

Great Barrier Reef Marine Park Authority

ANNUAL REPORT
1977-78



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**Great
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Park
Authority**

**ANNUAL REPORT
1977-78**

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CANBERRA 1978

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Great Barrier Reef Marine Park Authority

Commonwealth Bank Building,
370 Flinders Street, Townsville
Qld 4810

The Honourable R. J. Groom
Minister of State for Environment,
Housing and Community Development
Parliament House
Canberra, A.C.T. 2600

My dear Minister,

It is with pleasure I submit to you the second Annual Report of the Great Barrier Reef Marine Park Authority, as required under section 60(1) of the *Great Barrier Reef Marine Park Act 1975*.

During the year under review, much of the effort of the Authority has been directed towards obtaining basic information on the biology and geomorphology of the Capricornia Section of the Great Barrier Reef Region, and developing the techniques with which to obtain this information in preparation for declaration of the first part of the Marine Park. In this the Authority has received a high level of co-operation from departments and authorities of both the Commonwealth and Queensland Governments.

I would like to take this opportunity to acknowledge the support of the Department of Environment, Housing and Community Development and the efforts of the Authority's small staff without which the activities outlined in the following pages would not have been possible.

Yours sincerely,

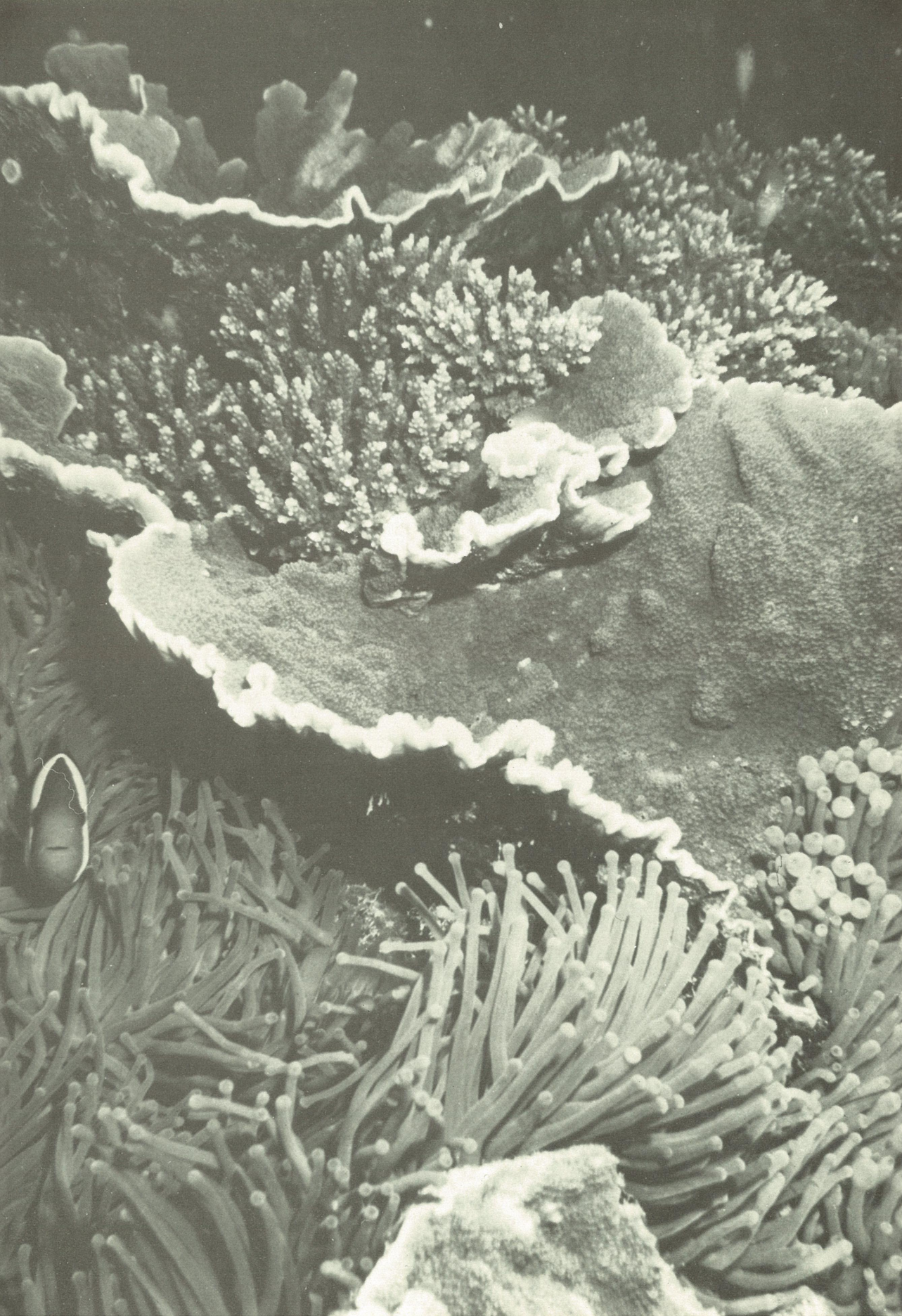
H.J. HIGGS
Acting Chairman



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Opposite page: A diver taking a close-up photograph of *Dendrophillia*, an ahermatypic (non-reef building) coral, at 24 metres on Wheeler Reef off Townsville.
Note the diverse coral community which can only occur at this depth in clear water areas.
Photograph: Great Barrier Reef Marine Park Authority



The Marine Park concept

INTRODUCTION

The Great Barrier Reef is widely recognised as one of the most important features of Australia's natural heritage. It is the world's largest assemblage of living corals and associated organisms, and is a source of fascination and pleasure for many people.

This complex and diverse ecosystem attracts numerous tourists, scientists, students and fishermen, both from Australia and from overseas. In recent years there has been increasing public awareness of the need to conserve and manage the marine environment generally, and that of the Reef in particular, and of its possible vulnerability to ever-increasing human activities. Many people have seen a need to control the many pressures to which the Reef is subjected.

A reflection of the Commonwealth Government's concern for this natural treasure is the *Great Barrier Reef Marine Park Act 1975* which became law on 20 June 1975. The Act established the Great Barrier Reef Marine Park Authority and the Great Barrier Reef Consultative Committee and is designed to provide for the establishment, control, care and development of a marine park in the Great Barrier Reef Region.

PLANNING

The Authority has the responsibility of planning a system of management of the Great Barrier Reef which encourages human use and enjoyment of the area yet ensures the conservation of the Reef.

The majority of usage of the Great Barrier Reef is recreational or tourist based and, as one of the world's major natural recreational resources, the Great Barrier Reef will become more important in an era of increasing leisure. Already the need for management to maintain the attraction of heavily used reef areas is apparent on the Great Barrier Reef. As the demand for access increases so does the importance of sensitive management of the Great Barrier Reef as a whole and of heavily used reefs in particular.

MEMBERSHIP OF THE AUTHORITY

The Great Barrier Reef Marine Park Authority is a three-member statutory authority comprising two part-time members and a full-time Chairman.

In July 1976 Dr D.F. McMichael was appointed as Acting Chairman of the Authority. At present the Authority is headed by Mr H.J. Higgs, the Acting Chairman, who is also the Director of Environment in the Department of Environment, Housing and Community Development. Mr Higgs succeeded Dr McMichael on 20 March 1978.

The Queensland Government was invited to nominate one of the three members and Sir Charles Barton, formerly Co-ordinator General for Queensland, was appointed for two years. Sir Charles Barton's term of office expired on 30 June 1978. He has been succeeded by the present Co-ordinator General for Queensland, Mr S. Schubert.

Opposite page: *Montipora* plate coral and a brittle form of the staghorn coral *Acropora* near a large anemone and its associated anemone fish *Amphiprion*. This is one example of the complex interrelationships which occur on the Great Barrier Reef: the anemone relies on the protection of the coral while the fish relies on the anemone's tentacles for protection.
Photograph: Great Barrier Reef Marine Park Authority

The considerable contribution of Dr McMichael and Sir Charles Barton to the Authority's progress and development during its formative years is greatly appreciated.

The third member, Dr J.T. Baker, Director of the Roche Research Institute of Marine Pharmacology, was nominated by the Commonwealth Government and appointed for three years.

The Authority met five times during 1977-78 and held most of its meetings at centres on the Queensland coast. Details are given in Appendix B.

FUNCTIONS OF THE AUTHORITY

The first function of the Authority is to recommend areas within the Great Barrier Reef Region (see Figure 1) for declaration as parts of the Great Barrier Reef Marine Park. Following declaration of an area, zoning plans must be prepared and appropriate regulations promulgated and implemented. The Authority is also responsible for carrying out research relevant to the Marine Park, either by itself or in co-operation with other organisations.

The Authority plays a major role in promoting joint Commonwealth-State involvement and co-operative arrangements in environmental management in the Great Barrier Reef Region.

GREAT BARRIER REEF CONSULTATIVE COMMITTEE

Joint Commonwealth-Queensland advisory body

The Consultative Committee was also established under the *Great Barrier Reef Marine Park Act 1975*. At present it comprises nineteen members, eighteen nominated equally by the Commonwealth and Queensland Governments, and one representative of the Authority. Its functions are to advise the Commonwealth Minister for Environment, Housing and Community Development on matters related to the operation of the Act and to advise the Authority on matters related to the declaration and zoning of the Marine Park.

As well as its statutory advisory role, it provides a forum for contact and discussion between Commonwealth and State government agencies, and between the public and private sectors, various user groups and conservationists.

Wide-ranging membership

The Act provides for a minimum of thirteen members. In the event, nineteen members were appointed. This increase enables the Committee to reflect the wide range of conservation, community and government interests which led to the establishment of the Authority and which require continuing consideration and evaluation. The Committee draws upon the expertise of its members and their organisations and can invite other expert advisers, as appropriate, to assist in discussion of particular topics.

The original members of the Committee were appointed on 22 September 1976 for a period of three years. During 1977-78 the Committee's membership changed. Members of the Committee at 30 June 1978, and Committee meetings for the year, are listed in Appendix C. The Act requires that the Committee meet at least once per annum and, in 1977-78, it met on two occasions.

ESTABLISHMENT OF TOWNSVILLE OFFICE

During 1977-78 the staff of the Authority progressively moved from Canberra to its permanent headquarters in Townsville. The Authority is situated in the Commonwealth Bank Building, Flinders Street, in the city centre.

Townsville was chosen because of its central location to the Reef and its access to the regional centres along the coast. There is also a concentration of scientific and

research institutions in Townsville with which the Authority works closely, notably the Australian Institute of Marine Science, the James Cook University of North Queensland, the Commonwealth Scientific and Industrial Research Organisation and the Queensland National Parks and Wildlife Service.

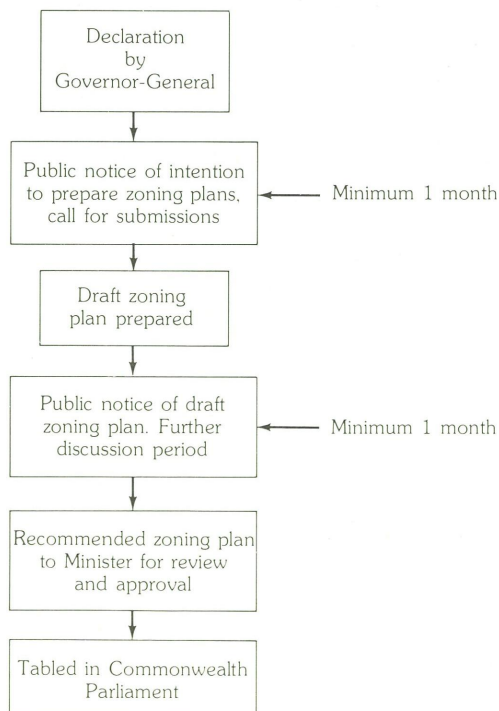
PUBLIC PARTICIPATION

Widespread public interest in the Great Barrier Reef, coupled with the varied uses made of the Region, led to inclusion in the legislation of a statutory two-stage public participation process during the development of zoning plans. The Authority is committed to ensuring that people who will be directly affected by zoning and management plans and interested members of the general public throughout Australia can contribute to the development of these plans. Accordingly the Authority has endorsed the development of a program of public involvement for both interest groups.

The Authority has contacted many organisations to seek their views on the zoning and management of the Reef and has initiated investigations on areas of the Great Barrier Reef Region to be included as part of the Marine Park.

Following declaration of a part of the Marine Park by the Governor-General on the recommendation of the Authority, public notices must be placed in the national press advertising the Authority's intention to prepare zoning plans and calling for public submissions. All comments are to be considered and appropriate information and suggestions included in the draft zoning plan. Following completion of the draft zoning plan public notice is again given and the plan is placed on display for further discussion and comment. On each occasion a minimum period of one month is required for public consideration.

Only after this public involvement process has been carried out can the Authority submit the recommended zoning plans, together with representations from the public, to the Minister for his review, approval and subsequent tabling in the Commonwealth Parliament.



Research and planning

PROCEEDING WITH PROCLAMATION

The majority of the Great Barrier Reef Region, as defined in the Act (see Figure 1), will probably, in the long term, be proclaimed as the Great Barrier Reef Marine Park. In the short term, however, the Authority decided to recommend declaration of selected parts of the Region for inclusion in the Marine Park. Although the Authority could theoretically recommend declaration of the whole Region immediately, the practical problems of zoning and regulation preclude this approach.

Areas may be declared by the Governor-General on the basis of a report and recommendations to Executive Council prepared by the Authority. Once an area of the Region is declared, zoning and management plans can then be prepared for that area. Regulations which will provide for the protection, conservation and controlled use of the Marine Park may also be promulgated to give effect to the zoning plans.

The Authority conducted an overview study of the current recreational uses of the Region and subsequently decided to make a closer investigation of an area within the Region which includes the Capricorn and Bunker groups of reefs with a view to declaring all or part of this area as the first section of the Marine Park. This will be known as the CAPRICORNIA SECTION.

ACQUIRING INFORMATION

Although there is no statutory requirement for public involvement prior to declaration, the Authority decided that public participation at this stage could generate useful information. Accordingly, in June 1977, the Authority placed advertisements in newspapers circulating in Rockhampton, Gladstone, Bundaberg and Brisbane, calling for information on the Capricornia Section. This information has been taken into account in the preparation of the declaration report.

The Authority was also assisted by the Great Barrier Reef Committee which prepared a report on the conservation and use of the Capricorn and Bunker groups of islands and coral reefs.

While the Capricornia Section is one of the best known and most heavily used areas of the Great Barrier Reef Region, much basic information was not available. There has been no overall assessment of the distribution of corals or fish around any reef and no comparison of reefs within the Section. The Authority had therefore to undertake its own research and development of techniques to obtain basic information as a prerequisite to declaration, zoning and management. The basic information required falls into three broad categories of research:

- studies of marine organisms and ecosystems and their distribution, reef geomorphology, hydrology and other aspects of the biological and physical environment; a sound, basic understanding of what constitutes the Reef and how it has evolved;
- knowledge of the impact of human uses on the biological and physical environment, leading to identification of the levels of use at which critical damage begins to occur;

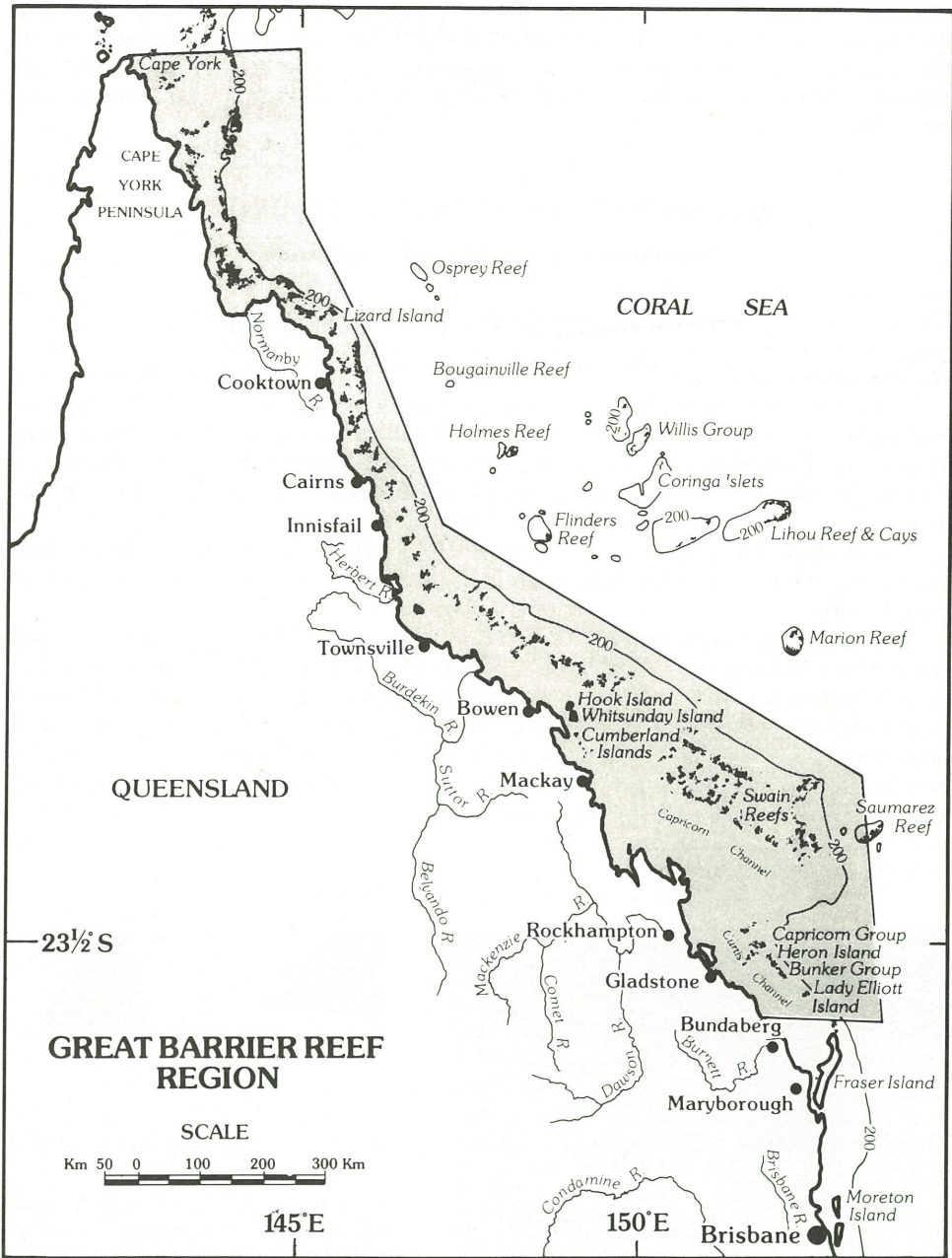


Figure 1

- demographic, sociological and economic studies which will enable the Authority to anticipate changing patterns and intensities of use and adjust its planning accordingly.

The size of areas to be investigated and the problems of collecting sufficiently detailed information from a complex environment pose difficulties for marine park

planners throughout the world. In this poorly developed area of expertise and knowledge the Authority has had first to evaluate and select methodologies for its information collection program. In the critical areas of coral community and reef fish population studies the Authority has been obliged to pioneer methods of suitable scale and detail.

DEVELOPMENT OF SURVEY TECHNIQUES

Biological reconnaissance methods

Corals and other sedentary organisms

The Authority has concentrated a major proportion of its technical effort upon developing and refining techniques for reconnaissance survey and biological characterisation of entire coral reefs.

In August 1977 the Authority conducted a small workshop at which methods for reconnaissance survey of corals and other sedentary reef animals and plants were considered. Participants in this workshop included scientists from the Australian Institute of Marine Science, the Queensland Fisheries Service, the James Cook University of North Queensland and the CSIRO.

The workshop was followed in September by a field study on Wheeler Reef, near Townsville, during which the field methods were tested for practical application and reproduction.

The basic reconnaissance technique adopted by the Authority consists of trained assessors conducting surveys of the perimeter of reefs and back reef lagoonal areas. Each individual survey continues until a boundary of biological zones is reached or for twenty minutes, whichever is less. The information from these surveys is recorded directly in a form suitable for computer coding. The assessor is required to report for each section the average extent to which the observed substrate is covered by live hard coral, soft coral, algae and standing dead coral, to make a formal description of the underwater morphology and to note the visually dominant organisms and the aesthetic appeal of the area.



A Great Barrier Reef Marine Park Authority officer participating in the underwater survey of benthic communities. Photograph taken during the techniques assessment program on Wheeler Reef.
Photograph: Great Barrier Reef Marine Park Authority



Great Barrier Reef Marine Park Authority officers debriefing after an underwater survey in the Capricorn-Bunker groups of reefs. The flags are attached to buoys and are used for marking points for accurate position fixing by the Australian Survey Office team.
Photograph: Great Barrier Reef Marine Park Authority

The attribute scores are statistically treated and a series of computer maps is produced showing the distribution of characteristics around each reef. These survey methods are under continuing development to increase accuracy, reliability and efficiency.

Fish

The Authority has made initial assessments of methods for surveying the relative abundance of reef fish in two broad groupings. These are the predatory fish, which form the basis of sport and commercial reef fishing, and the small colourful reef fish. The Authority has adopted a method of counting predatory fish which is similar to one developed by the Queensland Fisheries Service. The Authority is, however, aware of inherent difficulties in the method which arise from the variable behaviour of the fish throughout the day and throughout the tidal cycle, and is conducting a study to evaluate refinements and alternatives to the method currently in use.

Physical survey

The Australian Survey Office has played a major role in the field study program of the Authority. The Office and the Authority conducted a pilot study of survey techniques and field operational methods on Wistari and Heron Island Reefs during November-December 1977.

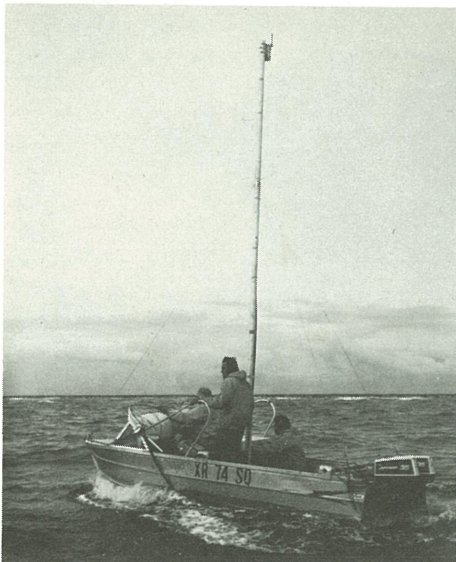
The survey plans and maps resulting from this pilot study were evaluated at a meeting in February. Officers of the Australian Institute of Marine Science, the Bureau of Mineral Resources and the Queensland Fisheries Service participated in this evaluation and a series of standardised specifications were adopted to ensure that the reef survey will meet a wide range of needs.

FIELD STUDIES

The Capricornia Section

The Authority and the Australian Survey Office

The first phase of a major field program of physical survey and biological reconnaissance of the reefs of the Capricorn and Bunker groups with the Australian Survey



Officers of the Australian Survey Office during accurate depth recording of the reef systems. The pole is part of the point-fixing system which gives an accuracy of up to 2 metres.

Photograph: Great Barrier Reef Marine Park Authority



An officer of the Australian Survey Office establishing one of the reference points for accurate position fixing of their dinghy which is used for obtaining echosounding profiles.

Photograph: Great Barrier Reef Marine Park Authority

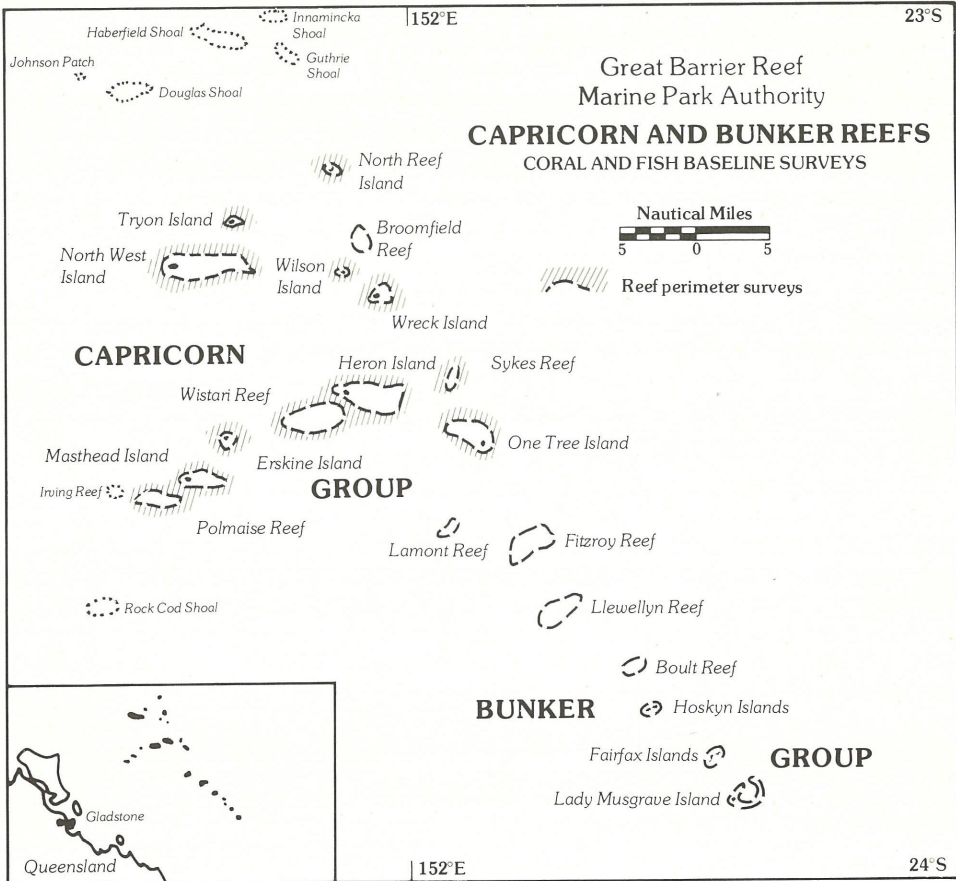


Figure 2



Officers of the Bureau of Mineral Resources using a hydraulically driven coring drill on the reef flat of Wreck Island reef in the Capricorn Group, researching into the evolution and structure of reefs
 Photograph: Great Barrier Reef Marine Park Authority



A researcher from James Cook University sampling a *Porites* head for radio-metric dating, using an air-driven coring drill which takes cores of up to 1 metre in depth.
 Photograph: J. Barnett

Office took place between April and June 1978. During this time, despite restrictions imposed by considerable periods of bad weather, survey and reconnaissance of the reefs of the Capricorn group were substantially achieved (see Figure 2).

A second survey, to be conducted between October and December 1978, should complete the Capricorn-Bunker program.

Completion of the survey and reconnaissance program will provide the Authority with a comprehensive description of the condition and the resources of the reefs of the area and a sound basis for planning the zoning of the Capricornia Section of the Great Barrier Reef Marine Park.

The Bureau of Mineral Resources

The Authority made funds available during 1977-78 to assist the Bureau of Mineral Resources in the conduct of a basic program of geological research into the evolution and structure of the reefs of the Capricornia Section. The results of this program will add to the Authority's knowledge of this area.

SUPPORTING STUDIES **Far northern area of the Reef**

During April 1978 the Authority held a major workshop in Townsville to review the state of knowledge about the resources and utilisation of the section of the Great Barrier Reef extending from Lizard Island northwards.

The workshop was opened by the Minister for Environment, Housing and Community Development, the Hon. Ray Groom, M.P. A full list of participants in the workshop is provided in Appendix H.

The workshop proved to be extremely valuable for the Authority in providing information from a wide range of disciplines on a sector of the Great Barrier Reef about which relatively little has been written. It was concluded that although the area contains important shipping lanes and supports a range of fisheries, it has probably not been significantly disturbed. The region of Raine Island was discussed as being of particular significance as the major world nesting area for Green Turtles and as a historically important site.



Pictured at the Authority's workshop on the northern sector of the Great Barrier Reef are (from left) the Acting Chairman of the Great Barrier Reef Marine Park Authority, Mr. H.J. Higgs, the Minister for Environment, Housing and Community Development, the Hon. R. Groom, M.P., and Dr J.T. Baker, member of the Authority.
Photograph: Alex Trotter

The Cairns area

The Authority has resolved to investigate the area between Innisfail and Cook's Passage, near Lizard Island, for possible declaration as the second section (Cairns area) of the Great Barrier Reef Marine Park. As the first step in this investigation the Authority commissioned the Geography Department of the James Cook University of North Queensland, which has worked extensively in the area, to produce a topographical and descriptive map and report of the reefs of the area.

The Authority has also commissioned the Great Barrier Reef Committee to prepare detailed reports on biological, geological and historical aspects of three areas of the Great Barrier Reef from 14°30'S to 20°S. The first of these reports will concern the area from Cook's Passage to Innisfail. The other two areas are the Swain Reefs and the area of Innisfail to Bowen (Townsville area).

Survey of recreational usage of the Reef

A survey of recreational usage of the Great Barrier Reef commissioned by the Authority was completed in November 1977. The survey was conducted by Ms Alison Domm and was based on initial questionnaire and follow-up interview studies of recreational and scientific users of the Great Barrier Reef. It provides valuable baseline information on patterns of use and user expectations at centres all along the Queensland coast.

Bibliography of the Great Barrier Reef

The Authority in 1977 commissioned Dr E. Frankel of Sydney University to prepare a bibliography of the literature relating to the Great Barrier Reef. The preparation of this bibliography was completed in April 1978. It lists and indexes approximately 5 000 books, technical papers, popular articles, charts and films. This bibliography is being published for the Authority by the Australian Government Publishing Service.

Biological studies

Some projects on aspects of the biology of reef organisms of relevance to the long-term program of the Authority were financially supported and are listed in Appendix G together with other studies funded by the Authority.

MEETINGS

The Authority was represented at the following scientific meetings where Authority or staff members reported on the aims of the Authority and the scientific work program.

- (1) Northern Fisheries Committee — Technical Meeting: Brisbane — July 1977
- (2) Biological Resources Management Seminar: Canberra — Aug. 1977
- (3) Fifth World Underwater Congress: Brisbane — Sept. 1977
- (4) The Great Barrier Reef Committee: Brisbane — Nov. 1977
- (5) Australasian Sedimentologists Group of the Geological Society of Australia: Brisbane — Feb. 1978
- (6) Australian Development Assistance Bureau, International Ranger Training Program: April 1978
- (7) Environmental Economics Conference: Canberra — June 1978
- (8) Oceans '78: Melbourne — June 1978

Topical issues

OIL AND THE GREAT BARRIER REEF

The issue of drilling for oil on the Great Barrier Reef received much discussion in the media during 1977-78. The Authority recommended at a meeting in July 1977 that the results of research on the effects of oil on coral reefs should be available before any decision is reached on whether or not to permit exploratory drilling.

Media discussion on the oil drilling question continued, and on 8 May 1978 two members of the Authority made a strong and unambiguous stand on the issue. In their press release, Dr J.T. Baker and Sir Charles Barton reaffirmed the Authority's view that adequate research needs to be conducted before any decision on oil drilling can be made. This view is in accordance with the view of the Chairman of the joint Commonwealth-Queensland Royal Commissions' Report into Exploratory and Production Drilling for Petroleum in the area of the Great Barrier Reef. Sir Gordon Wallace, the Chairman of the Royal Commissions, had considered that drilling in the Great Barrier Reef should be postponed.

The members considered that drilling should only be permitted in the light of full scientific knowledge of all the effects of oil pollution on the delicately balanced ecosystems of the Reef. Research should encompass oil's direct and indirect effects, both short and long term, on corals and other marine life.

The threat to the Great Barrier Reef from oil is not limited to proposed oil drilling activities. Of more immediate concern are the risks associated with the passage of oil tankers and other shipping through the region. The Authority is seeking a co-ordinating role in the development of research into this potential problem as well as monitoring research by other organisations.

BECHE-DE-MER FISHERY

Recent moves to re-establish the traditional Aboriginal and Islander industry of beche-de-mer fishing have attracted substantial government support.

The Commonwealth Government assisted the industry by financing a feasibility study (Department of Aboriginal Affairs) and the training of divers was supported by the Department of Employment and Industrial Relations under the N.E.A.T. Scheme, assisted by an instructor from the Department of Defence (Navy). Licensing of the new industry was handled by the Commonwealth Department of Primary Industry and the Queensland Fisheries Service.

The Department of Primary Industry invited the Authority to nominate reefs which should be excluded from a trial fishery. The Authority nominated 30 out of 120 reefs in the section of the Great Barrier Reef between Port Douglas and Bowen. These reefs are of particular importance in current recreational, tourist and scientific use.

The Queensland Fisheries Service excluded approximately 50 more reefs in this section because of their association with coral cays. The remaining reefs were then available for inclusion in the pilot study.

The Authority is concerned to balance the economic and social desirability of commercial activities with the long-term conservation of the Reef. The Authority would support the re-establishment of the beche-de-mer industry provided that preliminary studies had established the extent of the resource and that the proposed rate of harvesting did not pose a threat to the ability of the beche-de-mer population to regenerate.

CROWN OF THORNS STARFISH

Prior to 1977, the last documented report of major populations of crown of thorns starfish (*Acanthaster planci*) arose from a survey in July 1975 of the north eastern Swain Reefs, approximately 240 kilometres east of Mackay. At that time it was feared that the crown of thorns starfish populations observed would migrate southwards through the Swain Reefs causing massive damage to the living corals of the area.

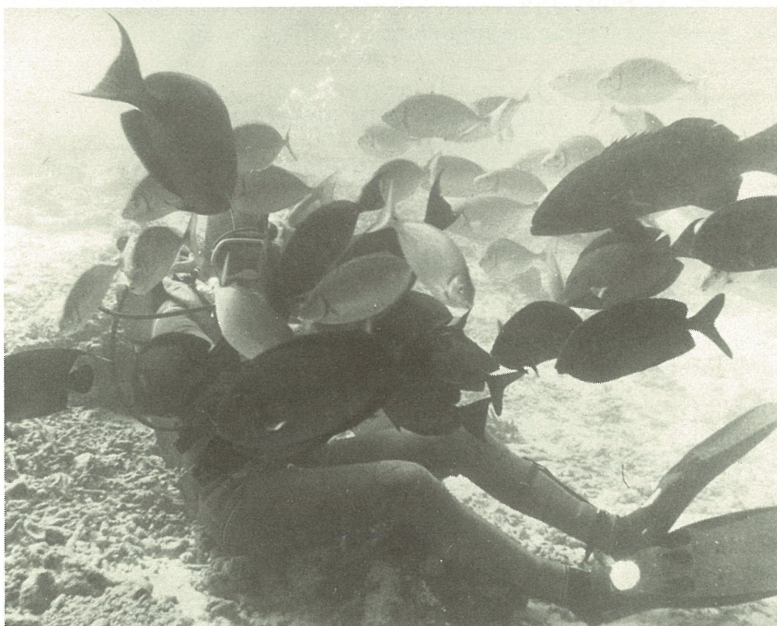
In 1977 therefore, the Authority assisted the Queensland Fisheries Service in an extensive survey of the Swain Reefs to check the status of the populations observed in July 1975 and to look for indications of migration of the crown of thorns starfish.

The Service made spot checks of the perimeter of 102 reefs and, in addition to searching for evidence of the presence of crown of thorns starfish, recorded information on the sedentary animals and plants of the reef at survey locations using a version of the methods developed and tested during the Wheeler Reef study.

In all, 1721 locations on 102 reefs were checked. A total of 16 locations on 9 reefs were regarded as infested since more than 11 starfish were counted in a one-minute spot check. However, 1555 locations yielded no crown of thorns starfish.

The results indicated that the principal area of crown of thorns starfish activity remained in the north-eastern Swain Reefs where it had been identified in July 1975. The central Swain Reefs were free of crown of thorns starfish and there were no indications that migration of adult starfish from the north-east, which had been feared after the 1975 study, had taken place. There were small numbers of crown of thorns starfish on some of the southern Swain Reefs in an area which had not previously been surveyed but from which there had been occasional reports of crown of thorns starfish.

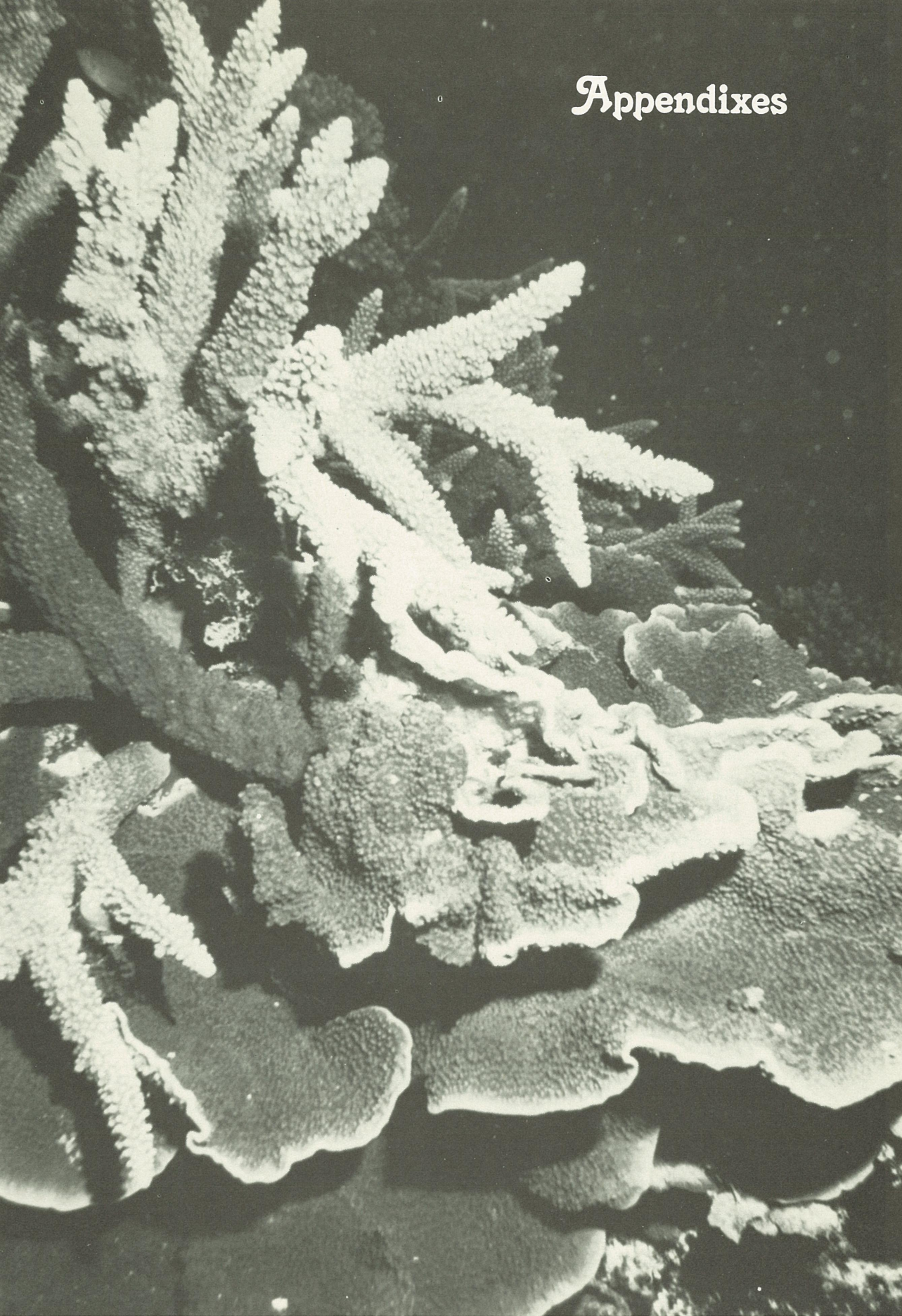
In summary, the Swain Reefs do not appear to be substantially threatened by predation of crown of thorns starfish; however the Authority remains alert and will investigate any detailed reports it receives of major new populations of crown of thorns starfish in the Swain Reefs or elsewhere in the Great Barrier Reef Province.



Fish surrounding a Great Barrier Reef Marine Park Authority diver at 'the Bommie' at Heron Island. It is very unusual for a diver to be confronted by such a diversity of fish at such a close range; these are accustomed to being fed by the many divers visiting this site.

Photograph: Great Barrier Reef Marine Park Authority

Appendixes



APPENDIX A

FINANCIAL STATEMENTS
GREAT BARRIER REEF MARINE PARK AUTHORITY
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE PERIOD 1 JULY 1977 TO 30 JUNE 1978

	1977-78	1976-77
	\$	\$
Cash at bank and on hand 1.7.77	8 272	NIL
RECEIPTS		
Appropriation from the Commonwealth Government	370 000	150 000
	<u>378 272</u>	<u>150 000</u>
PAYMENTS		
Salaries and payments in the nature of salaries	143 784	57 464
* Chairman and part-time members—remuneration and allowances	6 503	11 794
Travel and subsistence	31 645	9 136
Consultative Committee fees and expenses	9 194	9 522
** Superannuation — employer's contribution	37 500	14 366
Office requisites and stationery	13 475	1 948
Postage, telephones and telegrams	5 348	500
Office rental and cleaning	10 842	4 423
Publicity and advertising	6 605	3 122
Research and investigations	22 421	14 500
Capital expenditure		
— Furniture and fittings	8 804	1 111
— Plant, vehicles and equipment	9 826	7 005
— Other library service	557	—
Other expenses		
— Incidentals	9 706	1 091
— Reimbursement to Department of Environment, Housing and Community Development for administrative cost	<u>13 757</u>	<u>5 746</u>
	329 967	141 728
Cash at Bank and on hand 30.6.78	<u>48 305</u>	<u>8 272</u>
	<u>378 272</u>	<u>150 000</u>

* The Director of Environment, Department of Environment, Housing and Community Development, is acting as Chairman of the Authority until a full-time Chairman is appointed. Thus no remuneration has been paid.

** This payment was made (at the suggestion of the Department of Finance) to ensure full disclosure of all costs, direct and indirect, related to the operations of the Authority.

H. J. HIGGS
Acting Chairman

R.T. WILLIAMS
Executive Officer

STATEMENT OF CAPITAL ASSETS (AT COST) AS AT 30 JUNE 1978

	1977-78	1976-77
	\$	\$
Plant, motor vehicles and equipment	16 831	7 005
Furniture and fittings	9 915	1 111
* Other — library services	895	—
	<u>27 641</u>	<u>8 116</u>

* This figure incorporates Library Service purchases from the last financial year which were not previously disclosed.

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H. J. HIGGS
Acting Chairman

R.T. WILLIAMS
Executive Officer

AUDITOR-GENERAL'S REPORT

Auditor-General's Office
Canberra House, Marcus Clarke St,
Canberra City, A.C.T. 2601

The Honourable the Minister for
Environment, Housing and
Community Development
Parliament House
Canberra, A.C.T. 2600

21 September 1978

Dear Sir,

GREAT BARRIER REEF MARINE PARK AUTHORITY

In compliance with section 60(2) of the *Great Barrier Reef Marine Park Act* 1975, the Authority has submitted for my report financial statements in the form approved pursuant to the provisions of section 60(1) of the Act, comprising:

- Statement of Receipts and Payments for the year ended 30 June 1978; and
- Statement of Capital Assets (at cost) as at 30 June 1978.

Copies of the statements are attached for your information.

I now report in terms of section 60(2) of the Act, that the statements are in agreement with the accounts and records of the Authority and in my opinion:

- (a) the accompanying statements are based on proper accounts and records; and
- (b) the receipt and expenditure of moneys and the acquisition of assets by the Authority during the year have been in accordance with the Act, except that expenditure between 1 July 1977 and 12 September 1977 was incurred without estimates of expenditure being approved by the Minister in accordance with the provisions of section 54(2) of the Act. No assets were disposed of during the year.

Yours faithfully,

D.R. STEELE CRAIK
Auditor-General

APPENDIX B

GREAT BARRIER REEF MARINE PARK AUTHORITY MEETINGS DURING 1977-78

- | | |
|-----------------------|-----------------------|
| (1) 6-8 July 1977 | Townsville and Cairns |
| (2) 19 September 1977 | Mackay |
| (3) 6 December 1977 | Canberra |
| (4) 1-2 February 1978 | Townsville |
| (5) 19 April 1978 | Townsville |

APPENDIX C

GREAT BARRIER REEF CONSULTATIVE COMMITTEE

Membership at 30 June 1978

Mr L.F. Backen	Commonwealth Department of National Development
Mr J.D. Ballingall	Queensland Commercial Fishermen's State Council
Mr J.F.S. Brown, A.O., M.C. (elected Chairman)	Queensland Confederation of Industry
Dr D. Connell	Australian Conservation Foundation
Mr P.B. Eccles	Commonwealth Department of Transport
Mr P. Ellis	Queensland Co-ordinator General's Department
Dr M. Gilmartin ^(a)	Australian Institute of Marine Science
Mr E. Hegerl	Queensland Conservation Council
Mr J.H. Izatt	Queensland Game Fishing Association
Mr J.P. Killoran	Queensland Department of Aboriginal and Islanders Advancement
Dr P. Mather	Great Barrier Reef Committee
Professor J.D. Ovington	Australian National Parks and Wildlife Service
Mr A.J. Peel ^(b)	Queensland Department of Harbours and Marine
Mr E.A. Purnell-Webb ^(c)	Commonwealth Department of Primary Industry
Dr G.W. Saunders	Queensland National Parks and Wildlife Service
Professor K. Stark	James Cook University of North Queensland
Mr J. Wilson	Queensland Department of Tourist Services
Mr J.T. Woods	Queensland Department of Mines
Dr J.T. Baker ^(d)	Great Barrier Reef Marine Park Authority

Meetings during 1977-78

- | | |
|-----------------------|----------|
| (1) 20 September 1977 | Mackay |
| (2) 28 February 1978 | Brisbane |

(a) Dr Gilmartin resigned as Director of the Australian Institute of Marine Science on 31 May 1978 and had not been replaced with a permanent Director at 30 June 1978.

(b) Mr Peel resigned on 2 February 1978 and had not been replaced at 30 June 1978.

(c) Mr Purnell-Webb replaced Mr A.G. Bollen, who retired on 15 September 1977.

(d) Dr Baker replaced Dr D. McMichael as the Authority's nominee on 28 February 1978.

APPENDIX D

STAFF OF THE AUTHORITY

During 1977-78, the following officers worked either full or part time for the Authority.

Rod Williams (Executive Officer), B.E., B.Sc.
Jane Carter, B.A.
Pat Craig
Wendy Craik, B.Sc.(Hons), Ph.D.
Grant Hawley, B.A. (Hons)
Linda Hay, B.Sc.
Richard Kenchington, M.Sc.
Rod Lacy
Rod McCall, B.A.
Maureen O'Donnell
Daniel Quin, B.Town Planning
Les Scott, B.Ec.
Andrew Skeat, B.Envir.Sc.
Chris Smalley, B.Sc.(Hons)
Dianne Steffens
Soames Summerhays, B.Sc.
Anne Wallace, B.A.
Garry Watkins
Jan Woodham
Simon Woodley, B.A.
Len Zell, B.Sc.

APPENDIX E

CHRONOLOGY OF EVENTS

1977

- | | |
|---------------|--|
| 6 July | Authority meeting MPA 7 held in Townsville. |
| 6 July | Public discussion held with various reef user groups in Townsville on their concerns and the aims of Authority. |
| 7 July | Authority meeting MPA 7 continued in Cairns. |
| 7 July | Public discussions held with representatives of various reef user groups in Cairns on their concerns and the aims of Authority. |
| 8 July | Reconnaissance survey of Green Island and Michaelmas Cay undertaken with officers of the Queensland Fisheries Service. |
| 13 July | The Authority made a submission to the House of Representatives Select Committee on Tourism. Mr R.T. Williams, Executive Officer, appeared before the Committee to answer questions. |
| July-November | Public submissions received as a result of press advertisements seeking information on the Capricorn and Bunker groups of reefs and islands. |
| 16 August | Discussions between the Acting Chairman of the Authority and the Chairman of Australian Institute of Marine Science Council in Canberra. |
| 17 August | Paper, 'Planning and Managing the Great Barrier Reef', was given by Dr. D.F. McMichael, Acting Chairman of the Authority, at Biological Resources Management Seminar in Canberra. |
| 22-26 August | M.S.J. Keys Young planner and staff member visited Gladstone to hold interviews on uses made of Reef with a large cross section of Gladstone community. |

- 23-31 August Staff of the Authority and the Australian National Parks and Wildlife Service undertook joint surveys and investigations on the Capricorn and Bunker group of reefs.
- 1 September The first issue of the Authority's newsletter *Reflections* was published.
- 11 September Paper, 'Planning and Concept of a Marine Park', was given by Dr J.T. Baker, Member of the Great Barrier Reef Marine Park Authority, at Fifth World Underwater Congress in Brisbane.
- 11-15 September James Cook University, Queensland Fisheries Service and Great Barrier Reef Marine Park Authority held a joint survey on Wheeler Reef.
- 19 September Authority meeting MPA 8 held in Mackay.
- 20 September Consultative Committee meeting CC 5 held in Mackay.
- 20 September Public discussions on the concerns of various reef user groups and the aims of the Authority held in Mackay.
- 28-29 September Dr. D.F. McMichael accompanied the Minister for Environment, Housing and Community Development, Hon. Kevin Newman M.P., on a familiarisation visit to Lizard Island.
- 1-3 October Staff training program to develop survey techniques held on Wheeler Reef.
- October Alison Domm report on Recreational Uses of the Great Barrier Reef was received. The report is based on hundreds of questionnaires and interviews of reef users.
- 16 October-4 November A survey for classification of Swain Reefs and a survey of the crown of thorns starfish were conducted jointly by the Queensland Fisheries Service and the Great Barrier Reef Marine Park Authority.
- 20 October Paper, 'Planning and Managing the Great Barrier Reef as a Marine Park', given by Dr. D.F. McMichael at Centre for Resources and Environmental Studies, Canberra.
- October Information brochure entitled *The Great Barrier Reef Marine Park* was distributed.
- 10 November Dr. D.F. McMichael met in Brisbane with the boards of management of the three research stations on the Great Barrier Reef.
- 11 November Discussions held with the Council of the Great Barrier Reef Committee after their annual meeting.
- 6 December Authority meeting MPA 9 held in Canberra.
- 19 December Authority office transferred from Cape Pallarenda to the Commonwealth Bank Building in the centre of Townsville and became the Authority's official headquarters.

1978

- 1-2 February Authority meeting MPA 10 held in Townsville. Discussions held with eminent scientist, Sir Maurice Yonge.
- 6 February The Authority was represented at the Australasian Sedimentologists Group meeting in Brisbane.
- 8 February Authority staff met with officers of the Australian Survey Office, the Australian Institute of Marine Science and the Queensland Fisheries Service to evaluate the pilot survey of Heron Island Reef and co-ordinate future survey requirements.

28 February	Consultative Committee meeting CC6 held in Brisbane.
1 March	The second issue of the Authority newsletter <i>Reeflections</i> was published.
2-10 April	Development of fish survey methodology undertaken at Lizard Island by staff of the Authority.
6-16 April	Coral and reef fish survey work undertaken in the Capricorn and Bunker Reefs.
19 April	Authority meeting MPA 11 held in Townsville.
20-21 April	Workshop conducted on the 'Reefs north of Lizard Island' at James Cook University Townsville and, opened by the Minister for Environment Housing and Community Development, Hon. Ray Groom, M.P.
20-22 April	A staff member accompanied the Minister, Hon. Ray Groom, on familiarisation visit to Lizard Island.
2-23 May	Further survey conducted by the staff of the Authority on the coral and fish of the Capricorn and Bunker Reefs.
13 May	Discussions held with the Chairman and Director of the Australian Heritage Commission in Townsville.
18 May	Governor J.A.C. Leviste from the Philippines visited the Townsville office of the Authority to discuss marine parks.
17-19 May	Meeting of various departmental representatives held in Canberra to discuss beche-de-mer fishing on the Great Barrier Reef.
29 May-6 June	Public display of maps and photographs held in the National Bank for the Townsville Pacific Festival.
1-2 June	Paper presented by staff to the Environmental Economics Conference in Canberra.
3-4 June	Paper presented by staff at 'Oceans 78' in Melbourne.
3-7 June	Brief survey conducted of tourist and recreational activities in Cairns.
20 June	Environmental Impact Statement of the Iwasaki Sangyo Co. Pty Ltd Farnborough Resort placed on view to the public at the Authority's Townsville office.
21 June	Written submission presented to House of Representatives Subcommittee Oil Spill Inquiry in Townsville. Staff of the Authority attended to answer questions.
24 June	Staff member accompanied the Director-General of World Wildlife Fund, Mr Charles de Haes, to Heron Island.

APPENDIX F

PUBLICATIONS AND REPORTS

Baker, J.T. (1977)	Management of the Great Barrier Reef Marine Park. <i>Proc. 3rd Int. Coral Symp.</i> , (Miami) 2, 597-604.
Domm, A. (1977)	Review of selected recreational and professional activities on the Great Barrier Reef.
Frankel, E. (1978)	Bibliography of the Great Barrier Reef Province.

- Hammond, L.S. and Kenchington, R.A. (1978) A biometric case for revision of the genus *Lingula* (Brachiopoda: Inarticulata) from Queensland, Australia. *J. Zool., Lond.*, 184, 53-62.
- James Cook University of North Queensland, Computer Centre (1978) Evaluation of information needs and computer services for the Great Barrier Reef Marine Park Authority.
- James Cook University of North Queensland, Library (1978) Evaluation of library requirements for the Great Barrier Reef Marine Park Authority.
- Kenchington, R.A. (1977) Growth and Recruitment of *Acanthaster planci* (L) on the Great Barrier Reef. *Biol. Conserv.*, 11, 103-18.
- Kenchington, R.A. (1978) The Crown of Thorns Crisis in Australia: A Retrospective Analysis. *Environm. Conserv.* 5, 1, 11-20.
- Kenchington, R.A. and Hammond, L.S. (1978) Population structure, growth and distribution of *Lingula anatina* (Brachiopoda) in Queensland, Australia. *J. Zool., Lond.*, 184, 63-81.
- M.S.J. Keys Young Planners Pty Ltd Public participation methods and program.

APPENDIX G

RESEARCH AND STUDIES FUNDED BY GREAT BARRIER REEF MARINE PARK AUTHORITY 1977-78

Project	Consultants/Researchers
Aerial photography of the Pompey/ Hard Line and northern Swain Reefs	James Cook University Geography Department
29 Survey of Wheeler Reef	Joint study by James Cook University, Queensland Fisheries Service and Great Barrier Reef Marine Park Authority
26 Survey of Swain Reefs	Joint study by Queensland Fisheries Service and Great Barrier Reef Marine Park Authority
114 Public participation methods and program	M.S.J. Keys Young Planners Pty Ltd
Information leaflets	Ms Ellen Goeden
116 Evaluation of library requirements for the Great Barrier Reef Marine Park Authority	James Cook University, Library
115 Evaluation of information needs and computer services for the Great Barrier Reef Marine Park Authority	James Cook University, Computer Centre
113 Bibliography of the Great Barrier Reef Province	University of Sydney, Dr E. Frankel
Computer analysis of coral baseline data	James Cook University, Dr T. Done
Map of Cairns reefs	James Cook University, Geography Department

Geological study of growth of Capricorn and Bunker Reefs	Bureau of Mineral Resources, Dr P. Davies
77 Scientific advice on three areas of Great Barrier Reef	Great Barrier Reef Committee
Coral infauna of Lizard Reef	Australian Museum, Dr P. Hutchings
Capricorn-Bunker shrimp fauna	Heron Island Research Station, Dr. S. Bruce
76 Review of selected recreational and professional activities on the Great Barrier Reef	Ms A. Domm

APPENDIX H

PARTICIPANTS AT WORKSHOP ON NORTHERN SECTION OF GREAT BARRIER REEF

List of speakers

Dr J. Allen, Chairman, Australian Institute of Marine Science Council
 Mr G.R.V. Anderson, Australian National Parks and Wildlife Service
 Professor K.J.C. Back, Vice Chancellor, James Cook University of North Queensland
 Dr J.T. Baker, Member, Great Barrier Reef Marine Park Authority
 Mr M.W. Buckham, Defence Facilities Division, Department of Defence
 Dr J. Bunt, Australian Institute of Marine Science
 Mr A.K. Chase, School of Australian Environmental Studies, Griffith University
 Dr P.G. Flood, Department of Geology, University of Queensland
 Mr N. Haysom, Director, Queensland Fisheries Service
 Dr G. Heinsohn, Department of Zoology, James Cook University of North Queensland
 Associate Professor D. Hopley, Department of Geography, James Cook University of North Queensland
 Mr R. Isbell, Pastoral Research Laboratories, Commonwealth Scientific and Industrial Research Organisation
 Mr H. Jitts, Marine Branch, Department of Environment, Housing and Community Development
 Mr R. Kenchington, Great Barrier Reef Marine Park Authority
 Mr C. Limpus, Queensland National Parks and Wildlife Service
 Mr G. McPherson, Queensland Fisheries Service
 Dr G.R. Orme, Geology Department, University of Queensland
 Mr R. Pearson, Queensland Fisheries Service
 Mr A. Pomeroy, Department of Civil and Systems Engineering, James Cook University of North Queensland
 Dr I. Price, Department of Botany, James Cook University of North Queensland
 Mr E.A. Purnell-Webb, Fisheries Division, Department of Primary Industry
 Mr R. Pyne, Fisheries Division, Department of Primary Industry
 Dr G.W. Saunders, Director, Queensland National Parks and Wildlife Service
 Professor K. Stark, Department of Civil and Systems Engineering, James Cook University of North Queensland
 Professor F. Talbot, Centre for Environmental Studies, Macquarie University
 Dr J.E.N. Veron, Australian Institute of Marine Science
 Dr G. Webb, Australian Museum
 Mr N.L. Webb, Strategic and International Policy Division, Department of Defence
 Captain B. Whiteman, Queensland Department of Harbours and Marine
 Mr J. Wilson, Director General of Tourist Services, Queensland
 Mr J.T. Woods, Queensland Department of Mines

LIST OF ATTENDERS

Mr J.D. Ballingall, Queensland Commercial Fisherman's Organisation
Dr D. Barnes, Australian Institute of Marine Science
Mr A. Birtles, Department of Marine Biology, James Cook University of North Queensland
Captain W.T. Cain, The Queensland Coast and Torres Strait Pilot Service
Dr D. Connell, Chairman, School of Australian Environmental Studies, Griffith University
Dr C. Crossland, Australian Institute of Marine Science
Dr T. Done, Department of Marine Biology, James Cook University of North Queensland
Dr M.F.C. Day, Member of the Australian Institute of Marine Science Council
Mr P.B. Eccles, Coastal Services Division, Department of Transport
Mr P. Ellis, Deputy Director, Queensland Co-ordinator General's Department
Dr J. Farrands, Secretary, Department of Science
Dr E. Frankel, Department of Geology, University of Sydney
Mr R. Garrett, Queensland Fisheries Service
Dr M. Gilmartin, Director, Australian Institute of Marine Science
Dr A. Gilmour, Assistant Director, Ministry for Conservation, Victoria
Dr G. Goeden, Queensland Fisheries Service
Dr B. Goldman, Manager, Lizard Island Research Station
Hon. Ray Groom, Minister for Environment, Housing and Community Development
Dr R. Hardwick, Department of Marine Biology, James Cook University of North Queensland
Mr G. Hawley, Great Barrier Reef Marine Park Authority
Mr E. Hegerl, Queensland Conservation Council
Mr H. Higgs, Acting Chairman, Great Barrier Reef Marine Park Authority
Dr B. Hill, Queensland Fisheries Service
Professor G.A. Horridge, Research School of Biological Science, Australian National University
Dr P. Hutchings, Australian Museum
Mr J.H. Izatt, Queensland Game Fishing Association
Associate Professor R. Kenny, Department of Zoology, James Cook University of North Queensland
Mr G. Lui, Department of Aboriginal and Islanders Advancement
Dr H. Marsh, Department of Zoology, James Cook University of North Queensland
Dr P. Mather, Queensland Museum
Dr N. Milward, Department of Zoology, James Cook University of North Queensland
Professor B.R. Morton, Member of the Australian Institute of Marine Science Council
Mr P. Ogilvy, Queensland National Parks and Wildlife Service
Dr R. Olafson, Australian Institute of Marine Science
Professor J. Oliver, Department of Geography, James Cook University of North Queensland
Mr B. Pentony, Department of Commerce, James Cook University of North Queensland
Professor M. Pitman, Head of School of Biological Sciences, University of Sydney
Dr P. Saenger, Australian Underwater Federation, Queensland Branch
Mr C. Smalley, Great Barrier Reef Marine Park Authority
Dr D. Smith, Division of Fisheries and Oceanography, Commonwealth Scientific and Industrial Research Organisation
Mr L. Stewart, Department of Aboriginal and Islanders Advancement
Mr S. Summerhays, Great Barrier Reef Marine Park Authority
Ms A. Wallace, Great Barrier Reef Marine Park Authority
Mr C. Watkins, Charter Boat Operator
Mr R. Williams, Executive Officer, Great Barrier Reef Marine Park Authority
Mr S. Woodley, Great Barrier Reef Marine Park Authority

