



# Reeflections

Newsletter of the Great Barrier Reef Marine Park Authority  
P.O. Box 1379  
TOWNSVILLE, QLD. 4810  
Number 3 November 1979 ISSN 0314-6510

## Historic Decision

### FIRST PARK IS DECLARED

The creation of the first part of the Great Barrier Reef Marine Park came on 21st October, 1979, with the proclamation of the Capricornia Section.

Covering more than one million hectares about (12,000 square kilometres), the Capricornia Section is the most heavily-used area of the Great Barrier Reef.

It includes the waters, reefs and shoals of the Capricorn and Bunker Groups east of the coastal centres of Yeppoon, Rockhampton and Gladstone, and north-east of Bundaberg.

The declaration was the culmination of more than three years preparation and research by the Great Barrier Reef Marine Park Authority which will now prepare a zoning plan for various uses of the Park.

Immediately after proclamation was announced by the Prime Minister, the Authority called for representations from the public on the zoning plan, and held public meetings in Gladstone and Bundaberg to stimulate local participation and explain the zoning processes.

The public will be invited to make further comments when a draft zoning plan is prepared early next year.

#### GOVERNMENT CO-OPERATION

The declaration was achieved under co-operative arrangements worked out between the Commonwealth and Queensland Governments.

Within the Marine Park boundaries, the recovery of minerals is specifically prohibited, though all other reasonable human activities may be permitted in accordance with the zoning plan.

The proclamation for the Capricornia Section gives the Great Barrier Reef Marine Park Authority control over the entire marine environment, the sub-soil beneath the sea-bed and any Commonwealth land to a depth of 1,000 metres, and to a height above the Park of 915 metres which will protect bird life from low-flying aircraft.

Islands which do not belong to the Commonwealth and are under Queensland jurisdiction are excluded from the park.

Although the Capricornia Section as a single entity is already immense by world marine park standards, it covers only six per cent of the Great Barrier Reef.

In addition to preparing the zoning plan for Capricornia, the Authority will now consider recommending further sections for declaration under the procedures established by the Commonwealth and Queensland Governments.



Mr Graeme Kelleher, a senior Commonwealth official with extensive experience in environmental matters, was appointed Acting Chairman of the Great Barrier Reef Marine Park Authority in July 1979. The Chairman's position is a full-time one, and Mr Kelleher (centre) joins Mr Syd Schubert (left) and Dr Joe Baker who are the part-time members of the Authority. Mr Schubert is the Co-ordinator General for Queensland and is Queensland representative on the Authority. Mr Kelleher replaces the former Chairman, Mr H. Higgs, who retired because of ill-health.

## The Beginning

The small motel in the Queensland town of Emerald seemed rather incongruous compared with the importance of the event taking place there. The timing — 7 o'clock on a crisp winter's morning — seemed even more unusual.

Two heads of government entered the room, accompanied by a handful of advisers, while a small group of media representatives looked on.

A few minutes later the way had been cleared for achieving an event of national and international significance — the establishment of Australia's first marine park under Commonwealth legislation on the Great Barrier Reef. (Story page 3.)

Also in this issue:

- Report on scientific monitoring workshop
- Barrier Reef misunderstandings
- New GBR Consultative Committee
- Erosion at Heron Island



# The Reef — on a bike?

Misunderstandings and lack of knowledge are continually showing up as factors inhibiting people's appreciation of the Great Barrier Reef.

The problem was highlighted by travel expert Eric Grimes at a conference on tourism organised by the Great Barrier Reef Marine Park Authority. Mr Grimes said: "How many tourists are there who leave Brisbane by car, get to our travel office in Nambour and haven't any idea just where the Great Barrier Reef is? They think it starts at Maroochydore or Caloundra."

It's clear that the flow of information about the Great Barrier Reef has been merely a trickle. Consider the story of the foreign tourist who wanted to ride his bicycle along the Reef from one end to another; the child who asked what time the gates of the Reef open to let ships pass; the man who wanted to walk out to the Reef at low-tide rather than pay a boat fare. These are extreme but true examples of the misunderstandings that have been encountered by officers of the Great Barrier Reef Marine Park Authority.

There is also the common problem of people visiting islands believing they are in fact on the true Barrier Reef.

## More Awareness Needed

G.B.R.M.P.A. is attempting to identify these knowledge gaps, and bring about greater awareness and understanding of the Great Barrier Reef.

According to Authority member, Dr Joe Baker: "An educated, value-conscious user may well be our best long-term insurance for the protection of the Great Barrier Reef".

At the tourism conference, Wally Franklin, Marketing Manager of TAA said that the Great Barrier Reef could be used effectively as a marketing strategy for North Queensland in overseas markets. However, it was no good undertaking this initiative if facilities were not available when the tourist arrived.

Dr John Pigram offered further comment on the Reef tourism situation. "If tourism is an industry, then it needs a research base and research support just as much as any other industry — coal mining, manufacturing or whatever. Some managers appear to have almost a paranoid fear of research", he said.

- A transcript of proceedings of the Workshop on Great Barrier Reef Tourism has been published and is available to the public.

- Great Barrier Reef Marine Park Authority Executive Officer, Rod Williams, left for the United States in September to complete a master's degree in Public Administration. Simon Woodley is acting in this position until Mr Williams returns.

## Science is as Science does

Collection of worthwhile scientific information from the Great Barrier Reef is something of a science in itself. That's the message which came out of a workshop conducted at the Institute of Marine Science recently.

The workshop brought together researchers and marine biologists to discuss measures for improving the scientific monitoring of Reef processes.

Two guest speakers from the United States emphasised the need for careful planning in the approach to Reef research and the desirability of conducting the research over the longest possible period.

Dr S.V. Smith of the Institute of Marine Biology, University of Hawaii, said data collection on the Reef had to be designed around three basic principles — time-scale; instrumentation; and interpretation.

Dr R. Livingston from the Department of Biological Studies at Florida State University, said research programs to be meaningful had to be taken over a long period, preferably at least a decade. It was also advisable to get hold of as much "free" data as was already available, such as meteorological information, and document it as part of the research program.

Scientists at the workshop were asked to develop recommendations regarding research projects and programs which would most rapidly increase understanding of the Great Barrier Reef system.

## Data Base Urged

A major recommendation was for the establishment and maintenance by G.B.R.M.P.A. of a comprehensive data base incorporating the widest range of information about the Reef Region. This would be designed to meet the Authority's long-term needs and also provide a service to scientific institutes with less continuity in their Reef work.

The conference supported the Authority's current information-gathering activities which include:

- towed underwater surveys
- establishment and use of photo-reference points
- detailed physical surveys of reefs
- analyses of amateur and professional fish catches
- development of fish census methodology
- evaluation and use of aerial photography/satellite imagery.

The scientists endorsed the need for monitoring over at least a decade the constructional and destructional processes within the Reef. Continuous measurement of reefs, river deltas, and coastal domains was suggested. There was also a recognised need for information on river discharge and ocean water mass patterns, as well as examining and recording the effects of catastrophic events such as cyclones in the Great Barrier Reef Region.

## Staff and Their Tasks

The Great Barrier Reef Marine Park Authority has a complex set of tasks in relation to declaration and zoning, and its small staff includes people with wide experience and qualifications in specialist areas. Two of these staff members and their duties are outlined below.

### The Town Planner

Appointing a Town Planner for a set of functions that relate purely to a marine, natural environment might seem to be something of a contradiction in terms.

However, JOHN O'DWYER who joined the Authority from Melbourne with six years practical activity in town and regional planning has an expertise very relevant to the development of the marine park concept.

John's major contribution is in the preparation of zoning plans for the Marine Park. His experience in planning resource usage and allocation, and the development of statutory controls to guide the conservation of such resources while they are being used is an essential element of the zoning process.

The Zoning Plan will be displayed for public comment before finalisation. John will assist in explaining to the public the reasoning and rationale for various zoning proposals. He will also help to assess public submissions relating to the proposals.

### The Economist

TOR HUNDLOE is an economist specialising in natural resources and who brings to the Authority specialised planning, research and administrative qualifications.

The major emphasis of Tor's work for the Authority is in assessing the economic value and social importance of Reef resources to the local community and the nation. A sound knowledge of the commercial, recreational and conservationist interests in the Reef is required, and Tor evaluates and compares competing uses and their economic impacts.

His work involves liaison with government, private enterprise and tertiary education establishments.

Tor has been examining the economic and sociological issues pertinent to the Capricornia Section, and has oversights studies on the economic impact of present uses and on the economics of reef fishing.

- Profiles of other staff members of Authority will appear in the next issue.

# EMERALD AGREEMENT GIVES PARK GO-AHEAD

The most significant step towards making the Great Barrier Reef Marine Park a reality was the agreement of the Prime Minister, Mr. Fraser, and the Queensland Premier, Mr. Bjelke-Petersen announced at Emerald on 14 June this year.

The two Government leaders established procedures for the development of the Marine Park; defined Commonwealth and State responsibilities; and clarified the role of the Great Barrier Reef Marine Park Authority.

The agreement ended the uncertainty which had existed for some time over constitutional and jurisdictional issues relating to the Park, following the Commonwealth agreement to transfer territorial sea rights to the States.

Queensland retained the same territorial sea rights as other States under the agreement "but with full regard to the Great Barrier Reef Marine Park Act (which is Commonwealth legislation) and to the Prime Minister's Parliamentary Statement of 4th June on petroleum exploration". This statement ruled out further drilling or exploration in the Great Barrier Reef Region until the results of short and long-term research are known.

The Prime Minister and Premier also agreed to set up a Ministerial Council consisting of two Ministers from each Government to co-ordinate policy on the Great Barrier Reef Marine Park, and for the council to process the declaration of the Capricornia Section as an immediate task.

- Public Service Board approval has been given for Great Barrier Reef Marine Park Authority to increase its establishment to 29.

## FIRST MINISTERIAL COUNCIL MEETING

The inaugural meeting of the Great Barrier Reef Ministerial Council, set up as a result of the Emerald Agreement, was held in Brisbane on 4 October. It was attended by:

- The Commonwealth Minister for Finance, Mr Eric Robinson (convenor)
- The Commonwealth Minister for Science and the Environment, Senator J.J. Webster
- The Queensland Minister for Maritime Services and Tourism, Mr Max D. Hooper
- The Queensland Minister for Culture, National Parks and Recreation, Mr Ivan Gibbs

The Council examined a report received from the Great Barrier Reef Marine Park Authority on the Capricornia Section and agreed to recommend that action to enable proclamation of this section as the first stage of the Great Barrier Reef Marine Park should proceed immediately.

The Council also considered a number of other matters, and a communique issued at the conclusion of the meeting included the following decisions:

### Day-to-Day Management

Ministers agreed that the development of detailed zoning and management

plans directed towards long-term administration of the Marine Park Capricornia Section should be set in train.

The Zoning Plan for the Capricornia Section is to be prepared by the Marine Park Authority. That Plan will be directed towards achieving compatibility of activities in adjacent zones and giving extra protection to those areas which need it.

The Council also recalled that Queensland authorities are to be assigned the day-to-day management role of any declared marine park. In this regard, the Great Barrier Reef Marine Park Act makes specific provision for the Commonwealth Government to make arrangements with the Queensland Government for the performances of functions and the exercise of powers under this Act.

### Adjacent Areas

The Council decided that Commonwealth and Queensland Officials should examine the possibility of complementary management regimes in areas of the State adjacent to, or likely to affect the Marine Park. This examination will cover:

- (i) The proclamation of terrestrial national parks and marine parks under Queensland legislation;
- (ii) the suitability of legislation, both Commonwealth and Queensland, for establishing a uniform management approach, particularly with reference to the difficulties of law enforcement at the interface between the two jurisdictions; and
- (iii) consultative mechanisms in the development of proposals.

### Expansion of Co-operation

The Ministerial Council also agreed that the present scope of co-operation between Queensland and Commonwealth officials on issues relevant to the Reef should be maintained and expanded.

- The Council also decided that:
- The Great Barrier Reef Marine Park Authority will undertake its functions with the maximum practicable use of Queensland Government and private sector services commensurate with efficient operation;
  - the Authority should develop a strong corporate identity in keeping with both Commonwealth and Queensland commitments to protect the Great Barrier Reef;
  - the Authority will pay particular attention to its planning and research functions as required to achieve the establishment, control, care and development of a viable marine park (in particular in order to declare and zone further sections of the Great Barrier Reef Marine Park); and
  - the Authority will co-ordinate the provision of advice on research relevant to the Great Barrier Reef to the Great Barrier Reef Ministerial Council.



Prime Minister Fraser at informal talks with Authority members and staff in Townsville on 6 September.

## Membership of G.B.R.C.C.

The membership of the Great Barrier Reef Consultative Committee was announced by the Minister for Science and the Environment, Senator Webster, after the Brisbane Ministerial Council meeting.

The Committee will advise the Minister and the Ministerial Council on matters relating to the operation of the Great Barrier Reef Marine Park Act. It will also advise the Great Barrier Reef Marine Park Authority on development of the Marine Park.

The Minister said the Queensland and Commonwealth Governments had each nominated seven committee members, with the fifteenth member being the Acting Chairman of the Authority, Mr Graeme Kelleher.

Full membership is:

- Mr J. Ballingall — Queensland Commercial Fisherman's State Council
- Dr J. Bunt — Director, Australian Institute of Marine Science
- Mr D. Connell — Australian Conservation Foundation
- Mr P. Eccles — Commonwealth Department of Transport
- \* Mr D. Fraser — Commonwealth Department of Industry and Commerce
- Mr E. Hegerl — Australian Littoral Society and Queensland Conservation Council
- Mr J. Izatt — Queensland Game Fishing Association
- \*Mr G. Kelleher — Acting Chairman, Great Barrier Reef Marine Park Authority.
- Dr P. Mather — Great Barrier Reef Committee
- \*Mr G. McKauge — Chairman, Reef Region Tourism Task Force
- \*Dr P. Saenger — Deputy Chairman, Queensland Amateur Fishing Council
- Dr G. Saunders — Queensland National Parks and Wildlife Service
- Professor K. Stark — James Cook University of North Queensland
- \*Mr K. Thompson — Department of Science and the Environment
- Mr J. Woods — Queensland Department of Mines

\* Denotes new members.

## "No Drilling Risks" — Minister

The Minister for Finance, Mr Eric Robinson, who was convenor of the Ministerial Council in place of Mr Phillip Lynch, told a news conference later that there was no risk of oil drilling taking place on the Great Barrier Reef.

Mr Robinson said that AMSTAC (Australian Marine Sciences and Technologies Advisory Committee) had been asked to study the oil drilling question in relation to the Great Barrier Reef Region.

It would be a very lengthy and detailed study taking a considerable number of years. No drilling would be permitted before that study concluded.

## Heron Is. Erosion Problems

By P.G. Flood \*

The shape of both the eastern and western ends of Heron Island has undergone significant changes since the early 1950's, with the consistent westward movement of sediment within the beach zone.

Measurements obtained from surveys and from vertical aerial photographs, as well as field observations, indicate that the entire island is being slowly eroded. The research was financed by the Australian Research Grants Committee and by the University of Queensland.

### The Reasons

The initial blasting (ca. 1945) of the gap in the reef rim to provide small boat access at low tide allowed ebbing tidal currents passing around the island to be channelled in the direction of the gap rather than radially out over the reef rim. The increased velocity of the redirected tidal currents, which now move across the area of the sand spit adjacent to the western beach, produced erosion of the spit and beach.

The management of the tourist resort attempted to protect their buildings by constructing a vertical-faced retaining wall along the eroding sector of the beach. The alignment of the wall reflects waves approaching the island from the northwest or northeast and increases the erosive capacity of such waves. This promotes erosion in the areas adjacent to the end of the wall. Extensions were made to the wall during 1964-65, and these extensions caused further realignment of the beach.

In 1966 a channel was dredged into the reef rim and reef flat to provide boat harbour facilities for the island. During the dredging the reef was subjected to severe cyclonic activity (cyclone "Dinah", February 1967) which caused infilling of the dredged area and other undocumented readjustments to the beach. Redredging of the silted harbour occurred in 1967 and the spoil was placed within the beach zone on the south western corner of the island. This sediment formed a base for the helipad which was built in 1968.

Sediment was prevented from entering the harbour by walls which were constructed around it. These were approximately one metre above the level of the reef flat, nevertheless, erosion and readjustment of the beach continued and the helipad was endangered. More retaining walls were constructed as measures designed to protect the island from further erosion.

The harbour walls were breached and flattened during the cyclone season of 1971. Tidal currents and Cyclone "Emily" (April 1972) produced marked changes to the beaches by infilling the boat harbour through these breaches with sediment derived from the reef flat and beach.

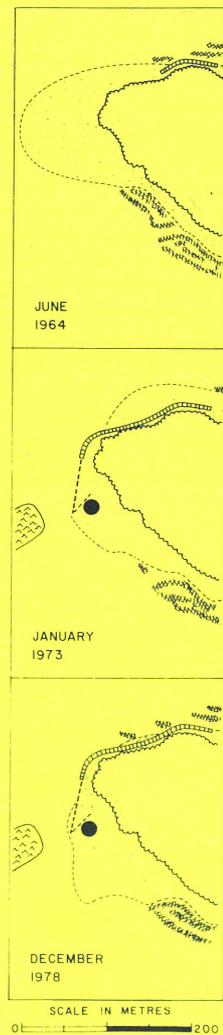
A major portion of the 20000 m<sup>3</sup> of sediment which was dredged from the boat harbour in 1972 has relocated itself southward of the helicopter pad. The concrete and timber retaining walls

which were constructed to protect the buildings serve to reflect and refract waves in such a manner that it is most unlikely that the sediment will find its way back to the north western corner of the island.

### Erosion Control Measures

At Heron Island the movement of sediment within the beach zone has been accelerated by the blasting of the gap in the reef rim, the construction of the boat harbour, and the building of revetment walls. To lessen the harmful effects of continued erosion, the retaining walls surrounding the harbour need to be rebuilt. They must be of a sufficient elevation (approximately one metre above the reef flat so as to prevent ebbing tidal currents from passing through the harbour).

\* Dr Flood is from the Department of Geology and Mineralogy at the University of Queensland.



Heron Island Erosion.

Reflections is published by the Great Barrier Reef Marine Park Authority to provide information about the Great Barrier Reef, and to give people an opportunity to express opinions on related issues.

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