction

Australia's Great Barrier Reef was declared a Marine Park in 1975 and was listed as a World Heritage Area in 1982. This paper provides a brief description of the Marine Park and the strategies being implemented to ensure protection of the Reef and carefully balance human use.

Great Barrier Reef Marine Park

The Great Barrier Reef extends for 2,000 kilometres along the north eastern coastline of Australia. Its 2,900 reefs and almost 1,000 islands compose one of the most diverse ecosystems on earth, being home to 1,500 species of fish, 4,000 species of mollusc, 215 types of birds, 22 different types of whales, 500 types of seaweed, six breeding species

of turtle, and 400 species of coral. The Reef may be the last place on earth in which the Dugong are not in jeopardy.

The Great Barrier Reef Marine Park has been established to encompass the entire Reef ecosystem. Maps on pages 65 and 75 show the location of the Park.

Use of the Reef

Australian Aboriginal people have used the near shore areas of the Reef for at least twenty thousand years, and continue to do so as an important part of their subsistence, culture and lifestyle.

Intensive European use of the reef commenced in the latter part of last century with the beche de mere (sea cucumber), trochus (snail shell) and pearl shell fisheries, but has increased dramatically since World War II with tourism, prawn (shrimp) trawling and reef-line fishing being the dominant activities. Today Reef-related commercial activities have extended human use to all parts of the Reef and have an estimated value in excess of \$1,000 million per annum.

Tourism is the largest commercial activity in economic terms with parts of the coastline in the southern half of the reef and twenty four islands currently wholly or partly developed for tourism purposes. Reef based activities associated with tourism include diving, fishing and boating. Because the major and most spectacular reefs and clearest waters lie well offshore across an exposed channel, historically vessel capabilities were a major limitation with most activities being confined to a dozen reefs within 20 miles of island resorts and major ports. This changed in 1982 with the introduction of high-speed catamarans capable of carrying 150 passengers at speeds in excess of 20 knots. Largely as a consequence of the access provided by these catamarans, tourism has increased to the extent that more than 5 million people now visit the Reef region each year.

Modern day fishing activities include recreational line and spear fishing, shell and ornamental fish collection, and commercial trawl, line and net fishing. The commercial fishing industry alone annually generates \$250 million a year and directly employs nearly 4,000 people.

Activities that have been totally excluded from the Park are mining (limestone etc.) oil drilling and fishing using large scale, non discriminatory techniques such as long-lining, purse seining and large scale drift-nets. All other activities are managed to ensure that they are ecologically sustainable.

Park Management

Responsibility for management of the Marine Park is vested with a three person independent Authority, compos-

ing a permanent Chairman, a representative of the State of Queensland, and a third appointed member who to date has been from a scientific background.

Zoning plans provide the flesh to the skeleton established by the Act. They are developed using the most up-to-date management techniques and scientific principles, including :

- establishment of "representative areas" of protected habitats as flora and fauna refuges and scientific reference areas;
- protection of sensitive habitats and species from activities that might threaten them (e.g. trawl fishing is precluded from coral reef and sea grass communities, and dugong are protected from all but traditional hunting); and
- provision for detailed management plans and strategies to be developed for high use and sensitive sites.

Zoning plans for the Park are thoroughly reviewed every five years or so and may be amended to take into account changing use patterns and more recent scientific information.

Where necessary other methods are also used to protect the Reef, for example, the waters between the Reef and the mainland are a major shipping lane for eastern Australia. International agreement has been reached to declare parts of the Reef as "areas to be avoided by shipping", and to require approved pilots to be carried to guide ships through other parts of the Reef where particular care is required.

Perhaps a measure of the success of the management practices adopted by Great Barrier Reef Marine Park Authority (GBRMPA) is the extent to which GBRMPA as a Federal agency is now supported by the State of Queensland. The Queensland Government has established marine parks to cover the State's inter-tidal waters, and has included these and the island State Parks under a management agreement. Funding for the management of these State parks and the Great Barrier Reef Marine Park is provided on a 50/50 basis by the Federal and Queensland governments.

Many of the problems affecting the Park are generated outside its boundaries; nutrient run-off and siltation from coastal areas is of considerable concern. Integrated catchment management and coastal development strategies are currently being developed by the Queensland Government and GBRMPA is actively working with the State agencies developing these strategies.

In order to strengthen these complementary management arrangements GBRMPA has recently initiated the development of a 25 year strategic plan for the Great Barrier Reef World Heritage Area (including the Marine Park, all of the islands and the inter-tidal areas). This plan has involved

all other key agencies, local government authorities, Aboriginal and Torres Strait Islander groups, and other stakeholders. The plan establishes five year and one year objectives to be achieved jointly by all groups and agencies. Priorities in the Plan include more appropriate recognition of the traditional relationships of Aboriginal and Torres Strait people to parts of the Reef, prevention of pollution to ensure water quality is not degraded, and careful examination of fishing practices to make sure they are ecologically sustainable.

A presentation about the Marine Park would not be complete unless some mention was made about public involvement. Public involvement is the cornerstone of the Marine Park. A formally constituted Consultative Committee was established by the Act and advises GBRMPA and the responsible Federal and State ministers. The Act also requires GBRMPA to seek public input into the development of zoning plans. Specialist advisory committees are established where appropriate, for example, to advise on monitoring and research programs or to develop more detailed plans for management of intensively used areas. In these days of tightening budgets and ever increasing management demands, reef users and volunteers are an increasingly important resource, providing not only assistance in the form of transportation and human labour, but highly developed knowledge and skills to assist in areas such as research and public education.

Conclusions

Management of the Great Barrier Reef Marine Park has been successful because :

- a holistic, or whole ecosystem, approach has been adopted to management of the Reef Region;
- GBRMPA has been established as an independent Authority with a very strong legislative mandate to focus solely on management of the Region;
- complementary management arrangements have been established between the Federal and Queensland State government agencies;
- a system of multiple use management has been established using the best available information, but ensuring that where there is an absence of perfect information, the Reef and its natural resources are given priority (the precautionary principle);
- the Park is supported by the community, who are involved in the processes of establishing management; and to date the Park has been reasonably funded through an agreement reached between the Commonwealth and State governments.

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