



# ANNUAL REPORT

1 9 8 9 - 1 9 9 0



**NOT  
FOR  
LOAN**

*The Library  
Great Barrier Reef  
Marine Park Authority  
P.O. Box 1379  
Townsville, 4810*



**Great Barrier Reef Marine Park Authority**

# ANNUAL REPORT

## 1989 - 1990

---



Great Barrier Reef Marine Park Authority

---

Great Barrier Reef Marine Park Authority  
PO Box 1379 Townsville Qld 4810  
Street Address: 2-68 Flinders Street  
Telephone: (077) 81 8811  
Fax: (077) 726093

October 1990

© Great Barrier Reef Marine Park Authority  
ISSN 0155-8072



Great Barrier Reef Marine Park Authority  
PO Box 1379 Townsville Qld 4810

The Hon Ros Kelly  
Minister for the Arts,  
Sport, the Environment,  
Tourism and Territories  
Parliament House  
CANBERRA ACT 2600

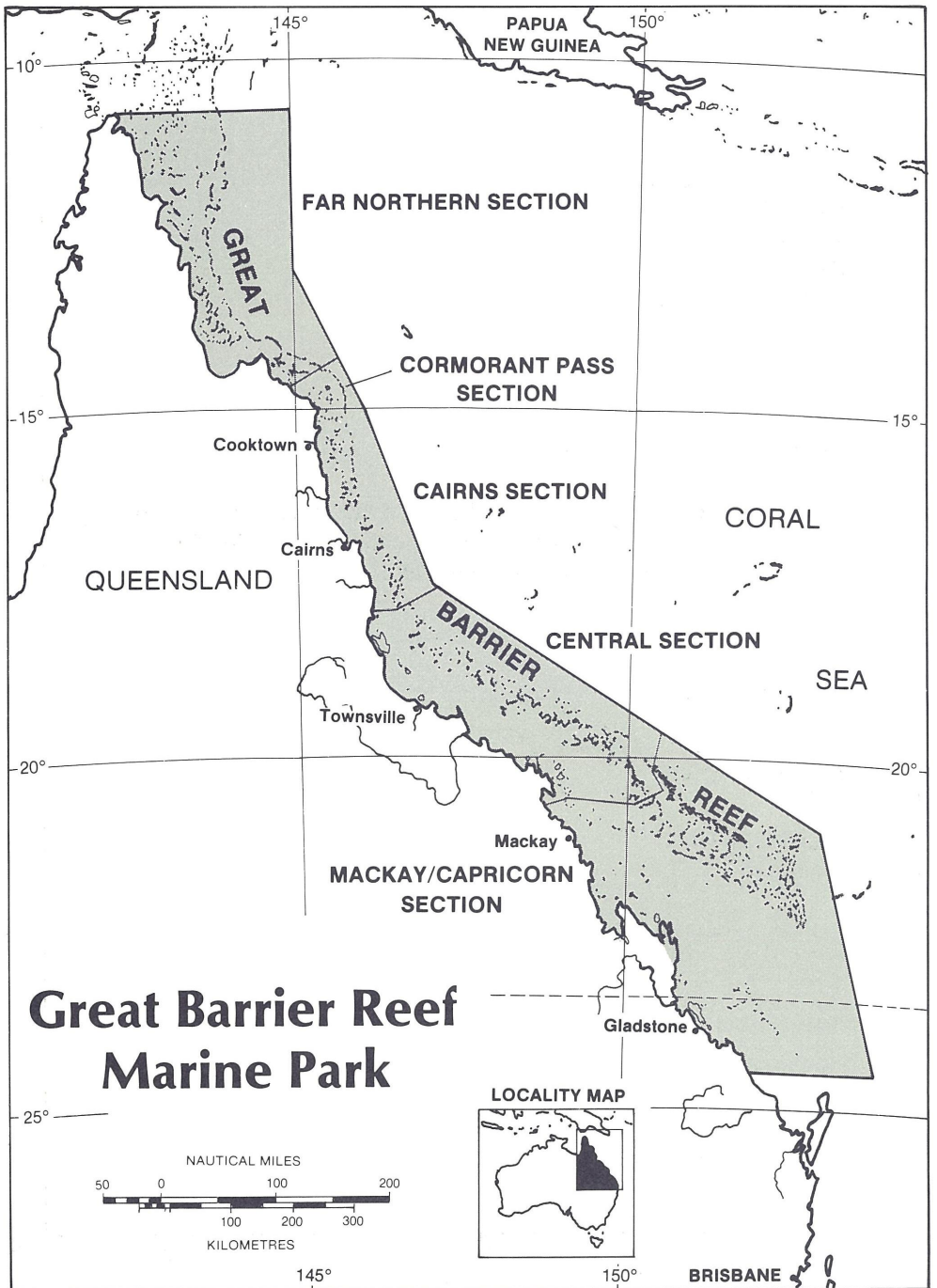
Dear Minister

In accordance with section 63 of the Audit Act 1901, I submit the  
fourteenth Annual Report of the Great Barrier Reef Marine Park  
Authority for the year ended 30 June 1990.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'Graeme Kelleher', with a long horizontal flourish extending to the right.

Graeme Kelleher  
Chairman



# CONTENTS

---

FROM THE CHAIRMAN.....	1
GREAT BARRIER REEF MARINE PARK AUTHORITY.....	5
GREAT BARRIER REEF MINISTERIAL COUNCIL.....	10
GREAT BARRIER REEF CONSULTATIVE COMMITTEE.....	12
PLANNING AND MANAGEMENT.....	15
ENVIRONMENTAL IMPACT MANAGEMENT.....	23
RESEARCH AND MONITORING.....	30
EDUCATION AND INFORMATION.....	37
AQUARIUM.....	45
ADMINISTRATION.....	49
CANBERRA OFFICE.....	57
APPENDIXES	
A. Authority Functions.....	59
B. Consultative Committee Functions.....	61
C. Authority Senior Officers.....	62
D. Publications.....	63
E. Staff papers published/presented in 1989-90.....	73
F. Research in progress 1989-90.....	76
G. Members of Advisory Committees.....	85
H. Financial Statements.....	87
I. Auditor-General's Report.....	105
J. Abbreviations.....	106
Offshore Developments Map.....	Inside back cover

---



# FROM THE CHAIRMAN

---

*The earth does not belong to man, man belongs to the earth. All things are connected like the blood that unites us all: man did not weave the web of life, he is merely a strand in it. Whatever he does to the web he does to himself.*

- Chief Seattle, 1854

The western world, including Australia, is at last recognising the truths behind the words written by Chief Seattle to the United States Congress in 1854. As managers of the Great Barrier Reef Marine Park, we see this in the attitudes of users of the Park, of developers, of the media and of government. Indeed, in today's economic circumstances where governments are required to carry out ever more difficult tasks with ever diminishing resources, management of the Great Barrier Reef would be an impossible task without the development of this recognition.

During the year, the Authority and its staff continued to face difficult issues. Many of these have been discussed in previous Annual Reports of the Authority. However, some reached new levels of difficulty which placed great strains on the limited resources of the agency.

## ZONING

Work on the rezoning of the Cairns Section of the Marine Park continued throughout the year. As anticipated, rezoning has proven to be a more difficult task than the initial zoning. The Authority's freedom of action in modifying existing zones is inhibited by the expectations of the public that activities which they have carried out in particular areas over the past years will continue. Skills of the various interest groups which make submissions to the Authority regarding zoning plans have increased noticeably. These groups now have developed a degree of sophistication which enables them to apply significant pressure on the zoning team, making resolution of contentious points more difficult.

The intensity of use continues to increase. This exacerbates conflicts between different user groups and makes it more difficult for zoning plans to reserve areas free from human activity. Balancing these difficulties are improvements in techniques within the Authority's planning staff, significant increases in the scientific understanding of the Great Barrier Reef as a system and the development of a significant amount of goodwill towards the Authority by some interest groups.

We now believe that the revisions to the Cairns Section Zoning Plan will be a significant improvement on the original. We believe that we shall more effectively protect the ecologically important areas of the reef while minimising restrictions on human activity. We expect to be able to change the zoning

*From the Chairman*

---

Page 1.

names so that they more accurately represent the sort of uses for which they are intended. It is our expectation that the revised zoning plan will be put to the Ministerial Council and to the Government for consideration before the end of 1990. Meanwhile, the existing zoning plan continues to operate.

## NUTRIENTS

Evidence continues to accumulate that the levels of nitrogen and phosphorus in the waters of the Great Barrier Reef Marine Park are causing damage to some coral communities close to the coast.

The Authority will continue to work with other government agencies, notably the Queensland Department of Primary Industries, the Queensland Department of Environment and Heritage, and the Commonwealth Department of Primary Industries and Energy, as well as with private organisations, to address this issue. Coordination of action in relation to nutrients, most of which are likely to originate from run-off from farm land on the mainland, will be made much easier through the new membership of the Great Barrier Reef Ministerial Council. Members now include the Ministers for the Environment and the Ministers responsible for Primary Industries in both the Queensland and Commonwealth Governments. It is these ministries which have the primary responsibilities relevant to research and management of land use on the mainland.

The farming community itself is aware of the problem and changes are occurring already in farming practices which will have the effect of reducing the run-off of nutrients, as well as reducing the rate of soil erosion and land degradation. Such programs and changes will benefit not only the mainland, but the Great Barrier Reef as well.

## CHARGES

The Authority is responsible for carrying out environmental assessments of proposals for developments within the Great Barrier Reef Marine Park. Most of these proposals are aimed at the development of commercial enterprises. During the year, with the cooperation of the tourism industry, the Authority established a system for recovering the cost of such environmental assessments from the project proponents. In order to protect the industry, these charges were set at the average real cost of assessing projects of particular types and sizes. As well, the charges were established by regulation and were tied to the CPI so as to provide assurance that unwarranted escalation would be avoided.

The benefits of this system of charging are not confined to the tax payer, although that benefit is considerable. In addition, the discipline of charging forces the Authority to continually examine its procedures so as to maximise efficiency and avoid unnecessary bureaucracy. The Authority will be able to employ the number of staff necessary to carry out assessment efficiently and proponents will, in a short time, observe a reduction in the time taken to carry out assessments of developmental proposals.

*From the Chairman*

Page 2. As a condition of allowing a development to occur in the Marine Park, the Authority now requires developers to pay for the cost of a monitoring program designed to ensure that the environmental effects are not greater than those

predicted during the assessment process and to allow remedial action if environmental effects become excessive. This procedure has the benefits of removing the burden of funding such monitoring from the tax payer and of encouraging the developer to design projects so as to minimise environmental effects. This allows us to minimise the complexity of monitoring. The scientific information accumulated will be of benefit to the assessment of future projects of the same kind. These charges have been accepted by the various industries within the Great Barrier Reef Marine Park.

## **OIL SPILLS**

A significant amount of oil is transported by ship in the shipping channels within the Great Barrier Reef. The Authority has been working with other government agencies throughout the year on various measures designed to minimise the risk of an oil spill from such traffic and to minimise the damage from such a spill if it should occur.

The Authority provides the scientific advisor to the On-Scene Coordinator in the event of an oil spill. The scientific advisor's job is to inform the On-Scene Coordinator about the location of sensitive areas of the Marine Park and of the measures that should be taken to minimise the risks of damage in the event of a spill. The On-Scene Coordinator's job is to direct all of the salvage and clean-up work associated with an oil spill.

To support the scientific advisor's role, the Authority is developing a computer program which incorporates maps showing the location of environmentally sensitive areas and which predicts the movement of an oil spill relative to wind and tide conditions. This simple program, which runs on the popular Apple McIntosh microcomputer, has proven more effective than far more elaborate programs developed by other agencies around the world because its use requires almost no special training.

It is the Authority's intention to develop this program further so that it will be able to predict the movement of drifting vessels in the Marine Park in relation to rescue operations. When developed, the program will be provided to the Federal Sea Safety Surveillance Centre.

The Authority has worked with a number of Commonwealth Government Departments towards the introduction of compulsory pilotage for all vessels carrying oil as a cargo and for other large vessels navigating within the Great Barrier Reef. While making pilotage compulsory may be difficult under the constraints of international law, it is hoped that the international community will support measures aimed at achieving this objective. Proposals will be made to the International Maritime Organisation in November 1990 on this issue. Already, about 90% of the relevant vessels using the Great Barrier Reef employ pilots on a voluntary basis.

While these various measures can reduce the risks of an oil spill and, in most circumstances, reduce the adverse environmental effects of a spill, they cannot eliminate them. A large oil spill occurring inside or close to the Great Barrier Reef in severe weather would not be controllable and significant environmental damage could be expected regardless of clean up efforts.

*From the Chairman*

Page 3.

## **APPEALS PROCEDURES**

During the year the Authority went through two appeal procedures in relation to the Magnetic Quay Development on Magnetic Island. The first appeal against a decision of a delegate of the Authority to the full Authority. In this case, the original decision to allow the project to proceed under strict conditions was confirmed by the Authority. The next stage of the appeal was to the Administrative Appeals Tribunal. Despite the fact that the work on the project was proceeding, the standing of the appellants was not determined until more than twelve months after the appeal was launched. This Authority strongly believes that such delays are unfair to the public, to developers and to opponents of proposals and projects within the Great Barrier Marine Park. The matter has been taken up with the Commonwealth Government with the hope of achieving changes in the procedures relating to such appeals.

## **DAY-TO-DAY MANAGEMENT**

After the Queensland election, a major reorganisation of the Queensland National Parks and Wildlife Service began. This Service, which had been incorporated within a larger government department, was re-established within the new Department of Environment and Heritage. Major efforts were made during the year to recover the technical expertise that had been lost in the previous year in marine management and to recruit new personnel with these skills. This service, which has the principal responsibility to the Authority for day-to-day management of the Marine Park, has now been subject to virtually continuous reorganisation for more than two years. It is gratifying to see the redevelopment of appropriate expertise and enthusiasm within the Service for its responsibilities in the Great Barrier Reef Marine Park. Relations between the Authority and the Service are characterised by frankness, determination to succeed and commitment to cooperative action. I believe that the framework has now been laid for a dramatic improvement in day-to-day management of the Marine Park.

## **STAFFING LEVELS**

The Authority is responsible for managing a Marine Park covering a natural resource whose economic value (including coastal tourism) is estimated at one thousand million dollars per annum and whose ecological value is incalculable. The Authority is required to make final decisions, subject only to legal appeal provisions, on major developments costing hundreds of millions of dollars. An example is the Yabulu Nickel Refinery project in Halifax Bay. The Authority operates in a situation of extreme public exposure and constant publicity. It is my belief that many of the staff of the Authority operate at levels of responsibility well above those reflected in their actual position levels. This has been confirmed by an internal review within the Authority during the year. I now intend to seek a review of these levels externally so that I can be sure that the staff are fairly rewarded for their work and to ensure that we can attract professional staff of the very high calibre required for the tasks involved.

# GREAT BARRIER REEF MARINE PARK AUTHORITY

**The Great Barrier Reef Marine Park Authority, which was established under the *Great Barrier Reef Marine Park Act 1975*, is a Commonwealth statutory body consisting of a full-time Chairman and two part-time members, one of whom is nominated by the Queensland Government.**

The first appointments to the Authority were made in July 1976 and the Authority's first meeting was held in August that year.

## ROLE

The Authority is the principal advisor to the Commonwealth Government on the care and development of the the Great Barrier Reef Marine Park. Specific functions defined in sections 7 and 7A of the Act are listed in Appendix A.

Below is the statement of the Authority's goal and aims. The statement has been derived from, and is consistent with, the object of and the functions and powers specified in the Act. It includes minor amendments made this year to three aims, to align them more closely to the Act and to strengthen the intent of the aims.

## GOAL

To provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity through the care and development of the Great Barrier Reef Marine Park.

## AIMS

These aims are subordinate to the primary goal and must be read in conjunction with it and with each other.

- To protect the natural qualities of the Great Barrier Reef, while providing for reasonable use of the Reef Region
- To involve the community meaningfully in the care and development of the Marine Park.
- To achieve competence and fairness in the care and development of the Marine Park through the conduct of research, and the deliberate acquisition, use and dissemination of relevant information from research and other sources.
- To minimise regulation of, and interference in, human activities, consistent with meeting the goal and other aims of the Authority.
- To achieve management of the Marine Park primarily through the

community's commitment to the protection of the Great Barrier Reef and its understanding and acceptance of the provisions of zoning, regulations and management practices.

- To minimise costs of caring for and developing the Marine Park consistent with meeting the goal and other aims of the Authority.
- To provide for economic development consistent with meeting the goal and other aims of the Authority.
- To adapt actively the Marine Park and the operations of the Authority to changing circumstances.

## SUBSIDIARIES

The Great Barrier Reef Marine Park Authority has no subsidiaries. However it has delegated certain of its functions to other State and Commonwealth organisations such as the Queensland National Parks and Wildlife Service which has responsibility for day-to-day management of the Marine Park.

## MEMBERSHIP AS AT 30 JUNE 1990



*From left to right: Mr Noel Dawson, Mr Graeme Kelleher, AM, and Professor Rhondda Jones*

The full-time Chairman (and chief executive) of the Authority is **Mr Graeme Kelleher, AM**, who was reappointed for his third five-year term on 20 December 1989. Mr Kelleher has had extensive experience in activities concerned with the environment. He was one of the three commissioners on the Ranger Uranium Environmental Inquiry and served as an examiner of New Zealand's environment policies for the International Organisation for Economic Co-operation and Development (OECD). He is Vice-Chairman, Marine, of the Commission on National Parks and Protected Areas (CNPPA) of IUCN, the World Conservation Union.

**Mr Noel Dawson** was appointed, as the Queensland nominee, on 15 February 1990 as acting part-time member, for a period of six months. He is acting

Director of the Queensland National Parks and Wildlife Service within the Queensland Department of Environment and Heritage. The Service is the principal Queensland Government agency carrying out the day-to-day management of the Great Barrier Reef Marine Park, subject to the Authority. Mr Dawson replaced **Mr Pat Smith**, former Deputy Under-Secretary of the then Queensland Department of Environment and Conservation, whose appointment as acting member ceased 15 January 1990.

**Professor Rhondda Jones** was appointed on 22 February 1989, for a 3-year term as part-time member. Professor Jones, an ecologist with research interests in population dynamics, is Professor of Zoology in the School of Biological Sciences at the James Cook University of North Queensland.

## ACTING CHAIRMAN APPOINTMENTS

This year, Mr Kelleher participated, at no cost to the Authority, in the following international activities:

- coastal resources management planning for Belize (5 days)
- planning for the 18th General Assembly of IUCN, to be held in Australia late 1990 (5 days)
- discussions on sustainable tourism development (5 days)
- discussions on international conservation funding, particularly in developing countries (5 days)
- an inquiry into the possible inclusion of Lake Baikal (USSR) on the World Heritage List (8 days).

The Minister appointed **Professor Jones** to act as Chairman during the absences overseas commencing 17 November 1989 and 19 March 1990. The Authority's Executive Officer, **Dr Don Kinsey** was appointed for the absences commencing 14 August 1989 and 24 May 1990.

## MEETINGS

During 1989-90, the Authority met on seven occasions:

1989		1990	
DATE	LOCATION	DATE	LOCATION
20 July	Townsville	27 & 28 February	Cairns
25 August	Townsville	24 April	Townsville
6 September	Townsville		
13 October	Townsville		
29 November	Rosslyn Bay		

Marine Parks management is focused on the three operational Regions of the Queensland National Parks and Wildlife Service adjacent to the Great Barrier Reef Marine Park. The Authority met in each of the three Regions and these meetings involved the respective Regional Directors, who are the prime contacts for day-to-day management issues.

During the course of the year, the Authority proceeded with its review of the Cairns Section Zoning Plan and received formally the public representations on the proposed Plan. Other meeting business of particular significance concerned:

- consequences for day-to-day management arrangements of the reorganisation within the Queensland Government's environment

portfolio, which led to the re-establishment of a Queensland National Parks and Wildlife Service

- charging in the Marine Park, including permit assessment fees and possible concessions systems
- the installation of moorings in the Marine Park and implications for the Authority's liability
- release of the vessel *Tropic Sunseeker* seized on 24 August 1989
- the appeal before the Administrative Appeals Tribunal against the Authority's decision on the Magnetic Quay development proposal
- defamation action initiated by Mr Kelleher against TCN Channel 9 Pty Ltd and Australian Capital Television Pty Ltd as a consequence of allegations made in the program 60 Minutes, televised on Sunday 13 November 1988
- public relations and the public presence of Marine Parks staff
- possible implications for the Authority arising from the review of the Australian National Parks and Wildlife Service by Mr Bruce MacDonald tabled in Parliament in 1989
- the proposed review of the Authority and its operation, being arranged by the Department of the Arts, Sport, the Environment, Tourism, and Territories.

In keeping with the new requirements under s16A of the Act, members of the Authority have disclosed their direct and indirect pecuniary interests to a meeting of the Authority and have noted the obligations attached to their declarations.

In 1989-90, the Authority delegated the following powers:

- powers under the Great Barrier Reef Marine Park Regulations relating to permits
- powers under the Act relating to the release of a vessel, aircraft or article seized
- powers under the Act relating to financial and other administrative functions.

## THE MINISTER

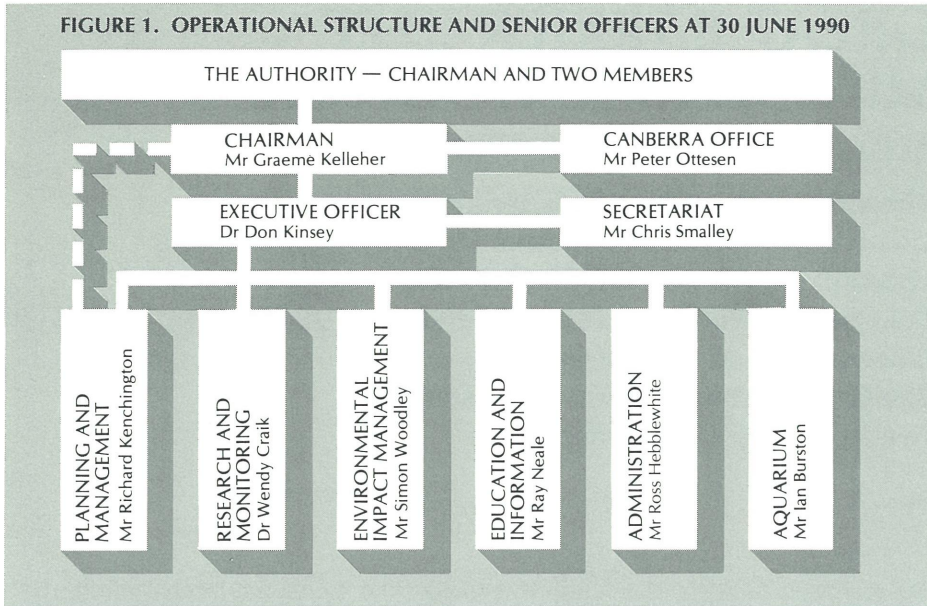
Since March 1990, **The Honourable Ros Kelly, MP** has been the Minister with portfolio responsibilities for Great Barrier Reef matters, as Minister for the Arts, Sport, the Environment, Tourism and Territories. Before this, **Senator the Honourable Graham Richardson** exercised these responsibilities. The Minister convened one meeting of the Great Barrier Reef Ministerial Council, held in Brisbane on 12 October 1989.

The Act provides that the Authority '*Shall perform its functions in accordance with any general directions given by the Minister not inconsistent with this Act*'. No such directions were given to the Authority during the year.

## OFFICE OF THE AUTHORITY

Page 8. The Authority has an office in Townsville and a small office in Canberra. This arrangement arises from the need for the Authority to have its principal technical resources close to the Reef and also to carry out essential functions in Canberra.

**FIGURE 1. OPERATIONAL STRUCTURE AND SENIOR OFFICERS AT 30 JUNE 1990**



The Townsville office, which includes the Great Barrier Reef Aquarium, has an average staffing level (ASL) of 92.5 and carries out most of the Authority's operational activities. The actual staffing level at 30 June 1990 was 98.75 (ASL). The Townsville office is located in the Great Barrier Reef Wonderland complex.

The Canberra office provides administrative support to the Chairman and the secretariat for the Great Barrier Reef Ministerial Council. It also advises the Minister, liaises with the Department of the Arts, Sport, the Environment, Tourism and Territories, Parliamentary Committees, other Canberra-based Departments and organisations with interests in the Marine Park, and assists in the development and communication of policy advice. The staffing level at 30 June 1990 was four.



*From left to right:  
Michelle Morrison (Secretariat),  
Dr Don Kinsey (Executive  
Officer), Ruth Harrold-Thompson  
(Executive Assistant), and  
Chris Smalley (Secretariat).*

## Executive Officer

**Dr Don Kinsey** is the Executive Officer of the Great Barrier Reef Marine Park Authority. He is responsible to the Chairman for the efficient operation of the Townsville office. He is also Secretary to the three-member Great Barrier Reef Marine Park Authority. Staff of the Secretariat support him in this role.

# GREAT BARRIER REEF MINISTERIAL COUNCIL

**The Great Barrier Reef Ministerial Council was established in June 1979 to coordinate policy on the Reef between the Commonwealth and Queensland Governments at Ministerial level. The Council comprises four Ministers, two from each Government.**

The Canberra Office of the Authority provides the secretariat for the Ministerial Council. Costs are shared by each Government.

The fifteenth meeting of the Council took place in Brisbane in October 1989.

Ministers who attended the meeting were:

- Senator the Honourable Graham Richardson, Minister for the Arts, Sport, the Environment, Tourism and Territories (Convenor)
- Senator the Honourable Margaret Reynolds, Minister for Local Government and Minister assisting the Prime Minister on the Status of Women
- The Honourable Paul Clauson, MLA, Acting Queensland Minister for the Environment, Conservation and Forestry and Acting Minister for Tourism
- The Honourable Mark Stoneman, MLA, Queensland Minister for Primary Industries.

At the meeting the Council:

- endorsed the introduction of permit assessment fees for commercial operators in the Marine Park to recover the real costs of conducting environmental assessment of proposals for commercial use of the Marine Park
- agreed that Commonwealth and Queensland agencies involved in the major oil spill contingency plan, REEFPLAN, should give high priority to policies and procedures to reduce the risk of, or minimise the effects of, oil spills
- noted the Authority's multidisciplinary research program received \$1.3m in 1989-90, aimed at high priority issues including the crown-of-thorns starfish, water quality, effects of fishing and human-use monitoring. The Council also heard that the Federal Government is providing further funding for starfish research over the next three years announced in the Prime Minister's Environment Statement in July 1989

- noted the progress in reviewing the Cairns Section Zoning Plan
- noted the importance of ensuring Governments rely on appropriate controls aimed at conservation, but allowing reasonable use of areas in the Marine Park, islands and the mainland by the important tourism and fishing industries and recreational users
- noted the pleasing development of complementary assessment procedures by Commonwealth and Queensland agencies which should lead to better assessments, with less duplication and more efficient use of resources.

# GREAT BARRIER REEF CONSULTATIVE COMMITTEE

**The Great Barrier Reef Consultative Committee was established by the *Great Barrier Reef Marine Park Act 1975* as an independent advisory body for both the Minister and the Authority. Specific functions defined in section 21 of the Act are listed in Appendix B.**

The Consultative Committee represents a wide cross-section of interests in the Great Barrier Reef, from both the public and private sectors, including tourism, fishing, science, conservation and the Aboriginal and local government communities. It consists of members appointed by the Minister for a three-year term and a member of the Authority appointed by the Authority for an indefinite term. Appointments made by the Minister in 1985 concluded in 1988. The Minister made new appointments effective 4 July 1989. **Mr Graeme Kelleher**, who is the Authority's appointee, was a member of the Consultative Committee throughout 1989-90.

The new Committee elected **Associate Professor Helene Marsh** as its Chairman.

## MEMBERSHIP JULY 1989

Chairman:

A/Prof Helene Marsh James Cook University of North Queensland

Committee:

Ms Liz Bourne	Queensland Conservation Council
Mr Bob Bygott	Queensland Fish Management Authority
Mr Jim Ferguson	Department of the Arts, Sport, the Environment, Tourism and Territories
Mr Tony Fontes	Barrier Reef Diving Services and Dive Tourism Association of Australia
Mr Merv Gibson	Aboriginal Co-ordination Council and Hopevale Council
Ald Keith Goodwin	Mayor of the City of Cairns
Mr Denis Griffith	Queensland Sport and Recreational Fishing Council
Mr Eddie Hegerl	Australian Littoral Society and Queensland Conservation Council
Dr Tor Hundloe	Griffith University
Mr Bill Kehoe	Queensland Commercial Fishermen's Organisation
Mr Graeme Kelleher	Great Barrier Reef Marine Park Authority

Mr Jim McEvoy	Queensland Department of Environment and Heritage
Mr Gordon McKauge	Far North Queensland Promotions Bureau
	Tourism Task Force
Mr Andre Maestracci	Association of Marine Park Tourism Operators and
	South Molle and Hook Island Enterprises
Mr Jim Wallace	Association of Marine Park Tourism Operators and
	Quicksilver Connections



*Consultative Committee Chairman  
Associate Professor Helene Marsh*

Between January and June 1990, the Committee's membership decreased by four. Three members (Ms Bourne, Mr Gibson, Mr McEvoy) resigned. Ald Goodwin died tragically in an aircraft accident in May 1990. The Act requires that the Committee constitute a minimum of 12 members appointed by the Minister and one member by the Authority. Arrangements to replace the former members are in progress.

Staff of the Authority's secretariat provide administrative support for the Consultative Committee. Mr Chris Smalley is Secretary.

## MEETINGS

During 1989-90 the Consultative Committee met three times:

7 September 1989	Townsville
28 February and 2 March 1990	Port Douglas and Cairns
16 May 1990	Townsville,

and visited a number of the intensively used tourism sites on the Great Barrier Reef accessible to Cairns and Port Douglas.

A workshop session on 2 March enabled the Committee to deliberate at length on the issue of charging in the Great Barrier Reef Marine Park. The Committee strongly supported the principle of cost recovery for the Marine Park as it presently applies to the issuing of permits and monitoring, but considers that selective application of the principle of 'user pays' to the tourism industry would be inequitable.

At its meeting in May, the Committee joined with the Crown-of-thorns Starfish Research Committee to discuss the starfish and the program of research. This was the first direct interaction between the two Committees and is in keeping

with the recommendations by Professor Don Anderson in his report of 1989 to the Commonwealth Government that followed his review of crown-of-thorns starfish research and management. It was agreed at the joint session that further research was needed to address outstanding controversial questions surrounding the starfish.

During the year, the Consultative Committee responded to requests from the Authority for advice on matters including:

- Zoning Plan for the Cairns Section
- Crown-of-thorns Starfish Research
- Enforcement in the Great Barrier Reef Marine Park.

At the Minister's invitation, the Consultative Committee discussed:

- Implementation of the *Sea Installations Act 1987* and Charging in the Marine Park
- Operations of the Queensland National Parks and Wildlife Service
- Diving Safety and Associated Standards
- Enjoyment of the Great Barrier Reef.

It provided advice to the Minister on these and other matters, including:

- Waste Discharge in the Marine Park
- Liability and Public Moorings
- Ownership of Islands in the Great Barrier Reef Marine Park and implications for access
- Offshore Developments
- Review of the Australian National Parks and Wildlife Service
- Legal Processes and Marine Park Administration

In keeping with the new requirements under s27A of the Act, members of the Committee have disclosed their direct and indirect pecuniary interests to a meeting of the Authority and have noted the obligations attached to their declarations.



# PLANNING AND MANAGEMENT

**The Planning and Management Section has been established primarily to provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity.**

*Sabella skipper, Q.NPWS ranger Paul Harrison, on patrol in the Whitsunday Islands.*

On behalf of the Authority, the Section objectives are:

- recommending the declaration of sections of the Marine Park
- developing and reviewing zoning plans, regulations, and other management strategies
- achieving cost-effective implementation of zoning plans, regulations, and other management strategies in conjunction with Queensland Government agencies and others
- involving the community meaningfully in these processes.

Priorities for the Section during 1989-90 were:

- the review of day-to-day management practices following reorganisation within the Queensland Department of Environment and Heritage (QDEH)
- the review of the Cairns Section Zoning Plan.

Other significant activities included work towards the production of reef use plans for heavily used areas of the reef; upgrading of the Great Barrier Reef Mapping series; and upgrading of the Authority's computing facilities.

## PUBLIC PARTICIPATION IN ZONING

The Great Barrier Reef Marine Park is a multiple-use protected area. A tool used in managing the Reef is zoning. Zoning separates uses that might conflict with each other, whilst allowing reasonable use. The Authority is dependent on public input into zoning plans. Whenever a zoning plan is about to be prepared, Reef users are invited to give their opinions on how zoning should be undertaken as well as providing information about their use of the Reef.

This information is collated, conflicts in usage are resolved, and a draft zoning plan is prepared. This draft zoning plan is then advertised and the public is again invited to comment.

Changes may then be made in the draft plan before final steps are taken to make

it a legal document. Each zoning plan is evaluated and revised approximately every five years because of the pressures on Reef use, especially the rapid growth in tourism and recreational fishing and because knowledge of the Reef system increases continuously.

## REVIEW OF THE CAIRNS SECTION ZONING PLAN

The first part of the Zoning Review incorporated a rationalisation of Section boundaries. The Cairns Section was amended in 1989 with the amalgamation of the small Cormorant Pass Section (proclaimed in the **Commonwealth of Australia Gazette**, 13 September 1989).

The review of the Cairns Section Zoning Plan commenced during late 1988. The second phase of public participation started on 9 October 1989 and concluded on 28 February 1990 following a one month extension. Television and press coverage gave wide publicity to the zoning review, and to the availability of the draft zoning plan, the mail-back brochure 'Cairns Section Zoning Plan for Public Review' and a booklet summarising the public comments from the first phase of public participation.

In response to the draft zoning plan, 731 written representations were received from diverse groups including government agencies, industry groups, recreation clubs, community groups and individuals, with a further 199 form letters also being sent from three separate interest groups. All representations have been analysed and considered in the preparation of a revised draft plan.

Planning staff also consulted with various Park user groups, individuals, relevant organisations and government agencies, to take their views and needs into account in the preparation of the revised draft.

Comments on the draft zoning plan covered a wide range of subjects and expressed a variety of views. However there were common views on several issues addressed by specific questions in the brochure.

The draft plan proposed to set aside areas for the conduct of a major research program to investigate the effects on the Reef of fishing. This concept was very widely supported, although details of the locations of these areas are still being revised.

The proposed tourism strategy using a 'No Structures Subzone' is widely supported. The introduction of the Subzone is a very significant change to the Zoning Plan, setting aside areas which must remain free from infrastructure or facilities, except for approved navigation markers and vessel moorings.

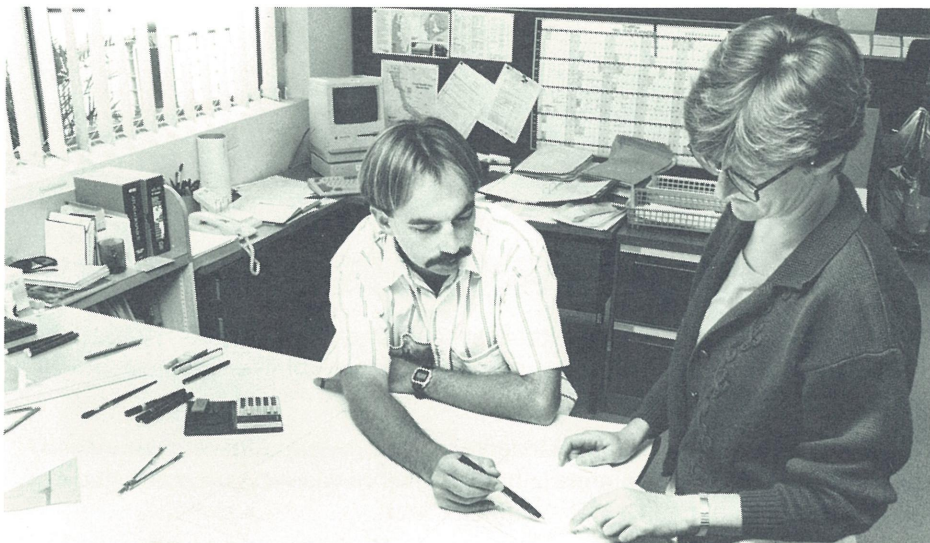
More people support spearfishing in Marine Park Recreation Zones than are opposed to it (spearfishing is currently not allowed in the equivalent Zones).

The proposed simplified zone names are preferred, although some modifications are suggested. Names proposed were:

*General Use Zone*  
*General Use ( No Trawling) Zone*  
*Marine Park Recreation Zone*  
*Marine National Park Zone*  
*Preservation Zone*

The period for public comment on the draft zoning plan was increased from three months to five months because of several requests for an extension of time over the Christmas period. Also, the number of public comments received on the draft zoning plan was greater than expected, and this consequently took longer to analyse.

Finalisation of the zoning plan, requiring acceptance by the Authority and the Federal Minister, and consideration by Federal Parliament, is expected early in 1991. The existing zoning plan will remain in force until the new plan comes into effect.



*Project Officer Sharon Pretty discussing zoning details with GBRMPA Cartographer Martin Drury.*

## **MANAGEMENT PLANS**

The Section had proposed to complete up to 15 detailed reef use plans to guide management of the more heavily used sites on the Great Barrier Reef. The areas are subject to increasing pressure from recreation and commercial use and required specific management to ensure conservation of the resource and to minimise conflicts between users. These plans are proposed to supplement zoning by providing a more detailed assessment of local management issues. Unfortunately the demands to address a number of urgent management issues, including assessment and supervision of major development projects, and a number of legal actions, meant that very little progress was made with management plans. During 1989-90, a reef use plan was completed for Lady Musgrave Island and Reef; a draft plan for Low Isles and Reef was submitted for public review; and several other plans were commenced.

## **DAY-TO-DAY MANAGEMENT**

The day-to-day management of the Marine Park is undertaken by the QDEH through the Queensland National Parks and Wildlife Service (Q.NPWS) and is supplemented by the Queensland Boating and Fisheries Patrol (QBFP). Funding per unit area has not been maintained at the level of earlier years and consequently the ability of the agencies to provide adequate management is under

pressure due primarily to these fiscal constraints and increased usage of the Marine Park.

Table 1 details day-to-day management funding for the Marine Park since the first zoning plan came into effect in 1981.

**TABLE 1. GROWTH IN FUNDING FOR DAY - TO - DAY MANAGEMENT OF THE MARINE PARK** (adjusted to 1989-90 dollar values)

Year	Total Cost \$	Total Area km2	Unit Cost \$/km2
1981-82	272 571	12 000	22.71
1982-83	603 353	12 000	50.60
1983-84	1 228 593	47 000	26.14
1984-85	2 069 935	47 000	44.04
1985-86	2 496 016	130 000	19.20
1986-87	3 067 874	130 000	23.60
1987-88	3 648 762	207 000	17.63
1988-89	4 428 265	344 000	12.87
1989-90	5 112 000	344 000	14.86

Table 2 details expenditure for 1989-90 and estimated funding for 1990-91 for day-to-day management. Table 3 outlines cost sharing between Queensland and the Commonwealth.

The already limited day-to-day management staff resources have experienced additional pressure from an unusually high level of vacancies in the Regions of Queensland National Parks and Wildlife Service.

**TABLE 2. PAYMENTS TO QUEENSLAND DEPARTMENT OF ENVIRONMENT AND HERITAGE FOR DAY-TO-DAY MANAGEMENT, BY REGIONS**

	1989-90	1990-91 (estimated)
	\$	\$
<b>Head Office</b>		
Salaries & Operating	1 578 184	2 384 388
Capital (Inc. Post Initial)	-	-
<b>Central Region</b>		
Wages & Operating	645 806	603 417
Capital (Inc. Post Initial)	164 396	131 000
<b>Northern Region</b>		
Wages & Operating	982 470	910 917
Capital (Inc. Post Initial)	630 150	607 500
<b>Far Northern</b>		
Wages & Operating	717 656	534 778
Capital (Inc. Post Initial)	72 933	411 000
<b>All Regions</b>		
Salaries, Wages & Operating	3 924 116	4 433 500
Capital (Inc. Post Initial)	867 479	1 149 500
<b>Total</b>	<b>4 791 595</b>	<b>5 583 000</b>

The Service recognises the need for a full complement of staff and has arranged to fill these vacancies. During 1990-91 the Authority will commission an independent consultant to review day-to-day management practices. The purpose of this review is to identify management needs and mechanisms for addressing shortfalls.

**TABLE 3. COST SHARING FOR DAY-TO-DAY MANAGEMENT**

	1989-90	1990-91 (estimated)
	\$	\$
<b>Queensland</b>		
Salaries/Wages & Operating	1 962 058	2 216 750
Post-Initial Capital	229 082	314 750
Initial Capital		
Total	2 191 140	2 531 500
<b>Commonwealth</b>		
Salaries/Wages & Operating	1 962 058	2 216 750
Post-Initial Capital	229 083	314 750
Initial Capital	409 314	520 000
Total	2 600 455	3 051 500
<b>TOTAL</b>	<b>4 791 595</b>	<b>5 583 000</b>

## PROSECUTION

Prosecutions during 1989-90 for infringements of the zoning plan provisions, resulted in five convictions, with fines totalling \$3500. Emphasis during 1990-91 will be to increase the effectiveness of enforcement. It is also hoped that the Courts will take a harder line on Marine Park infringements, particularly as a result of recent changes to the Act which increased the level of maximum penalty for these offences to \$10,000.

## AERIAL SURVEILLANCE

Aerial surveillance is a key factor for the successful management of the extensive area of the Marine Park, providing both information on park usage and an enforcement capability.

Marine Park surveillance continued to rely on a complementary system of surveillance operated under the Coastwatch system supported by charter flights by day-to-day management staff. There are benefits for Q.NPWS to continue to fly independently of Coastwatch, namely, keeping management staff familiar with the remote areas of their Sections and providing a quick response to enforcement or crisis situations.

Close consultation between the Authority, Coastwatch and Q.NPWS has been maintained to coordinate surveillance practices and procedures. The Authority now actively participates in the observer training program. A thorough review of the effectiveness of the surveillance program will be conducted early in the next financial year.

## MAPPING

Work began on a new larger format series of 1:250 000 scale zoning maps which will reduce the number of sheets required to cover the Great Barrier Reef Region from 26 to 11. The series is being prepared with major assistance from the Australian Surveying and Land Information Group (AUSLIG). The two map sheets applying to the Cairns Section have been prepared as part of the zoning review for this section.

A pilot study is nearing completion which is investigating the application of a geographic information system to meet the Authority's needs. Geographic Information Systems (GIS) will facilitate analysis of information by enabling data to be represented and analysed in time and space. This technology provides an ability to access mapping information on computer and is used to facilitate production of maps, and more importantly, to provide an ability to analyse information about the Marine Park.

As part of its ongoing marine survey program, the Authority funded a detailed bathymetric survey of Norman, Saxon and Hastings Reefs, three reefs heavily used by the tourism industry in particular. This survey was carried out by AUSLIG in January-February 1990.

## CONSULTANTS

External consultants were used on projects where it was efficient to use expertise in another agency or where there were benefits in having discrete parts of a project undertaken by a consultant. The consultancy services used in 1989-90 are listed in Table 4.

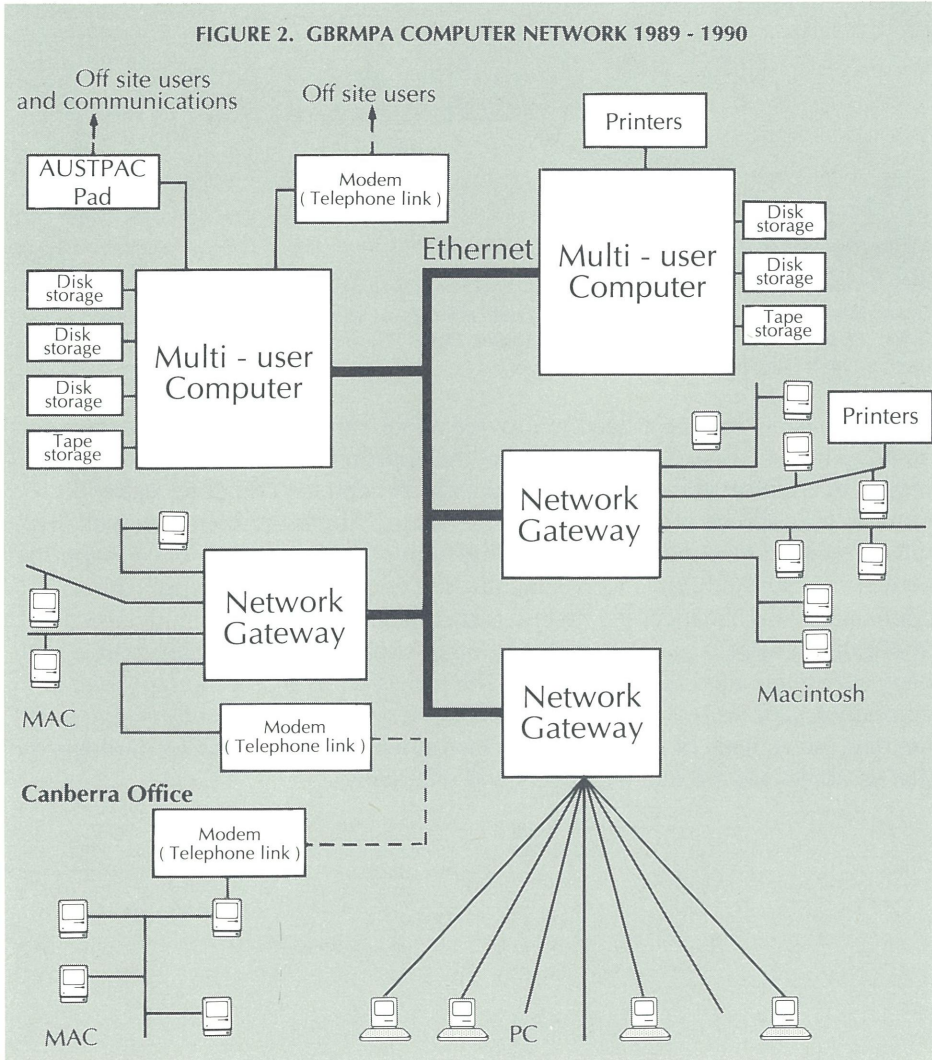
**TABLE 4. CONSULTANCY SERVICES**

Consultant/Organisation	Project	Expenditure \$
Australian Littoral Society	Far Northern Section Resource Inventory	13 524
Australian Land Information Group	Aerial Photography Various Reefs Cartographic Services Field Survey Geographic Information System - Pilot Study Boundary Descriptions - Cairns Section	74 540 22 651 255 400 91 982 4 000
E Coumbis	Cataloguing Satellite Imagery	4 500
James Cook University	Marine Modelling - Sink/Source	500
Macquarie University	OECD - Review of GBRMPA	3 074
Mapping and Monitoring Technology Pty Ltd	Computer Aided Mapping and Remote Sensing	2 250
E Rowe	Cartographic Services	1 149
D Smyth	Assessment of Aboriginal sites of Significance - Cairns Section	5 919
Townsville City Council	Management Plan Magnetic Island	22 000

## COMPUTER SERVICES

The Authority's centralised computer system was replaced with a decentralised and flexible microcomputer based system. New microcomputer software packages for use in word processing, spreadsheeting and graphic applications have been introduced. This has led to most staff using computers in their work.

Desk-top microcomputers are linked to central minicomputers which provide facilities for data storage and analysis, printing and data transmission to users of the Authority's information system. Refer diagram below.



The demand for computing support has increased and continues to grow both in the quantity and diversity of expertise required. This has resulted not only from the new initiatives and responsibilities of the Authority but also from the impact of the broader computer user base. A far greater range of computer activities must now be supported. This support must recognise a much greater range of skills and expertise of computer users and meet their needs promptly.



Section staff from left, back row: Sharon Pretty, Martin Drury, John Baldwin, David Briggs, Julia Pannell, front row: Des Brushe, Catherine Grainger, Kellie Byrne, Peter McGinnity and Jim Muldoon. Absent, David Hamilton, Jon Day.  
Inset: Richard Kenchington, Section head

There has been an urgent need to provide adequate support for microcomputers at the user level as well as ensuring that the appropriate technical services are in place. In addition, the use and management of complex computer networks requires appropriate planning and maintenance. At present computer staff are fully employed responding to demands generated by the day -to-day computing activities of the Authority. Consequently, the demands for new applications, application maintenance, the review and consolidation of existing database applications, system maintenance, planning, coordination and liaison have not been accommodated as they should. The provision of an appropriate level of computing support is an issue that needs to be addressed further to ensure that the best use is made of the Authority's investment in information technology and that its objectives are met effectively and efficiently.



# ENVIRONMENTAL IMPACT MANAGEMENT

**The Environmental Impact Management Section aims to protect the natural qualities of the Great Barrier Reef while providing for its reasonable use through the assessment and management of environmental impacts of permitted activities. The section's programs are undertaken in conjunction with Queensland Government agencies and others. Costs are recovered where practicable.**

*Surveying for the Reef walkway on Wistari Reef. The walkway will span the fragile reef crest allowing access to a designated reef walking area.*

For 1989-90 the objectives for Environmental Impact Management were to:

- manage major assessment projects within tight timetables and with limited resources
- complete the development of a possible concession system for consideration by Government as requested by the Ministerial Council
- introduce permit assessment fees, so that the commercial beneficiaries of using the park pay for environmental assessment, rather than the taxpayer
- arrange for amendments to the Act and Regulations to be completed
- develop policies and procedures to identify potential areas for legal liability of the Authority and take action to remove, or reduce the adverse effects of liability actions.

Detailed assessments of environmental impacts of many large projects were undertaken, particularly for tourism, despite the general downturn in the tourist industry. The year was characterised by pressure to deal with a heavy workload without sufficient resources. Management of permit conditions for approved projects was shown to be a developing and important trend. A substantial amount of time was spent during the year in recruitment of new staff. Permit assessment fees were introduced with effect from 1 January 1990 and initially applied to tourism related permits. Concurrently with the charging of these fees the period for issue of most permits was increased from one year to three years. This will reduce the amount of administration and consequent costs without reducing environmental safeguards. Changes to the Act and Regulations were promulgated.

## ENVIRONMENTAL IMPACT ASSESSMENT AND MANAGEMENT

Details of major projects assessed wholly or in part during the year are shown in the fold out map inside the back of this report. The more complex projects or those with potential for significant environmental impacts were:

- nickel ore loading facility for Halifax Bay
- reef top walkway at Wistari Reef
- marina at Daydream Island
- marina at Hamilton Island
- marina at Dent Island
- walkway at Hardy Reef
- tourist complex at Arlington Reef
- pearl farming venture at Batt Reef and Arlington Reef
- tourist facilities at Arlington Reef and Kelso Reef.

Details of some of the controversial issues in these projects follow:

### **Ore loading facility at Halifax Bay**

This proposal to permit nickel ore vessels to offload on to shuttle barges in Halifax Bay was the subject of detailed environmental impact assessment and public comment undertaken in cooperation with the Queensland Government. Significant concerns remain about the long term effects of the spillage of ore on the marine environment and the fishing industry.

### **Pearl Farming proposals**

The Batt Reef proposal attracted adverse public comment, due largely to inaccurate information being generated about the size of the project. The concerns have been addressed and approval was granted for the use of 60 ha of the area of Batt Reef (i.e. 0.1%) with stringent environmental controls. In contrast, the Arlington Reef proposal attracted little public comment. A number of other pearl farm proposals are being assessed in cooperation with the Queensland Department of Primary Industries (QDPI).

### **Removal of the John Brewer Reef Hotel**

Removal was undertaken successfully in July 1989. The hotel was floated out of the lagoon at John Brewer Reef and temporarily relocated in the lee of Orpheus Island while awaiting the arrival of the heavy lift ship *Mighty Servant*. During 1989-90 the removal of the remaining mooring system comprising counter-weight, anchors and chains was undertaken with virtually no disturbance of reef substrate. The monitoring program was completed by mid 1990 and results are being analysed. Indications to date are that the effects of the presence of the hotel have been minimal; the main effect seems to be that fish habituated to feeding have remained in a large school following the removal of the hotel. Because this behaviour may make the fish more vulnerable than normal to fishing, the Queensland Fish Management Authority placed a ban on fishing in the area for a period of 12 months, at the request of GBRMPA.

### **Clearance of the debris from the wreckage of the concrete pontoon 'Fantasy Island' at John Brewer Reef**

This project has been virtually completed. Although hampered by bad weather and equipment failures, the objective of having the debris cleared up at no cost

to the Commonwealth and with little or no environmental damage has been achieved. This project has illustrated the importance of having a bank guarantee available in case cleanup is required.

### **Construction of a marina at Daydream Island**

This project illustrated the importance of having a reactive monitoring program with provision for stopping or suspending works where operations exceed predetermined design parameters. It was necessary to stop works when the bund wall being built to contain excavation collapsed and slumped into deep water. The project was redesigned before works were allowed to continue.



*Section staff from left, back row: Gillian Lee, Christine Schweizer, Michael Lusi, Zena Dinesen, Mike Bugler, Kath Shurcliff, front row: Martin Robinson, Clive Cook, Jim Campbell, Allan Williams, Kay Egan and Sandra Anderson. Absent: Guy Chester, Inset: Simon Woodley Section head.*

### **Reeftop walkway at Wistari Reef**

This proposal for the first fixed walkway attached to a reef without an island was considered with particular care. The potential impacts from the proposal were assessed as acceptable. The walkway is designed to be removable if necessary, wooden pylons which can be cut flush with the reef surface and capped. This minimises damage. It may be a model for other similar applications. There is already an existing application on hand for a walkway of different construction across the reeftop at Hardy Reef.

Tourist operations in the Great Barrier Reef Marine Park continued to demand the greatest proportion of staff time in assessment and management, including a high degree of informal advice and liaison. The introduction of permit assessment fees generated many additional queries despite the prior negotiations and agreement with representatives of the tourist industry on this matter.

There were significant delays in the assessment and issue of some permits during the year. This was an unsatisfactory situation despite the efforts of staff to keep up with the workload. This situation was a direct result of limited staff resources having to cope with a rapidly growing workload and increasingly complex projects. Other factors which contributed to these delays were:

- the need to undertake local area level planning within the framework of the zoning plans before the permit decision can be made

- the recent reorganisation of the QDEH and the Q. NPWS. The Authority is negotiating improved arrangements with the Service for the assessment and issue of joint Marine Parks permits
- loss of staff time while recruitment of replacement staff was being completed
- a substantial investment of staff time in litigation (see 'Legal Matters').

## POLICY DEVELOPMENT

The main policy issues considered during the year apart from that associated with charging for use of the Marine Park and cost recovery were in the areas of waste discharge and sea dumping. Discharge of waste from island resorts requires a permit and new operations must now meet secondary treatment standard at least. If monitoring of discharges, which should be at the optimal discharge point for reef protection, show that the reefs in the vicinity of the discharge point are being adversely affected then upgrading to tertiary level will be required.

## LEGAL MATTERS

A substantial amount of time was required to meet obligations under litigation in which the Authority was a party.

After about 12 months the standing of appellants in the appeal to the Administrative Appeals Tribunal (AAT) over the decision to issue a permit to Magnetic Keys Ltd was settled in favour of the appellants. Shortly afterwards the appellants withdrew their appeals. However, in the meantime the building of the project continued until it had reached the point where further works could have rendered any decision of the AAT futile. The Authority and the public have found this situation to be unsatisfactory and the Authority has taken steps with the Attorney-General's Department to see whether the AAT system could be improved or whether there is a better method of resolving disputes of this nature.

Legal action to deal with a tourist operator who commenced a service to Green Island without permission also took substantial resources. A prosecution and an injunction were both unsuccessful but both are being appealed. Requests for documents under the *Freedom of Information Act 1982* were also received and processed in relation to this case. Because of the uncertainty created by judicial interpretation of the Cairns Section Zoning Plan in relation to tourist programs and facilities, it was necessary to process urgent amendments to the Great Barrier Reef Marine Park Act and Regulations. The amendments to the Act received royal assent on 16 June 1990.

Following the amendments to the Act and Regulations which occurred during 1989-90 workshops were held with staff of the Q.NPWS to explain changes and to assess further training requirements. It was apparent from these workshops that the enforcement capabilities of Q.NPWS field officers require development and implementation of training and refresher courses. Effective enforcement without autocratic attitudes will be the main emphasis for these training programs.

The other main area of legal concern was the extent to which the Authority may

be liable for actions or inactions of the Authority, its staff and agents. Liability can only arise from negligence in relation to the exercise of the duty of care which the Authority has towards people who use the Marine Park. Staff from the Authority held a workshop with risk management and legal experts and the Q. NPWS to identify the specific actions which may be taken or not taken, and which could lead to claims against the Authority for negligence. From this workshop it is proposed to develop a specific action plan to remove, reduce or transfer potential liability, or to ameliorate the effects of any court action.

## CHARGING FOR USE OF THE MARINE PARK AND COST RECOVERY

Permit assessment fees to recover the realistic average cost of permit assessment for tourist-related projects were introduced by regulation from 1 January 1990. Table 5 shows the fee structure. The new regulations apply the fees to applications made after 31 December 1989. Concurrently the general policy on permit periods was varied for these permits from one year to three years. This change will take about a year to work through and should provide some relief from the pressure of assessment and administrative workloads and, more importantly, minimise the requirements for permit holders to apply for renewals. The fees were introduced with the support of the Association of Marine Park Tourist Operators.

**TABLE 5. APPLICATION PERMISSION FEES FOR ACTIVITIES IN THE MARINE PARK**

Item No.	Activity	Initial Fee \$	Continuation Fee \$
1.	Requiring aircraft/vessel with maximum passenger capacity of:		
	(a) less than 25 passengers	350	350
	(b) 25 to 50 passengers	500	400
	(c) 51 to 100 passengers	900	550
	(d) 101 to 150 passengers	1 500	800
	(e) more than 150 passengers	2 500	1 000
2.	(a) Requiring the use of a facility or structure	1 100	1 100
	(b) Requiring a public notice to be given under regulation 9, 13AD, or 15B	4 000	1 500
	(c) In relation to which a PER is to be prepared	20 000	20 000
	(d) Continuation in relation to which a PER was prepared where another such report is not to be prepared in relation to that continuation		2 500
	(e) In relation to which an EIS is to be prepared	54 000	54 000
	(f) Continuation in relation to which an EIS was prepared where another such statement is not to be prepared in relation to that continuation		2 500
3.	Activity not referred to in item 1 or 2	350	350

*EIS = Environmental Impact Statement      PER = Public Environment Report*

At the request of the Ministerial Council, a possible concessions system was further developed during the year. Such a system would be a way of allocating scarce reef resources in an equitable manner while protecting existing investment by operators and ensuring that commercial operators profiting from the use of a public resource pay for the use of the resource. There has been no detailed consideration or decision by Governments to introduce such a system. Even if adopted by Governments it is not expected that the system could be introduced before 1991-92.

## COMPLEMENTARY MANAGEMENT

The assessment and issue of joint Marine Parks permits continues to be a cornerstone of Commonwealth/State cooperation in complementary management. There are areas for improvement and streamlining which still need to be addressed. For example the issue of permits for collecting fisheries e.g. aquarium fish and trochus is being better coordinated between the Authority the Q.NPWS and the Queensland Department of Primary Industries. It is proposed that the power under the Great Barrier Reef Marine Park Act to issue permits for such fisheries be delegated to the Queensland Department of Primary Industries once agreed management plans and permit conditions have been prepared for the particular fishery.

Management plans for islands and reefs which are heavily used or have high conservation or amenity values are urgently needed to guide the issue of permits for sites coming under increasing pressure. Such plans are necessary to ensure that the environment is protected and the range of uses in an area is distributed equitably. They should, where necessary, set limits within zoning plans to the type and range of uses for particular sites. This should assist the making of individual permit decisions within a regional context. Examples of areas which need island and reef plans are the Brook Islands and reefs, the Whitsunday Islands and reefs, the Capricorn group of islands and reefs and Green Island and reef.

## PERFORMANCE INFORMATION

Performance for 1989-90 was assessed in terms of **efficiency** and **effectiveness**.

**Efficiency** is defined as:

- the achievement of annual objectives
- the number and complexity of environmental impact assessments made and permits issued, and resources required for particular types compared with previous years.

Most annual objectives were achieved. Many other unforeseen activities were also satisfactorily undertaken.

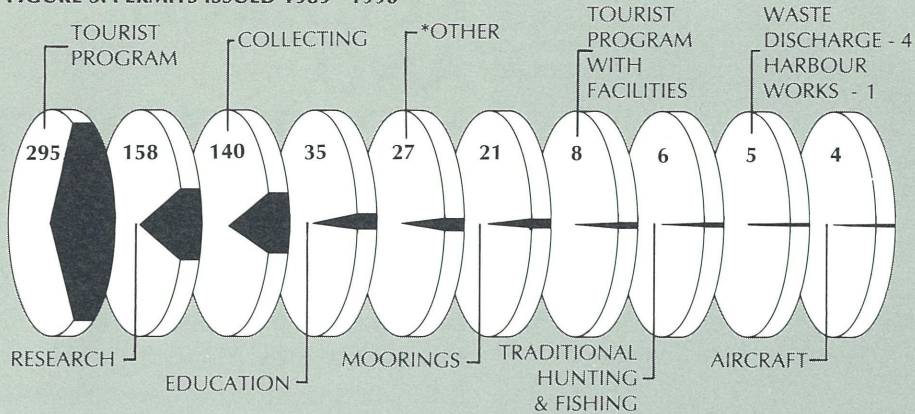
In 1989-90, 699 permits were issued, compared with 803 in 1988-89. There was a continuation of the trend towards more complex assessments, such as that for the nickel ore loading facility at Halifax Bay.

**Effectiveness** is defined as the extent of community understanding and acceptance of the provisions of zoning, regulations and management practices assessed from permit negotiations, public review of development proposals, appeals and litigation.

1988-89 was another difficult year, however the work of the Section continued to be effective with:

- an increasing acceptance and awareness by both proponents and the public of the environmental impact requirements of the Authority
- a high degree of rapport between the Authority staff and permittees although long delays in the issue of permits because of overload detract somewhat from this

**FIGURE 3. PERMITS ISSUED 1989 - 1990**



\* Other includes permits for navigation of a cruise ship, some fishing activities, aquarium intake pipe, yacht races, shipping, dugong, camping and disaster training exercises

- a high degree of compliance with the provisions of the zoning plans and permit conditions by permittees (with one notable exception)
- constructive public response to advertising of proposals with the potential for significant impacts. Some groups provided very useful comments. This was a vital part of the environmental impact assessment process.

The development of further reef and island use plans is essential for better environmental impact assessment and management. With such plans it should be easier to make individual permit decisions within a regional context and improve public understanding of management issues. Response time to permit applications will continue to be controlled by available staff resources. The application of permit assessment fees to additional staff should improve the response time. In addition, the introduction of three-year permits for tourist related activities should reduce work load and minimise requirements for clerical work by tourist operators. If a concession system is required to be introduced substantial extra staff and financial resources will need to be provided for development and operation of the system. Revenue from such a system should recoup such outlays. Litigation remains a potential drain on Authority resources and will adversely affect the ability of the Authority to carry out its responsibilities in environmental impact management and maintain a high quality service to the public.

## CONSULTANTS

External consultants were used on projects where it was efficient to use expertise in another agency or where there were benefits in having discrete parts of a project undertaken by a consultant. The consultancy services used in 1989-90 were:

G. Claridge, Review Permit/Insurance conditions \$11,500

Coopers and Lybrand, Investment Analysis models of evaluation of appropriate permit tenure \$4250

Sedgwick James, Risk Management \$3575

Marine Bio Logic, Guidelines for Marinas Manual \$2500.



# RESEARCH AND MONITORING

**The Research and Monitoring Section aims to achieve competence and fairness in the care and development of the Marine Park by obtaining and interpreting information relevant to the understanding of the Great Barrier Reef and to the implementation of the Authority's programs.**

*GBRMPA and Q.NPWS staff collect information from the underwater light measuring equipment as part of the Magnetic Quays monitoring program.*

Section staff are responsible for managing and coordinating multi-disciplinary research programs and individual commissioned research projects. Projects are determined by their relevance to planning and management of the Marine Park. Most research is contracted externally to agencies including universities, government bodies and private consultants (see Appendix F). Staff also undertake research of their own from time to time.

The Authority's research program covers a wide range of disciplines including marine biology, physical, chemical and social sciences. Many projects are multi-disciplinary to provide a broad appreciation of particular phenomena, sites or issues.

There are eight priority areas of research and monitoring: crown-of-thorns starfish, effects of fishing, reef monitoring, water quality monitoring, human use monitoring, social impact assessment, management studies and oceanography.

The Authority provides some financial support under the Augmentative Research Support Grants Scheme for postgraduate research projects that are relevant to the priority areas of research and monitoring. Twenty-eight applications for support were received this year of which 12 were supported at a total cost of \$13,764.

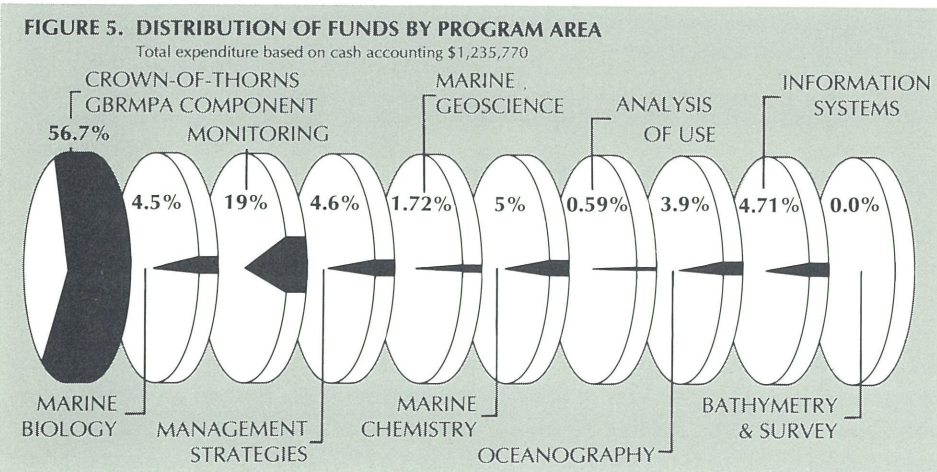
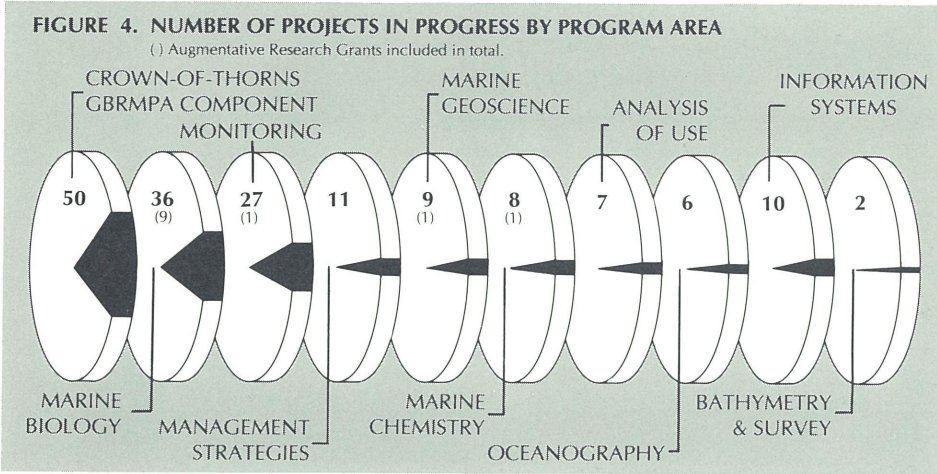
Figures 4 and 5 show the breakdown of projects in progress during 1989-90 by program area and in dollar terms respectively. Projects are listed in Appendix F.

## PERFORMANCE INFORMATION

**Efficiency** is assessed in terms of the cost of research, monitoring and interpretation; and the achievement of targets as measured by compliance with budget and project deadlines and the time taken to disseminate information. Some highlights of the year's program follow.

Overall the Research and Monitoring program remained within the Section's budget of \$1,314,784 for the 1989-90 financial year.

Of the 152 projects managed by Section staff (excluding Augmentative Grants recipients), 45 (30%) submitted final reports; 70 (46%) are continuing into 1990-91 and the remaining 37 (24%) are behind schedule. Project managers will finalise those projects that are behind schedule. Eleven externally - funded projects (at a total cost of \$209,253) were also managed.



The Section routinely distributes summaries of all relevant reports to other Sections of the Authority and to the Queensland Department of Environment and Heritage (QDEH).

**Effectiveness** is defined as the extent to which information, gained through research and monitoring, assists in achieving the Authority's objectives.

Research Days provided an opportunity for the results of research projects to be presented and a forum for Authority staff to discuss with researchers expectations and requirements of projects, ways of improving the efficiency of the Section and future research and monitoring needs

Over 140 participants attended two Research Days. These included private consultants and staff from JCU, Q.NPWS, QDEH, QDPI, Queensland Museum, CSIRO and AIMS, members of the Authority and COTSREC and staff from Research and Monitoring and other Sections in the Authority.



Section staff from left, back row: Steve Hillman, John Gillies, front row: Beryl Dennis, Brian Lassig, David Lawrence, William Gladstone and Christine Dalliston. Inset: Wendy Craik, Section head.

Some highlights of the year's program follow

## **CROWN-OF-THORNS STARFISH**

This year was the beginning of a new three - year program of investigations into the crown-of-thorns starfish on the Great Barrier Reef. In August 1989 the Commonwealth guaranteed funding for crown-of-thorns research of \$750,000 for 1989-1990 rising to \$1m per annum for each of 1990-91 and 1991-92 (subject to a review of the program). The Authority's coordination of the crown-of-thorns program during the year was guided by the recommendations of an expert panel, the Crown-of-Thorns Starfish Research Committee (COTSREC). The Authority established COTSREC on the recommendation of Professor Don Anderson who reviewed the Authority's handling of the crown-of-thorns problem at the request of the then Minister Senator Graham Richardson. All of Professor Anderson's recommendations to the Authority have now been implemented.

The members of COTSREC are Professor John Swan (Chairperson), Dr Joe Baker and Dr Peter Moran (AIMS), Professor Ray Golding (JCU), Mr Graeme Kelleher and Dr Brian Lassig (GBRMPA), Mr Robert Pearson (QDPI), and Dr Keith Sainsbury (CSIRO). COSTREC met in July 1989 and May 1990. A meeting scheduled for September 1989 was not held, because of the airline dispute, but recommendations were achieved through correspondence.

A total of 31 projects ran during the year with GBRMPA funding recommended by either COTSREC or the previous expert advisory panel, the Crown-of-Thorns Starfish Advisory Review Committee (COTSARC). Some highlights of this year's work are outlined below.

### **Status of Outbreaks**

The Australian Institute of Marine Science continued to survey reefs using the manta tow technique where a diver is towed behind a dinghy and counts the number of crown-of-thorns. A total of 168 reefs were surveyed during the year bringing the total number of reefs surveyed since 1982 to 336. About a third (30%) of all reefs surveyed have experienced an outbreak of starfish in the last 10 years. Adjusting for the sampling scheme the estimated percentage for the whole Reef becomes  $19\% \pm 3\%$ . The number of outbreaking populations would appear to be declining as the proportion (of reefs surveyed) rose from 7% in 1985 to a peak of 12% in 1987 and then dropped to 4% during the last year.

The main effects of the starfish have been concentrated within the central third of the Reef, between Lizard Island and Townsville. Many of these are in an early stage of recovery. Surveys within the Cairns region have indicated noticeable recovery of corals on some reefs although at the present time this is patchy.

During the last few years outbreaks have steadily declined in the Townsville region (from 80% in 1984-85 to 10% in 1989-90) and have increased on reefs to the south off Cape Upstart (from 5% in 1985-86 to 33% in 1989-90). The surveys have provided the first direct evidence of a southward moving wave of outbreaks (which has been hypothesised in the past). About 19% of reefs with outbreaks were seriously affected (i.e. greater than 30% coral mortality) whilst a further 33% experienced moderate damage.

### **Geology Workshop**

In May 1990 a workshop entitled 'A Geological Perspective on the *Acanthaster* Phenomenon' was held. The workshop was convened by the COTSREC following considerable scientific debate about the interpretation of the geological evidence for past outbreaks. The geological evidence is particularly important because of its potential role in indicating whether outbreaks are the result of human influences. Participants agreed the geological evidence indicated that crown-of-thorns starfish had existed on the Great Barrier Reef for a long time and that the evidence could be consistent with outbreaks but that other interpretations were possible. Current methods cannot indicate whether outbreaks of the intensity, duration, and frequency witnessed since 1960 had occurred in the past. The workshop recommended that a working group be formed to evaluate the existing geological data and to identify future lines of geological research to fill gaps in knowledge. That group has now been formed with the Authority's Executive Officer Dr Don Kinsey as chairperson.

### **Communication and Dissemination of Results**

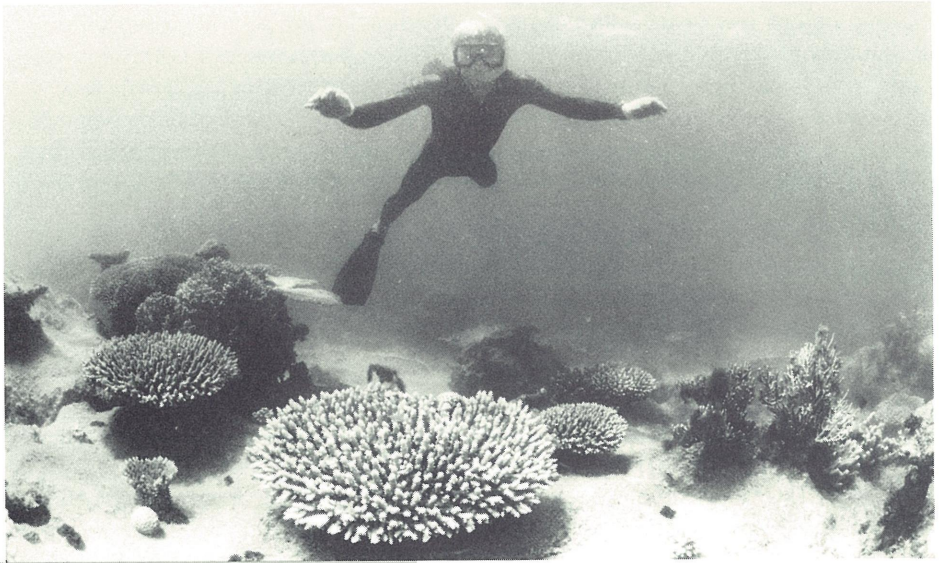
The results of research continued to be disseminated in the scientific literature, in reports received by the Authority, and through the press. Thirteen final reports were received and eight scientific papers, four AIMS technical reports and an MSc thesis, were published.

## REEF MONITORING

The Great Barrier Reef is a highly variable ecosystem. The composition of reef organism communities, patterns of reproduction of individual species, and population abundances all vary through time and from reef to reef and even within individual reefs. Natural but unpredictable events, like cyclones, impose another degree of complexity. This presents a unique challenge to management as the detection and monitoring of changes that might be caused by human activities must be done against a background of high natural variability.

Efficient management requires that the limited resources available for biological monitoring be allocated optimally, i.e. for a fixed amount of money monitoring programs should provide the maximum power to detect patterns in, and disturbances to, reef structure.

The Section is funding a major study of the scales and magnitudes of variability in the population densities of some representative reef animals. Other monitoring programs included continued monitoring of tourist sites, and further development of reactive monitoring techniques. The Australian Institute of Marine Science has decided to make studies of the temporal variability of the Reef ecosystem part of its core research program.



*Significant coral recovery has occurred at Green Island following major damage by the crown-of-thorns starfish ten years ago.*

In March this year Cyclone Ivor passed directly over many reefs in the vicinity of Lizard Island. Several of these reefs which had been surveyed before the cyclone were surveyed immediately after the cyclone. There was conspicuous and extreme structural damage to the windward reef slopes, particularly on Carter Reef. In the future the complete extent of cyclone damage will be mapped and long-term monitoring of the recovery process on several reefs will begin. This 'natural experiment' will provide a model for predicting and managing the likely consequences of human-induced damage to coral reefs.

## MARINE POLLUTION

One of the aims of the Marine Park Authority is 'to protect the natural qualities of the Great Barrier Reef, while providing for reasonable use of the Reef Region'. Pollution of the waters of the Marine Park is of concern with the continued growth of coastal ports, the risk of oil spills from ships passing through the Marine Park, the increasing numbers of tourists visiting the Reef, and a recognition of the adverse effects of increased levels of nutrients on the health of some of the Reef's organisms. This involves monitoring the impact of activities on both the natural environment of the Reef and those features which are of value to its many users and management to reduce potential impacts.

Staff assessed requests by the Cairns Port Authority to dump 1.8 million tonnes of dredge spoil into the Marine Park from widening of the Cairns harbour channel and the Townsville Port Authority to dump 650,000 tonnes on the boundary of the Park from the maintenance of Townsville port's Platypus Channel. These proposals need to be carefully considered because of concerns about coastal water clarity and sedimentation of mangroves and seagrass beds. These are important as fish nursery grounds and food for dugong.

The Section is coordinating a study of the hydrodynamics of Cleveland Bay which looks at the movement of re-suspended material as it may possibly affect sensitive areas like fringing reefs and seagrass beds. The study is being funded by the Townsville Port Authority. Management of sea dumping issues within the Marine Park has been facilitated by the appointment of a DASET-funded staff member.

Water quality of the Marine Park is a priority for the next decade. It is known that some inshore waters have high levels of nutrients (nitrogen and phosphorus) and there is photographic evidence suggesting that some inshore reefs have degraded over the past few decades. Nevertheless it has not been scientifically demonstrated that these levels of nutrients are harmful to the Great Barrier Reef coral communities. Almost 25% of the section budget was spent on water quality issues, including a research and monitoring program for water quality and a policy paper on waste discharge in the Marine Park, an analysis of the water quality around Green and Hayman Islands in the vicinities of sewage outfalls, and monitoring of the biota in the outfall paths.

Under REEFPLAN, the contingency plan for oil spills in the Great Barrier Reef Region, staff act as Scientific Support Coordinators and are responsible for providing scientific advice regarding oil spills. They participated in a desktop oil spill response exercise, the Second National Workshop on the Role of Scientific Support Coordinator in Oil Spill Response and publishing a revised edition of REEFPLAN by the Federal Department of Transport and Communications.

## EFFECTS OF FISHING

The Proceedings of the Effects of Fishing Workshop held in February 1989 under the auspices of the multi-agency Advisory Committee has been finalised with recommendations for experimental testing of the effects of line fishing and trawling.

Other investigations which looked at effects of fishing included a survey of recreational fishing in speed boats in the Great Barrier Reef Region over a 12 month period and analysis of reef fish catch data from deep sea clubs. The findings from these projects will give a clearer picture of whether reef fish are being affected by the current levels of fishing in the Great Barrier Reef Marine Park.

## **TORRES STRAIT BASELINE STUDY**

In July 1989 the Prime Minister announced in his environmental statement, *OUR COUNTRY, OUR FUTURE*, that the Government would fund a four year environmental study of the Torres Strait. The Study was instigated in response to concerns, expressed by Torres Strait Islanders as well as commercial fishing operators, about the possible effects on the Torres Strait environment of current and proposed mining operations in the Fly River catchment region of Papua New Guinea. The Great Barrier Reef Marine Park Authority is supervising the study with funding provided for 1989-90 (\$147,000) and 1990-1991 (\$200,000).

The study will be conducted in close cooperation with the Papua New Guinea Government and Ok Tedi Mining Limited. It will evaluate present data on the Torres Strait marine environment to identify existing levels of heavy metals, particularly copper, in sediments, water and selected marine species. This will assist in determining in the future whether there is evidence of contamination from mining operations. The study will aim to provide options for the effective management and protection of the Torres Strait marine environment.



# EDUCATION AND INFORMATION

The Education and Information Section's objective is to enhance community understanding, appreciation, experience of and support for the Great Barrier Reef, the Marine Park and the Authority. The Section provides advice, public information and education materials and services. It cooperates with the Great Barrier Reef Aquarium in achieving this objective.

*Aboriginal Children had fun snorkelling at Green Island as part of the Cairns Community Reef Experience Project.*

The Section's responsibility includes the following services:

- increasing community awareness of, and support for, Authority policies, programs and services
- encouraging public appreciation of, and responsibility towards, the Great Barrier Reef Marine Park
- supporting the work of all sections of the Authority through the design of publications
- cooperating with other government departments concerned with the Great Barrier Reef Marine Park to achieve the Authority's goal and aims
- disseminating information and education services for the Authority
- encouraging community cooperation and participation in planning and managing the Great Barrier Reef Marine Park
- supporting community organisations, commercial or otherwise, in providing quality public information, education and interpretive services about the Great Barrier Reef Marine Park.

*Education and Information*

## PERFORMANCE INFORMATION

The **efficiency** of education, information and advisory services is assessed in

Page 37

relation to their cost and the extent to which they meet the Authority's objectives, as measured by:

- compliance with project deadlines and budgets
- extent of utilisation of products
- average cost per unit area of zoned Marine Park.

The **effectiveness** of education, information and advisory services is assessed by the extent to which they inform, satisfy, create awareness or enlighten the public about the Marine Park and the Authority as measured by:

- assessment of level of support for services, i.e. demand for information/ services/ products
- evaluation of target populations to assess levels awareness or satisfaction
- expert opinion on quality of GBRMPA products and services.

The Education and Information Section achieved its planned annual program with 100% of the program budget expended and the majority of projects were within the budget estimates.

The cost of education and information per unit area of zoned Marine Park was again reduced compared to previous years.

	1988-89	<b>1989-90</b>
Zoned Area (square kilometres)	344 000	<b>344 000</b>
Cost (net expenditure including salaries)	1 207 000	<b>981 000</b>
Unit Cost (adjusted to 1990 prices)	\$3.70	<b>\$2.85</b>

There was an increase in demand for most services provided by the Section compared to the previous year, including:

- 14% increase in written requests for general reef information. An additional special offer for young people in *Free Stuff for Kids* attracted over 4400 inquiries for Reef information
- 10% increase in library services including borrowings for books, maps, and audio-visual materials
- 9% increase in revenue from sales and distribution of educational resources (\$71,200)
- 31% increase in Authority exposure through press, radio and television.
- 38% increase in demand for *Reflections* magazine
- 210% increase in number of participants attending educational seminars and training courses

Recognition of the Section's products and services was measured by several awards for excellence during the year.

MARINE PARKS TOURIST OPERATOR TRAINING COURSES (GBRMPA/Q.NPWS)	Best Tourist Services	Queensland Tourism Awards
PROJECT REEF ED	Best Government Publication	Australian Geography Teachers Association
1990 CALENDAR	Silver Serif Award for Excellence in Communication	Australian Society of Business Communicators
DISCOVER THE GREAT BARRIER REEF MARINE PARK	Gold Quill Finalist	International Society for Business Communicators

## PRODUCTION OF NEW EDUCATIONAL MATERIALS

To promote greater understanding of the zoning process, the Section produced a *Great Barrier Reef Zoning Game* published by Ashton Scholastic. This has been widely used in schools and for tourist-operator training programs on the Marine Park.

Two issues of *Reflections* No 24 and No 25 were produced. The mailing list increased by 38%, therefore increasing the print run to over 10,000 copies. This large print run combined with advances in technology have made a full colour format possible at a similar unit cost.

Two full colour booklets based on photographs and text from the international award winning publication *Discover the Great Barrier Reef Marine Park* were produced by the Brisbane *Sunday Sun* with a distribution of 300,000 each.

A series of new postcards featured in the national award winning *1990 Great Barrier Reef Calendar* have proved very popular in promoting reef conservation and management.

Three new editions of the national award winning video magazine, *Reef Report*, were produced and distributed to some 100 scientific, educational, tourist and management organisations in Australia and overseas.

A professionally conducted evaluation of *Reef Report* surveyed 107 organisations, groups and individuals. Overall, current users appeared to be very satisfied with the *Reef Report* in both content and price, with video appearing to be an acceptable form of communication for GBRMPA.

Advice and assistance was given to some seven television productions companies in filming aspects of Reef. The productions included management messages relating to the overall goal and objectives of the Authority.

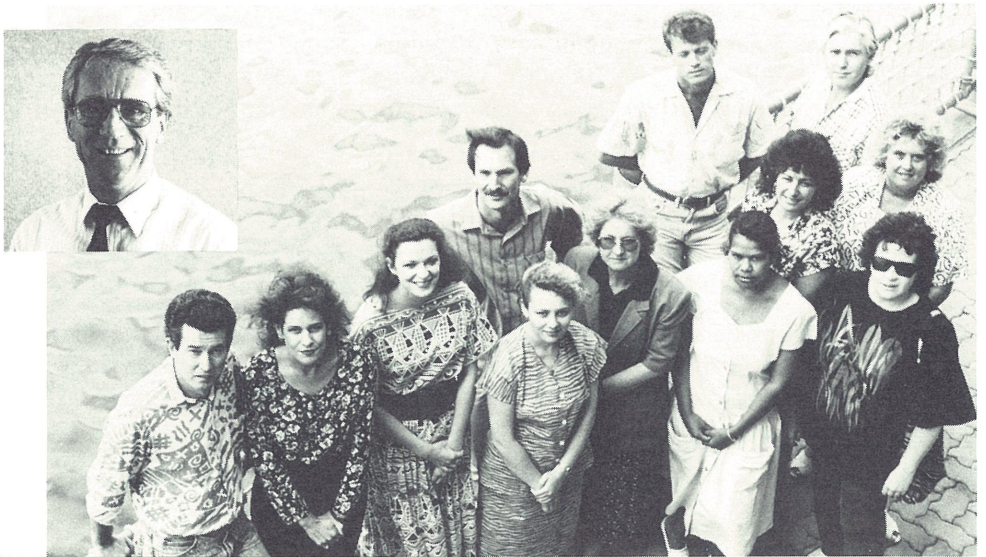
New displays were designed for Seaweek and the Airlie Beach Q. NPWS Interpretative Centre. More staff time was allocated to photography and servicing increasing requests by publishers for reef photographs and management staff for audio-visual presentations.

## SEAWEEK

As a major supporter of the Marine Education Society of Australasia (MESA) the Education and Information Section assisted in coordinating Seaweeek '90. The national theme for Seaweeek '90 was 'Turn the Tide' on marine pollution and activities focused on preventing pollution of the Great Barrier Reef.

A special poster, an educational book and community service television announcement were produced and distributed nationally to help promote Seaweeek '90 throughout Australia. Extensive publicity in all media helped raise community awareness about the potential problems of pollution to the Reef.

Local Seaweeek committees were established in Port Douglas, Cairns, Townsville and Rockhampton and many community displays, environmental seminars, teacher workshops, beach clean-ups and special events were organised. Schools, libraries, town councils, and government departments supported Seaweeek throughout coastal centres of Queensland with over 7000 young people participating.



Section staff from the left, back row: Mark Simmons, Andrew Elliott, middle row: Don Alcock, Rozel Brown, Lesley Murdoch, front row: Brian Dare, Trish Schell, Fiona Alongi, Janine Prout, Elaine Eager, Stephanie Rosser and Jenni Kanaley. Absent: Craig Sambell, Carol Regan. Inset: Ray Neale, Section head.

## COMMUNITY ASSISTANCE

A program to assist community organisations develop innovative educational projects about the Marine Park was offered. **The Reef Education Developer Scheme** funded the following projects:

### Seaweeek

Employment of a part-time consultant to plan and organise a program of community activities in Rockhampton for Seaweeek - 'Turn the Tide' on marine pollution. (\$2600)

### **Magnetic Island Publication**

Assistance with the production of a book informing visitors about fishing, diving and collecting activities in the Marine Park around Magnetic Island. (\$1000)

### **Cairns Community Reef Experience**

Sponsoring a consultant to conduct a pilot reef interpretation program for 80 members of the Cairns community. Participants were Aboriginals and Torres Strait Islanders and other community groups including the aged, disabled, intellectually handicapped and young people who took part in the Reef trip to Green Island. (\$4200)

### **North Queensland Games**

Provision of educational resource materials for a school-based Reef Awareness Program in the Mackay region involving over 15,000 students. (\$7000)

## **MEDIA**

The Authority continued to develop and expand its public contact through the media. Media monitoring records indicate that during the review period there was a 31.5% increase in the Authority's exposure through print, radio and television over and above the 1988-89 period.

The continued increase in media interest concerning the work of the Authority can be attributed to an expansion of community concern and participation with environmental issues. In addition, the pro-active media strategy adopted by the Authority has developed a great understanding by the media of the goal and aims of the organisation in relation to marine park management.

## **TRAINING PROGRAMS/EXTENSION**

Ten Tourist Operator Workshops were conducted in conjunction with Q.NPWS. Workshops were held in Mackay, Rosslyn Bay, Gladstone, Bundaberg, Heron Island, Townsville, Airlie Beach, Cairns and Hamilton Island. Over 350 staff attended these courses representing approximately 121 separate organisations and companies. The objectives of these courses included developing a professional approach to the presentation of interpretive services by operators and increasing the awareness amongst operators of the roles and objectives of the Marine Park and management agencies.

Several companies approached the Authority to give a formal evaluation of their current interpretive programs and identify further training requirements. Three evaluations were completed for operations in Airlie Beach and Townsville.

The concept of the Authority providing specific training courses for individual operators was trialled when Hamilton Island Cruises approached the Authority to conduct a program for its staff. This was completed in June and was very successful in that the company is now committed to planning and implementing its own interpretive program.

## **COMMERCIAL FISHERIES EXTENSION**

In 1989-90 the Authority employed a commercial fisheries consultant to assist in a number of industry liaison and educational areas.

Meetings were held during the year with Queensland Commercial Fishermen's Organization (QCFO), Queensland Fish Management Authority (QFMA), Queensland Department of Primary Industries (QDPI) and Q.NPWS executives and individual fishing operators in Brisbane, Urangan, Townsville and Cairns. The QCFO Cairns Liaison Committee approach, used primarily for the Cairns rezoning, proved to be a very successful negotiating forum for many commercial fishing issues.

A similar Liaison Committee was established for the Townsville region and provided increased contact on an informal level amongst members of, QCFO, Q.NPWS and QFMA.

A two-day educational seminar entitled 'Commercial Fisheries in the Marine Park' was held in Urangan in November '89 for Q.NPWS rangers and senior staff. The objective was to provide staff with a broad introduction into all aspects of commercial fishing.

The first edition of a new video *Deckhand*, aimed at Queensland's fishing industry, was released free of charge to commercial fishing operators in December 1989. This initiative is directed towards communicating with the industry with news and information about planning strategies of the Authority.

## RECREATIONAL FISHING

Public seminars on recreational fishing in the Marine Park entitled 'Fish for the Future' were conducted in coastal centres. Fifteen evening seminars were held in towns from Rockhampton to Cairns with about 900 people attending.

The seminar program was organised in conjunction with staff from GBRMPA, Q.NPWS, QDPI, Queensland Boating and Fisheries Patrol and other guest speakers. The aims of the seminar program were to increase awareness and acceptance of zoning information, to educate recreational anglers about proper codes of behaviour and to clarify roles of different management agencies concerned with fisheries enforcement, conservation, management and research in the Marine Park.

The seminars provided a public forum for comments and feedback about a range of issues concerning recreational fishing in the Marine Park. Surveyed opinion at each seminar indicated a sound level of public awareness about local zoning plans by this user group in most areas.

In addition, newspaper advertising was used in selected Queensland fishing journals to inform anglers about zoning plans and the effects of anchor damage, litter and overfishing on coral reefs.

## CONSULTANTS

External consultants were used on projects where it was efficient to use expertise in another agency or where there were benefits in having discrete parts of a project undertaken by a consultant. The consultancy services used in 1989-90 are listed in Table 6.

**TABLE 6. CONSULTANCY SERVICES**

Consultant/Organisation	Project	Expenditure \$
S Raaymakers	Planning, organising and conducting Seaweek in Townsville	4 510
M Prior	Planning, organising and conducting two recreational fishing seminars for GBRMPA	819
G Smith	Planning, organising and conducting six recreational fishing seminars for GBRMPA	3 722
G Vallance	Planning, organising and conducting six recreational fishing seminars for GBRMPA	2 940
L Mabbutt	Consultant to manage Cairns Community Reef Experience	2 500
B Shorthouse	Commercial fishing consultant assisting GBRMPA liaise with fishing industry	21 163
C Jones	Commercial fishing consultant assisting GBRMPA liaise with fishing industry	693
J Dartnall	Producing and editing a glossary of terms and definitions about the GBR Marine Park	920

## FREEDOM OF INFORMATION

The Authority received only two requests for information under the *Freedom of Information Act 1982* (FOI). Both requests related to activities on Green Island and Green Island Reef and were fully completed in the required time.

The Authority maintained its updated documentation called for under section 8 and 9 of the FOI Act, and its regular reporting. Responsibility for granting or denying access to documents rests with the Executive Officer. Documents available to the public are listed in Appendix D

## LIBRARY

The library provides an information and reference service, based on published and unpublished material, to assist the Authority and its staff in their duties. The library is also available to the general public and, as a result of the location in the Reef Wonderland complex, public access has increased.

In addition to the core collection of books and periodicals the library houses a

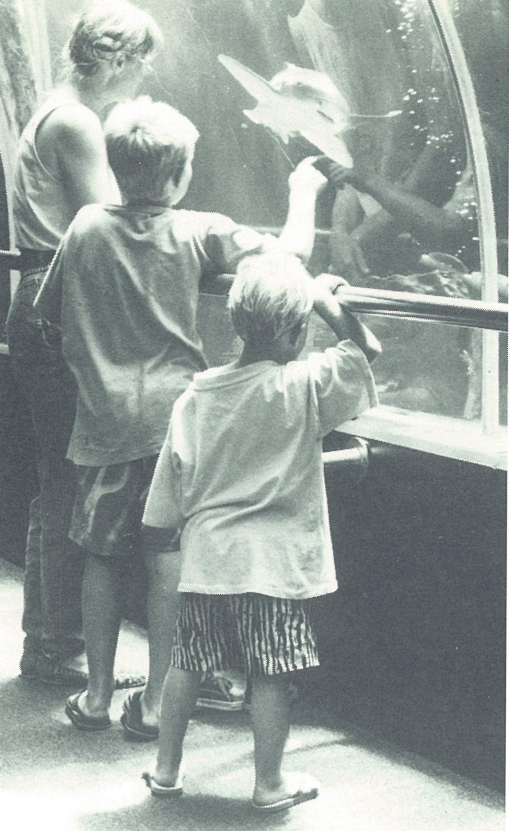
substantial map and aerial photograph collection. The cartographic collection is accessed through the mainframe computer.

The computerised library management system which incorporates the book catalogue, periodical catalogue, loans records and accounts details has proven to be flexible and efficient. To date 2100 monographs have been added to the database and it is estimated that the remaining material in the old collection will be catalogued by the end of 1991. New purchases increased by 33% in 1989-90. Loans have only increased marginally by 10%. Loan figures do not generally reflect library usage as many inquiries are satisfied with photocopies or the material is used in-house.

Although monographs and periodicals remain central to the collection future developments will result in a substantial increase in cartographic materials. The core collection continues to reflect the diversity of needs and interests of the Authority.



Recreational fishing, a popular activity in the Marine Park, is managed through zoning and public education programs such as a series of regional **Fish for the Future** seminars.



# AQUARIUM

The Great Barrier Reef Aquarium has been operating for three years after its opening on 24 June 1987. It was developed as part of the Great Barrier Reef Wonderland Bicentennial Commemorative project. This whole project was conceived by the Authority's chairman Mr Graeme Kelleher. The Aquarium's objective is to enhance community understanding, appreciation, experience of and support for the Great Barrier Reef, the Marine Park and the Authority by providing a readily accessible onshore reef environment and interpretive facilities.

*Visibility in the Predator Tank is much clearer since the installation of an ozone machine donated by ASEA Brown Boveri.*

Great Barrier Reef Wonderland incorporates a branch of the Queensland Museum concentrating on the natural sciences, history, culture and development of North Queensland and features specialist exhibits relating to the Great Barrier Reef. Both the Aquarium and the Museum elements of the Wonderland facility were funded through Bicentennial grants.

An Omnimax cinema and commercial centre of shops, offices, food outlets and charter boat services were developed with private sector funding. High speed catamarans provide a service to Magnetic Island and the Great Barrier Reef.

The Aquarium features a coral reef system incorporating a walk-through viewing tunnel that provides a reef experience which is both fascinating and realistic, and stimulates the visitor to further explore the Great Barrier Reef. The Aquarium is operated by the Authority on a full cost-recovery basis.

## PERFORMANCE INFORMATION

The extent to which the Aquarium met its objective in the past year is assessed in terms of the following performance indicators:

### **Maintenance of biological and interpretive displays and services**

Interpretive displays were improved with better labelling, new transparencies with improved light boxes, and an expanded range of changing theme displays including sharks, turtles, corals, whales, marine stingers and marine pollution.

A more sophisticated interactive computer display about zoning and management of the Marine Park was introduced following the generous donation of computer equipment to the value of \$14,000 by Apple Computer Australia.

The coral reef tank was maintained in excellent health throughout the year although some problems were experienced in controlling salinity and nutrient levels as a result of record rainfall in late summer/early autumn. As in previous years corals in the reef tank spawned on exactly the same nights as corals on nearby reefs.



*Aquarium staff from left, back row: Ian Baxter, Mike Townsend, Richard Fitzpatrick, Warren Haydon, Maggie Eichenbrenner, Udo Englehardt, Chick Nelson, Mike Hunter, Ray Berkelmans, middle row: Paul Hough, John Hoey, Martin Jones, Janice Morrissey, Andi Cairns, Karen Tull, Anna Harbomee, Grace Brice, front row: Tom Walters, Tony Steele, Susan Hutchinson, Graham Cade, Annie Keyes, Loretta Saunders, Ian Preece and Norm Hatherly. Absent: Deborah Cavanagh, Geoff Shannon, Paula Casey and Jenny Barnes. Inset: Ian Burston, Section head.*

The water colour in the predator aquarium was improved dramatically by the trial use of ozone technology. Following the success of this trial, discussions with the Brisbane based firm ASEA BROWN BOVERI resulted in this firm donating to the Aquarium an ozone treatment plant valued at \$15,000.

During the year existing ancillary biological displays were improved by the development of new lighting systems. Prototypes for several new displays were also developed.

The Aquarium's Membership Scheme, which encourages community involvement in the Aquarium and support for the Authority's goal and aims, was further expanded in terms of the range of activities and programs. Mangrove walks and night excursions to watch turtle eggs hatching were highly successful new activities.

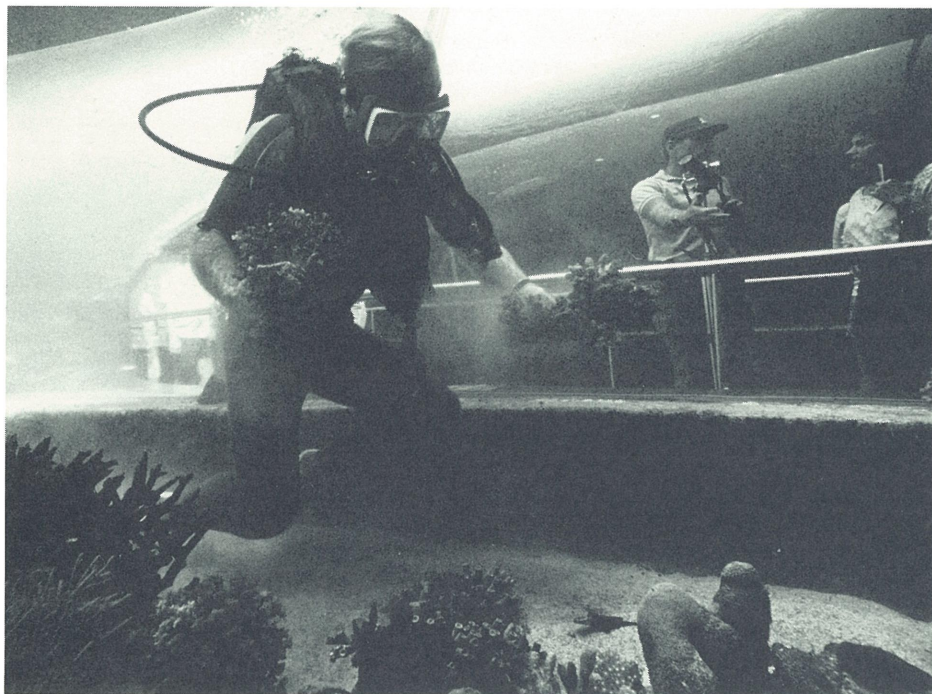
The Aquarium conducted two volunteer training programs in 1989-90. For eight hours each month volunteers can choose to guide in the interpretive area, assist behind-the-scenes and help with Aquarium education programs. In return they receive a six week training program which offers a comprehensive introduction

to the Aquarium and the Great Barrier Reef with expert tuition from JCU, AIMS and GBRMPA staff. On-going workshops and field trips maintain volunteer interest in the program and improve their skills. Over 180 people have become Aquarium volunteers since the program commenced in October 1987.

### **Public impact**

Approximately 200,000 people visited the Aquarium during 1989-90. The following indicators suggest that the Aquarium is continuing to have a significant positive effect on public awareness and understanding of the Great Barrier Reef and the Marine Park concept:

- more informed public comment and inquiries to the Authority
- favourable feedback from educational institutions about student reactions
- reports from Reef tourist operators that clients who have visited the Aquarium have been noticeably more knowledgeable about the Reef and the need to use it wisely
- widespread community support through the membership scheme.



*An Aquarium diver places newly collected corals into the Coral Reef Tank*

### **Achievement of cost recovery**

Visitor numbers, which were depressed during 1988-89 as a result of World Expo in Brisbane, deteriorated further in 1989-90 as a result of the dramatic effect on North Queensland of the airline pilots' dispute. As a result of tight financial management and very little expenditure on new equipment or displays, most day-to-day operating costs were able to be met from revenue from admissions and the Aquarium shop. However, an operating deficit of approximately



*As part of the Aquarium's education program, Guide Supervisor, Susan Hutchinson works with children in the Quicksilver Discovery Room.*

\$200,000 was incurred and there were no funds available to be set aside for depreciation of fixed assets. In the latter stages of the year the Department of Finance approved a commercial loan of \$1 million to the Aquarium to see it through its current financial difficulties.

## CONSULTANTS

External consultants were used on projects where it was efficient to use expertise in another agency or where there were benefits in having discrete parts of a project undertaken by a consultant. The consultancy services used in 1989-90 were:

B. Kettle, Development of interactive computer program about Marine Park management \$4000

J. Swartz, Development of programs for primary and secondary schools. Ms Swartz gave workshops for teachers and trained Aquarium staff to work with school children \$21,000.

# ADMINISTRATION

**The Administration Section is part of the corporate management and services program, the objective of which is to achieve cost-effective delivery of programs by providing executive management and administrative support to the Minister, the Authority and its staff.**



*Rhonda Lane conducting computer training sessions for staff members Stephanie Rosser, Ian Baxter and Des Brushe.*

The Section's responsibility covers the following corporate services which are centralised in the interests of efficiency:

- personnel management
- finance management
- general services including property, stores and registry.

The objective of the sub-program requires continual development of an appropriate infrastructure for operations.

Within the limits of Authority direction and regulation, the Section seeks to meet particular operating needs through informality and simplification of procedures and systems.

The **efficiency** of corporate services is assessed in relation to their cost and the extent to which they comply with and meet Authority and external requirements, as measured by the:

- management of Average Staffing Levels (ASL) - % variation
- management of financial resources - % variation
- cost of the support services in relation to the Authority's overall outlays - time/cost for key tasks or services, e.g. payment of accounts, recruitment
- compliance with standards of quality - as reflected by audit findings.

The **effectiveness** of the corporate services is assessed by the extent to which the administrative infrastructure is adapted to support all programs and the central resource management requirements as measured by:

- the degree of 'client' satisfaction with the standard of each service
- the timeliness of the implementation of Authority policies and decisions
- implementation of government policies and directives that flow from government decisions
- resource usage outcomes.

## PERSONNEL MANAGEMENT

From a structure of 112 positions, 33 were advertised for filling within the average staffing level (ASL) limitation of 97.5. The target for the filling of vacancies was 12 weeks.

In 1989-90 the average time between advertising and notification of a promotion or an appointment was 12.65 weeks, compared with 14 weeks for 25 positions advertised in 1988-89. Considering the number of applications and the necessity for officers to handle selection work together with their mainstream responsibilities, the outcome was satisfactory.

The ASL for 1989-90 was 100.75, a variation of +3.33% from the original ASL allocation of 97.5. This variation was negotiated with the Department of Finance because of the transfer of some Aquarium personnel from contract to staff at a significant cost saving.

Altogether 12 permanent staff (14%) left the Authority compared with 15 permanent staff (15.5%) in 1988-89.

The requirements of the revised Office Structures continue to be addressed throughout the Authority with particular emphasis on job redesign, multi-skilling, flexibility and mobility and computer/keyboard training.

During the year, the following changes were made to the establishment positions by the Chairman under the powers vested in him under section 27 of the *Public Service Act*

### CREATION OF OFFICES:

Planning and Management Section

- Administrative Service Officer Class 5

Research and Monitoring Section

- Administrative Service Officer Class 6
- Administrative Service Officer Class 7 - three positions
- Administrative Service Officer Class 4

Aquarium

- Administrative Service Officer Class 1 - two positions

### TRANSFER OF OFFICE:

- Administrative Service Officer Class 1 from Administration Section to Education/Information Section

### ABOLITION OF OFFICES:

Aquarium

- Administrative Service Officer Class 7
- Technical Assistant Grade 2
- Science 3

Administration

Page 50.

### RECLASSIFICATION OF OFFICES:

Aquarium

- Administrative Service Officer Class 2 to Administrative Service Officer Class 3

- Senior Technical Officer (Science) Grade 1 to Senior Technical Officer (Science) Grade-2

Planning and Management

- Computer Systems Officer Grade 3 to Computer Systems Officer Grade 4

Executive

- Senior Executive Service Level 2 to Senior Executive Service Band 1

The staffing of the Authority at 30 June 1990 is set out in Figure 6.

The total expenditure on salaries and related costs was \$3,343 900 being \$106,900 over the originally approved budget of \$3,237,000, a variation of +3.3%, which includes two National Wage Case Adjustments of 3% during the year. These figures include the staffing costs of the Aquarium which are not funded through parliamentary appropriation but are met from Aquarium revenues on a cost-recovery basis.

### **Equal Employment Opportunity**

The Authority's commitment to Equal Employment Opportunity (EEO) was demonstrated through information dissemination, personnel policies in relation to conditions of employment, recruitment and selection procedures and in personal development.

The Chairman and Executive Officer are the senior executives responsible for EEO. The Manager, Personnel and General Services (ASO 6 ) is the EEO Coordinator. The Administration Section's contribution to EEO and its implementation involves approximately 0.5 staff years.

There were no EEO related grievances during the year.

EEO data for the Authority's staff are provided in Tables 7 and 8.

Representation of EEO Target Groups within the Authority's staffing is comparable to service wide data, although the proportion of Aboriginals and Torres Strait Islanders is less than in the population of the Great Barrier Reef Region. Action to increase the representation of this group continues.

### **Industrial Democracy**

The process for staff involvement in decision making within the Authority continues to develop. It has always been recognised that while the ultimate responsibility for management lies with the Authority, effective management will be enhanced through the involvement in and the commitment of staff to the decision making process. This requires the involvement of staff in consultations which:

- allow staff to fully apply their skills and experience
- recognise the dignity of all staff
- provide all staff with the opportunity to influence the decisions that affect the quality of their working lives.

**FIGURE 6. STAFF OF THE AUTHORITY AT 30 JUNE 1990**  
(Full time equivalent)

		PERMANENT	TEMPORARY	TOTAL
<b>OPERATIVE</b>				
<b>Townsville</b>	Executive and Secretariat	4	-	4
	Research and Monitoring	8	1	9
	Planning and Management	13	-	13
	Environmental Impact Management	14.8	-	14.8
	Education & Information	13	2	15
	Administration	16	-	16
	Aquarium	15.8	8.97	24.77
	<b>TOTAL TOWNSVILLE</b>	<b>84.6</b>	<b>11.97</b>	<b>96.57</b>
<b>Canberra</b>	Executive	2	-	2
	Support	3	-	3
	<b>TOTAL CANBERRA</b>	<b>5</b>	<b>-</b>	<b>5</b>
<b>TOTAL JUNE 1990</b>		<b>89.6</b>	<b>11.97</b>	<b>101.57</b>
<b>JUNE 1989</b>		<b>76.8</b>	<b>21.1</b>	<b>97.9</b>
<b>INOPERATIVE</b>				
Leave with pay		-	-	-
Leave without pay - Study		-	-	-
- Public Interest		3	-	3
- Other		5	-	5
<b>TOTAL</b>		<b>8</b>	<b>-</b>	<b>8</b>

## **Occupational Health and Safety**

The Authority continues to provide its staff with a healthy and safe work environment. As a part of this program Authority staff are provided with access to the services of professional counsellors through an Employee Assistance Program agreement with Interlock Townsville.

Authority staff are often required to dive on the Reef for projects. Accepted standards of competence and safety for scientific diving are ensured and maintained on all dives. During the year some staff received Advanced Resuscitation Certificates (Royal Lifesaving Society) and gained basic scuba certification. There were also seminars given by dive instructors and dive doctors about safe diving procedures.

During the year five claims for workers compensation were lodged, with expenditure on these claims totalling \$372.

## **Personal Development**

Not having its own Staff Development Section, the Authority utilises training opportunities offered by departments, management consultants and other outside bodies for the personal development of its staff. Participation in work related conferences and seminars and attendance at occasional presentations given by visiting experts also contribute to the professional development of its staff. Altogether 85 staff were involved in 66 personal development activities.

During the year one officer continued to undertake full time study on unpaid leave; a further four officers studied on a part time basis under approved study leave programs.

The Authority also continued to provide work experience placements for high school and tertiary students.

Participation in the Regional Director's Staff Development Scheme has opened up further opportunities for staff to attend personal development workshops and seminars in Brisbane. In Townsville, a number of departments and agencies are cooperating in the pursuit of arranging more personal development courses on a cost-sharing basis.

## **FINANCIAL MANAGEMENT**

In 1989-90 Parliament appropriated \$9,266,000 for the Authority's programs, other than the Great Barrier Reef Aquarium. In addition \$1 million was appropriated for the Great Barrier Reef Aquarium as an advance to provide working capital. Additional funds amounting to \$946,850 were carried forward from the 1988-89 financial year and applied towards 1989-90 activities. Under the cost-sharing arrangements for the day-to-day management of the Marine Park, an amount of \$2,191,140 was received from the Queensland Government during the year. Receipts from other sources including interest, permit assessment fees, contribution for baseline and monitoring studies and the sale of education materials amounted to \$942,694 and earnings of \$1,618,829 by the Aquarium.

Program expenditure for the year, other than expenditure on the Great Barrier Reef Aquarium, amounted to \$12,162,034, or 91% of funds available.

**TABLE 7. REPRESENTATION OF EEO GROUPS WITHIN SALARY LEVELS  
AS AT 30 JUNE 1990**

SALARY \$	TOTAL NO. OF STAFF	WOMEN	NESB1	NESB2	NESB3	ATSI	PWD	STAFF WITH EEO DATA
Below 22 167 (includes ASO 1)	14	12 86%	0 0%	1 9%	10 91%	2 18%	1 9%	11
22 167 to 25 060 (includes ASO 2)	23	12 52%	1 5%	0 0%	20 95%	0 0%	3 14%	21
25 061 to 27 780 (includes ASO 3)	15	12 80%	0 0%	2 14%	12 86%	0 0%	1 7%	14
27 781 to 31 150 (includes ASO 4)	5	3 60%	1 25%	0 0%	3 75%	0 0%	0 0%	4
31 151 to 33 930 (includes ASO 5)	13	7 54%	1 8%	0 0%	11 92%	0 0%	1 8%	12
33 931 to 39 700 (includes ASO 6)	28	6 21%	0 0%	0 0%	24 100%	0 0%	4 17%	24
39 701 to 42 327 (includes ASO 7)	10	2 20%	1 10%	1 10%	8 80%	0 0%	0 0%	10
42 328 to 49 194 (includes ASO 8)	10	2 20%	0 0%	0 0%	10 100%	0 0%	0 0%	10
Above 49 194	2	0 0%	0 0%	0 0%	2 100%	0 0%	0 0%	2
TOTALS	120	56 47%	4 4%	4 4%	100 93%	2 2%	10 9%	108

**TABLE 8. REPRESENTATION OF EEO GROUPS WITHIN OCCUPATIONAL GROUPS  
AS AT 30 JUNE 1990**

SALARY	TOTAL NO. OF STAFF	WOMEN	NESB1	NESB2	NESB3	ATSI	PWD	STAFF WITH EEO DATA
SES	3	1 33%	0 0%	0 0%	3 100%	0 0%	0 0%	3
ASO & related	96	50 52%	4 5%	4 5%	79 91%	2 2%	9 10%	87
Trades	2	0 0%	0 0%	0 0%	2 100%	0 0%	0 0%	2
Physical	7	1 14%	0 0%	0 0%	6 100%	0 0%	1 17%	6
Professional	6	2 33%	0 0%	0 0%	5 100%	0 0%	0 0%	5
Technical	5	2 40%	0 0%	0 0%	4 100%	0 0%	0 0%	4
Other	1	0 0%	0 0%	0 0%	1 100%	0 0%	0 0%	1
TOTALS	120	56 47%	4 4%	4 4%	100 93%	2 2%	10 9%	108

SOURCE: Data retrieved from GBRMPA EEO Database

**TABLE 9. REPRESENTATION OF EEO GROUPS WITHIN AUSTRALIAN PUBLIC SERVICE**

	TOTAL NO. OF STAFF	WOMEN	NESB1	NESB2	NESB3	ATSI	PWD
TOTALS	139 437	60 432 43%	6 702 5%	10 308 7%	81 996 59%	1 523 1%	6 676 5%

Figures shown are for those staff with data recorded in the Continuous Record of Personnel as at December 1989.

SOURCE: APS Statistical Bulletin A 1989.

**KEY for Tables 7, 8 and 9**

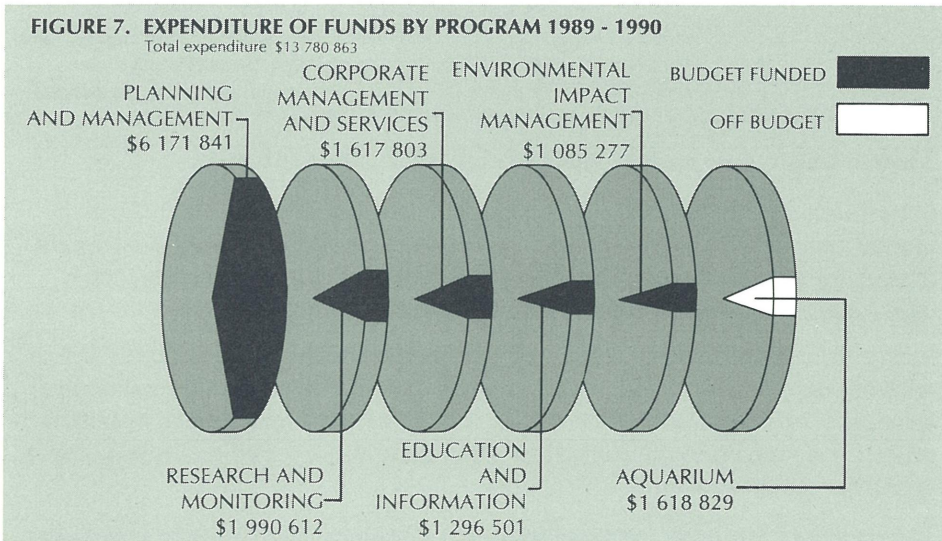
- NESB1 Non-English Speaking Background, first generation
- NESB2 Non-English Speaking Background, second generation
- NESB3 English Speaking Background
- ATSI Aboriginal or Torres Strait Islander
- PWD People with a disability

Note: Percentage for women based on total staff; percentages for other groups based on staff for whom EEO Data were available.

SOURCE: GBRMPA EEO Database

Expenditure of \$1,618,829 on the Great Barrier Reef Aquarium program was met from its income-generating activities. Full details are provided in Appendix H. Financial Statements.

The expenditure of funds for all programs is shown in Figure 7. These expenditures include the allocation of salaries and certain overheads to each program.



Administration

**GENERAL SERVICES**

The cost of corporate services in 1989-90 was \$1,617,803 which represents 13.3% of the Authority's expenditure (excluding the Great Barrier Reef Aquarium) compared with 13.6% in 1988-89 and 18% in 1987-88.

Personnel and financial delegations were reviewed placing greater emphasis on the devolution of responsibility to program managers. Corporate credit cards were introduced to take advantage of the efficiencies to be gained from this initiative.

## CONSULTANTS

Kayt Raymond & Associates Provided training and awareness sessions to all staff on the development and implementation of a comprehensive Staff Appraisal and Development Program.

Sessions were held over 5 days in June 1990 at total cost of \$6 850.



*Section staff from left, back row: Ray Williams, Bernard Linehan, Peter Cronin, Karen Huston, middle row: Mary Speedy, Steve Russell, Debbie Townsend, Eric Collins, Wendy Gill, Vin Illin, seated: Colleen Gilmore and Sharon Hardy. Absent, Allan McManus, Rhonda Lane and Donna Allgood. Inset: Ross Hebblewhite, Section head.*

## SUMMARY OF PERFORMANCE INFORMATION

In terms of expenditure, estimates of program requirements in 1989-90 were largely met. The carryover includes unfilled orders and contracts and unspent monies for industry-funded baseline and monitoring studies. The balance is within the allowable 2% carryover provision for running costs.

In its report to Parliament during 1989-90 the Australian National Audit Office referred to an internal fraud. Legal proceedings relating to the internal fraud were finalised in 1989-90. The person was convicted and all funds misappropriated were repaid to the Authority. The report also referred to a new computerised accounting system.

The review of available Financial Management Information Systems (FMIS) for the Authority progressed in 1989-90. System specifications for the purchase and installation of such a system reflect the need for automated financial processing of accounting functions and the efficiency gains attainable. The FMIS will be implemented in 1990-91.



## CANBERRA OFFICE

The Canberra Office is a part of the corporate management and services program of the Authority. This program's objective is to achieve efficient and cost-effective delivery of programs by providing executive management and administrative support to the Minister, the Authority and its staff. The Canberra Office provides day-to-day advice to the Minister and liaises with other Departments on legal, financial and policy matters that relate to the Marine Park.

*Canberra Office staff,  
from left, back row:*

*Rowena Childs, Graeme Kelleher, Peter Ottesen, Colin Trinder, front row: Maria Hawke and Denyse Freedman.*

### PERFORMANCE INFORMATION

**Efficiency** is defined as the quality and timeliness of advice and correspondence to the Minister, Chairman, Parliamentary Committees and other organisations.

**Effectiveness** is measured by the:

- Extent to which statutory and Ministerial requirements are met
- Extent to which Authority goal and aims are taken into account by other Government organisations
- Extent to which assistance is provided to implement Authority programs being undertaken by other sections.

### AMENDMENT OF THE GREAT BARRIER REEF MARINE PARK ACT AND REGULATIONS

The office assisted in the amendment of the Act and Regulations, including those which:

- allow the introduction of fees to recover the cost incurred by the Authority in assessing applications for Marine Park permits

*Canberra Office*

Page 57.

- increase the limit of a contract the Authority can enter into to \$150,000; the first increase since the inception of the Act in 1975
- address the concerns of the Senate Standing Committee on Regulations and Ordinances about the amount of information to be published by permit applicants when they advertise details of their intentions in public notices; and to provide an avenue of appeal, through the Administrative Appeals Tribunal(AAT), under a regulation that prohibits the taking of certain fish species from the Marine Park
- give effect to amendments contained in the *Great Barrier Reef Marine Park (Amendment) Act 1988* dealing with increases in penalties for breaches of the Act
- deal with apparent inadequacies in the Cairns Section Zoning Plan that came to light when a ferry operator began a service between Cairns and Green Island (a Marine National Park B Zone) without a Marine Park permit.

## COORDINATION

The office was involved in the following major activities:

- organising the 15th meeting of the Great Barrier Reef Ministerial Council in Brisbane on 12 October 1989
- assisting DASETT in the development of the Environmental Resources Information Network (ERIN) Geographic Information System (GIS)
- assisting DASETT in preparatory administrative work for the Minister to appoint new members to the Great Barrier Reef Consultative Committee
- assisting a Department of Industry, Technology and Commerce mission to South East Asia to identify opportunities for Australian marine science and technology industries.

# AUTHORITY FUNCTIONS APPENDIX A

The functions of the Authority, defined in sections 7 and 7A of the Act, as amended in December 1988, are as follows:

- (a) to make recommendations to the Minister in relation to the care and development of the Marine Park including recommendations, from time to time, as to -
  - (i) the areas that should be declared to be parts of the Marine Park; and
  - (ii) the regulations that should be made under this Act;
- (b) to carry out, by itself or in co-operation with other institutions or persons, and to arrange for any other institutions or persons to carry out, research and investigations relevant to the Marine Park;
- (c) to prepare zoning plans for the Marine Park in accordance with Part V;
- (ca) to furnish information and advice to the Minister in respect of matters relating to the Marine Park, including -
  - (i) information and advice in relation to any agreement (including any proposed agreement) between the Commonwealth and Queensland on such matters;
  - (ii) information and advice on the following matters:
    - (A) whether the Commonwealth should grant financial assistance to Queensland in respect of a matter relating to the Marine Park;
    - (B) the amount and allocation of such assistance;
    - (C) the terms and conditions (if any) on which such assistance should be granted; and
  - (iii) information and advice on the following matters:
    - (A) whether it is desirable that Queensland should make a payment to the Authority in respect of a matter relating to the Marine Park;
    - (B) the amount and allocation of such payment;
    - (C) the terms and conditions (if any) on which such payment should be given;
- (cb) to receive and disburse moneys appropriated by the Parliament for payment to the Authority for the purpose of payment of the moneys to Queensland by way of financial assistance to Queensland in respect of matters that relate to the Marine Park;
- (cc) to receive and disburse moneys paid to the Authority by Queensland under an agreement between -
  - (i) the Commonwealth and Queensland;

- (ii) Queensland and the Authority; or
- (iii) the Commonwealth, Queensland and the Authority;
- (cd) to provide, and arrange for the provision of, educational, advisory and informational services relating to the Marine Park;
- (d) such functions relating to the Marine Park as are provided for by the regulations;
- (da) to provide assistance to other institutions and persons in accordance with section 7A; and
- (e) to do anything incidental or conducive to the performance of any of the foregoing functions.
- (1A) For the purposes of this section but without limiting the generality of paragraph (1) (ca), (cb) or (cd), a matter shall be taken to relate to the Marine Park if it relates to -
  - (a) the use or management of an area (which may be a Queensland national park or a Queensland marine park) the use or management of which would or might affect the Marine Park; or
  - (b) the use of a place outside the Marine Park for a purpose relating to the Marine Park.
- (1B) The Authority is responsible for the management of the Marine Park.
- (2) The Authority shall perform its functions in accordance with any general directions given by the Minister not inconsistent with this Act.
- (3) The Authority shall include in each report prepared under section 63M of the Audit Act 1901 particulars of any directions given by the Minister under sub-section (2) during the period to which the report relates.
- 7A (1) Subject to this section, the Authority may, at the request of another institution or person, provide assistance to the institution or person in matters relating to environmental management.
- (2) The assistance may be provided by the Authority acting by itself or in co-operation with other institutions and persons.
- (3) Without limiting the generality of the assistance that may be provided, the assistance may take any of the following forms:
  - (a) the carrying out of research or investigations;
  - (b) the provision of educational, advisory or informational services;
  - (c) the making available of facilities.
- (4) The Authority shall not perform a function that the Authority has only because of this section unless the Minister has approved, in writing, the provision of the assistance concerned.
- (5) The Minister shall not give an approval under subsection (4) unless the Minister is satisfied that the provision of the assistance concerned is not likely to affect adversely the performance of the functions of the Authority conferred by other provisions of this Act.
- (6) An approval under subsection (4) may be given subject to conditions

or restrictions set out in the instrument of approval (including conditions requiring the charging of fees).

- (7) Nothing in this section limits the functions that may be conferred on the Authority by the regulations.

# CONSULTATIVE COMMITTEE FUNCTIONS

## APPENDIX B

The functions of the Consultative Committee, defined in section 21 of the Act, are as follows:

- (a) to furnish advice to the Minister, either of its own motion or upon request made to it by the Minister, in respect of matters relating to the operation of this Act; and
- (b) to furnish advice to the Authority in respect of matters relating to the Marine Park, including advice as to the areas that should be parts of the Marine Park, referred to it by the Authority.

# AUTHORITY SENIOR OFFICERS

Graeme Kelleher, AM (Chairman)

**Townsville Office:**

Dr Don Kinsey (Executive Officer)

Richard Kenchington (Assistant Executive Officer, Planning and Management)

Simon Woodley (Assistant Executive Officer, Environmental Impact Management)

Dr Wendy Craik (Assistant Executive Officer, Research and Monitoring)

Ray Neale (Assistant Executive Officer, Education and Information)

Ian Burston (Assistant Executive Officer, Aquarium)

Bernard Linehan (Acting Assistant Executive Officer, Administration)

Ross Hebblewhite (Assistant Executive Officer, Administration) from January

**Canberra Office:**

Peter Ottesen (Assistant Executive Officer)

## WORKSHOP SERIES (ISSN 0156-5842)

### **Workshop on the Role of Scientific Support Co-ordinator (SSC) in Oil Spill Response.**

Ian M Dutton (ed). Townsville, GBRMPA, 1989. (Workshop Series No. 12) 133p.  
ISBN 0 642 12010 2

**Workshop on Nutrients in the Great Barrier Reef Region.** C L Baldwin (ed). Townsville, GBRMPA, 1988. (Workshop Series No. 10) 191p. ISBN 0 642 12016 1

**Fringing Reef Workshop: Science , Industry and Management.** C L Baldwin (ed). Townsville, GBRMPA, 1987. (Workshop Series No. 9) 280p. ISBN 0 642 52633 8

**Traditional Knowledge of the Marine Environment in Northern Australia.** F Gray and L Zann (eds). Townsville, GBRMPA, 1988. (Workshop Series No. 8) 196p.  
ISBN 0 642 52609 5

**Workshop on the Offshore Effects of Cyclone Winifred.** I M Dutton (ed). Townsville, GBRMPA, 1986. (Workshop Series No. 7) 111p. ISBN 0 642 52529 3

**Workshop on Response to Hazardous Chemical Spills in the Great Barrier Reef Region: Proceedings of a Workshop held in Townsville, 3 August 1984.** G J S (Wendy) Craik (ed). Townsville, GBRMPA, 1985. (Workshop Series No . 6) 107p. ISBN 0 642 52409 2

**Workshop on Contaminants in Waters of The Great Barrier Reef: Proceedings of a Workshop held at Griffith University, Brisbane, Australia, 26 May 1984.** I M Dutton (ed). Townsville, GBRMPA, 1985. (Workshop Series No. 5) 43p. ISBN 0 642 52401 7

**Papers and Proceedings of the Workshop 'Tourism and the Great Barrier Reef' held in Mackay 9-11 April, 1979.** Townsville, GBRMPA, 1981. (Workshop Series No. 4) 182p.  
ISBN 0 642 52273 1

**Workshop on Coral Trout Assessment Techniques held at Heron Island, 21 April-4 May, 1979.** Townsville, GBRMPA, 1979. (Workshop Series No. 3) 85p. Reprinted 1985

**Workshop on Reef Fish Assessment and Monitoring held at Heron Island, 18-28 November, 1978.** Townsville, GBRMPA, 1978. (Workshop Series No. 2) 64p.  
Reprinted 1985.

**Workshop on the Northern Sector of the Great Barrier Reef: Papers and Proceedings of a Workshop held in Townsville, 20-21 April, 1978.** Townsville, GBRMPA, 1978.  
(Workshop Series No. 1) 462p. ISBN 0 642 91150 9. Reprinted August 1983.

## TECHNICAL MEMORANDUM/REPORT SERIES (ISSN 0817-6094)/(ISSN 0814-98224)

**Morphology and Development of the Cape Tribulation Fringing Reefs, Great Barrier Reef, Australia.** Bruce R Partain and David Hopley. Townsville, GBRMPA, 1990.  
(GBRMPA-TM-21) 45p. ISBN 0 642 12026 9

**The Effects of Increased Sedimentation on the Recruitment and Population Dynamics of Juvenile Corals at Cape Tribulation, North Queensland.** David A Fisk and Vicki J Harriott. Townsville, GBRMPA, 1989. (GBRMPA-TM-20) 31p. ISBN 0 642 12018 8

**Additions and Revisions to the Checklist of Fishes of the Capricorn - Bunker Group Great Barrier Reef Australia.** Graham R Lowe and Barry C Russell. Townsville, GBRMPA, 1990. (GBRMPA-TM-19) 27p. ISBN 0 642 12033 1.

**Marine Parks and Protected Areas: A Bibliography.** Jean A Dartnall. Townsville, GBRMPA, 1989. (GBRMPA-TM-18) 22p. ISBN 0 642 12017.

**Social Carrying Capacity in Recreational Settings: a Literature Review.** M Watson. Townsville, GBRMPA, 1988. (GBRMPA-TM-17) 84p. ISBN 0 642 12001 3

GBRMPA-TM-16 in preparation.

**The Natural Recruitment and Recovery Process of Corals at Green Island.** V J Harriott and D A Fisk. Townsville, GBRMPA, 1990. (GBRMPA-TM-15) 36p. ISBN 0 642 12024 2

**Sedimentary Framework of Mainland Fringing Reef Development, Cape Tribulation Area.** D P Johnson and R M Carter. Townsville, GBRMPA, 1987. (GBRMPA-TM-14) 37p. ISBN 0 642 12000 5

**Aquarium Fishes and Their Collection in the Great Barrier Reef Region.** Michael Whitehead et al. Townsville, GBRMPA, 1986. (GBRMPA-TM-13) 39p

GBRMPA-TM-12 in preparation.

**An Atlas of the Skeletal Components of the Crown of Thorns Starfish.** P D Walbran. Townsville, GBRMPA, 1987. (GBRMPA-TM-11) 42p. ISBN 0 642 52641 9

**Geomorphological Separability, Landsat MSS and Aerial Photographic Data: Heron Island, Great Barrier Reef.** D Kuchler. Townsville, GBRMPA, 1987. (GBRMPA-TM-10) 12p. ISBN 0 642 52569 2

**Reef Cover and Zoning Classification System for Use with Remotely Sensed Great Barrier Reef Data: User Guide and Handbook.** D Kuchler. Townsville, GBRMPA, 1987. (GBRMPA-TM-9) 32p. ISBN 0 642 52561 7

**Geomorphological Nomenclature: Reef Cover and Zonation on the Great Barrier Reef.** D Kuchler. Townsville, GBRMPA, 1986. (GBRMPA-TM-8) 35P. ISBN 0 642 52521 8

**Reef Cover Zonation Classification System for Use with Remotely Sensed Great Barrier Reef Data.** D Kuchler. Townsville, GBRMPA, 1986. (GBRMPA-TM-7) 72p. ISBN 0 642 52513 7

**Age Structure of the Fantome Island Fringing Reef.** D P Johnson. Townsville, GBRMPA 1985. (GBRMPA-TM-6) 26p.

**Report of Scientific Discussion Meeting on the Physical Oceanography of the Great Barrier Reef Region held at the University of New South Wales 5-6 July, 1982.** Jason H Middleton. Townsville, GBRMPA, August 1983. (GBRMPA-TM-5) 42p.

**Amateur Fishing on the Great Barrier Reef.** Wendy Craik. Townsville, GBRMPA, 1979. (GBRMPA-TM-4) 19p.

GBRMPA-TM-3 not issued.

**Fisheries Factors Affecting Marine Park Management.** Wendy Craik. Townsville, GBRMPA, 1978. (GBRMPA-TM-2) 30p.

**Research on Fishes of the Great Barrier Reef.** Wendy Craik. Townsville, GBRMPA, 1978. (GBRMPA-TM-1). 30p.

**Management of Dugong: an Endangered Marine Species of Traditional Significance.** C L Baldwin. Townsville, GBRMPA, 1985. (GBRMPA-TR-1) 24p. ISBN 0 642 52441 6. Reprinted 1987.

#### **SPECIAL RESEARCH PUBLICATION SERIES (ISSN 0810-6983)**

**Guide to the Identification of Seagrasses in the Great Barrier Reef Region.** Janet Lanyon. Townsville, GBRMPA, 1986. [Cover title: Seagrasses of the Great Barrier Reef] (Special Publication Series No. 3) 54p. ISBN 0 642 52489 0

**Fisheries of the Great Barrier Reef.** Tor Hundloe. Townsville, GBRMPA, 1985. (Special Publication Series No. 2) 158p. ISBN 0 642 52417 3

**Annotated Checklist of the Coral Reef Fishes in the Capricorn-Bunker Group Great Barrier Reef.** Barry C Russell. Townsville, GBRMPA, August 1983. [Cover title: Checklist of Fishes, Great Barrier Reef Marine Park Capricornia Section] (Special Publication Series No.1) 48p. ISBN 0 642 52313 4

#### **RESEARCH PUBLICATIONS**

**The History of Dredging in Cleveland Bay, Queensland and its Effect on Sediment Movement and on the Growth of Mangroves, Corals and Seagrass.** Ada W Pringle. Townsville, GBRMPA and Townsville Port Authority, 1989. 177p. ISBN 0 642 12034

**Usage of Marine Resources by Aboriginal Communities on the East Coast of Cape York Peninsula.** Andrew Smith. Townsville, GBRMPA, March 1989. 137p. ISBN 0 642 12025 0

**Great Barrier Reef Tourism. A Review of Visitor Use.** S M Driml. Townsville, GBRMPA, 1987. 50p. ISBN 0 642 52689 3

**A User-Based Evaluation of the Zoning Plan and Day-to-Day Management in the Capricornia Section of the Great Barrier Reef Marine Park.** Environment Science and Services. Townsville, GBRMPA, 1987. 53p. ISBN 0 642 52657 5

**Economic Impacts of Activities on the Great Barrier Reef.** S Driml. Townsville, GBRMPA, 1987. 86p. ISBN 0 642 52649 4

**The Application and Potential of Remote Sensing in the Great Barrier Reef Region.** David L B Jupp. Townsville, GBRMPA, 1986. 56p. ISBN 0 642 52449 1

**Data Review of Reef Related Tourism, 1946-1980.** Australian Travel Industry Association (Queensland Board). Townsville, GBRMPA, June 1984. 120p. ISBN 0 642 52353 3

**Australian Marine Research in Progress: Great Barrier Reef Region.** Townsville, GBRMPA. ISSN 0815-0087. Issues for 1984-85, 1985-86 and 1988-89.

*Publications*

Page 65.

**Research Report 1976-82.** Townsville, GBRMPA, 1983, ISBN 0 642 52345 2

**Green Island Economic Study.** Economic Associates Australia. Townsville, GBRMPA, June 1983. 68p. ISBN 0 642 52337 1

#### MISCELLANEOUS PUBLICATIONS

**Senior Topics : Great Barrier Reef.** Ashton Scholastic and Great Barrier Reef Marine Park Authority. Vol 4, Number 5, 1989.

**Discover the Great Barrier Reef Marine Park.** Compiled by Lesley Murdoch, GBRMPA. Bay Books, Sydney, 1989.

**Discovering Coastal Queensland.** Queensland Department of Geographic Information and Great Barrier Reef Marine Park Authority. University of Queensland Press, St Lucia, Queensland, 1988.

**Project Reef-Ed: Great Barrier Reef Educational Activities.** Ann Byrnes et al. GBRMPA, Townsville, 1988.

**Great Barrier Reef Aquarium.** A special feature of *Australian Science Mag.* Compiled by Elaine Eager and Kirk Peterson, GBRMPA. Joint publication with Darling Downs Institute Press, Toowoomba, 1988.

**Australian Marine Research in Progress.** Australian Institute of Marine Science, Commonwealth Scientific & Industrial Research Organization, Great Barrier Reef Marine Park Authority and Victorian Institute of Marine Sciences. Issues for 1985, 1988.

**Australian Tropical Marine Science and Technology: Current Status and Opportunities.** A report prepared and published by the Australian Marine Sciences and Technologies Advisory Committee in collaboration with others including GBRMPA, [1988].

**Coral Reef Management Handbook.** R A Kenchington and Brydget E T Hudson (eds). UNESCO, Jakarta, Indonesia, 1984. 2nd edition 1988.

**The Crown of Thorns Starfish.** A special feature of *Australian Science Mag.* Leon Zann and Elaine Eager, GBRMPA, (eds). Joint publication with Darling Downs Institute Press, Toowoomba, 1987.

**Junior Survival: the Great Barrier Reef.** Published for the Great Barrier Reef Marine Park Authority by the Gould League of Victoria Inc. with the assistance of the Australian Conservation Foundation, Melbourne, 1984. Revised 1987.

**The Richest Reef.** Young Australia Reader Series: Thomas Nelson, Australia and the Great Barrier Reef Marine Park Authority, Melbourne, 1983. Reprinted 1987.

**Corella: Journal of the Australian Bird Study Association.** Volume 9, Number 3, 1985 and Volume 10, Number 3, 1986. Special issues on Seabird Islands of the Great Barrier Reef sponsored by GBRMPA.

**Oceanus: American-Australian Bicentennial Issue.** Volume 29, Number 2, 1986 on the Great Barrier Reef: science & management. Woods Hole Oceanographic Institution, Massachusetts, USA.

**Polyp.** Geraldine Carlin. Townsville, GBRMPA, 1986. ISBN 0 724 48717 4.

**Plant Life of the Great Barrier Reef and Adjacent Shores.** A B Cribb and J W Cribb. University of Queensland Press, St. Lucia, Queensland, 1985.

**Poetry in Pictures: the Great Barrier Reef.** Mark O'Connor and Neville Coleman. Hale & Iremonger, Sydney, 1985.

**A Coral Reef Handbook.** Patricia Mather and Isobel Bennett (eds). The Australian Coral Reef Society, Brisbane, 1978. 2nd edition 1984.

**Maps of the Great Barrier Reef: an Indexed List of Maps and Charts of the Great Barrier Reef Region.** Townsville, GBRMPA, [1984]. ISBN 0 642 52361 4

**Australian Marine Research in Progress.** Victorian Institute of Marine Sciences, the Department of Science and Technology and the Great Barrier Reef Marine Park Authority. Issues for 1982 and 1983.

**Cook, Cays and Corals: a Bibliography of Publications about the Great Barrier Reef Marine Park Cairns Section.** Townsville, GBRMPA, 1982. ISBN 0 642 52297 9

**Nomination of the Great Barrier Reef by the Commonwealth of Australia for inclusion in the World Heritage List.** Townsville, GBRMPA, 1981. ISBN 0 642 52281 2

**Bibliography of the Great Barrier Reef Province.** Edgar Frankel. Canberra, AGPS, 1978. 204p. ISBN 0 642 03902 X (hardback) ISBN 0 642 03645 4 (paperback).

## AQUARIUM PUBLICATIONS

**Great Barrier Reef Aquarium Catalogue.** Townsville, GBR Aquarium. June 1990. 8p.

**Great Barrier Reef Aquarium.** Postcard Folder, 11 photos. Townsville, GBR Aquarium, 1989.

**Great Barrier Reef Aquarium Program.** Townsville, GBR Aquarium. A program brochure for Aquarium members; three issues per year - Summer, Winter and Spring.

**The Water Column. Great Barrier Reef Aquarium Newsletter.** Townsville, GBR Aquarium. A newsletter brochure for Aquarium members; three issues per year.

## ZONING PLANS AND BROCHURES

(Currently Available)

**Mackay/Capricorn Section Zoning Plan.** Townsville, GBRMPA, December 1987. 52p. ISBN 0 642 12008 0

**Great Barrier Reef Marine Park: Mackay/Capricorn Section Zoning Information: Introduction.** BRA Q145, 146 and 147. Townsville, GBRMPA, 1988.

**Zoning Information: Great Barrier Reef Marine Park: Mackay/Capricorn Section: Fishing.** Townsville, GBRMPA, [1988].

**Central Section Zoning Plan.** Townsville, GBRMPA, 1987. 42p. ISBN 0 642 52553 6

**Great Barrier Reef Marine Park: Central Section Zoning Information: Introduction.** BRA Q 128 and BRA Q129. Townsville, GBRMPA, June 1987.

**Zoning Information: Great Barrier Reef Marine Park: Central Section - Townsville/Whitsunday: Fishing.** Townsville, GBRMPA, [1987].

**Far Northern Section Zoning Plan.** Townsville, GBRMPA, August 1985. 42p. + maps. ISBN 0 642 52433 5

**Great Barrier Reef Marine Park: Far Northern Section: Introduction.** Townsville, GBRMPA, February 1986.

**Cairns Section Zoning Plan and the Cormorant Pass Section Zoning Plan.** Townsville, GBRMPA, May 1983. 16p. + maps. ISBN 0 642 52329 0 [another edition, November 1983].

**Great Barrier Reef Marine Park: Cairns Section and Cormorant Pass Section: Introduction.** Townsville, GBRMPA, November 1983.

**Great Barrier Reef Marine Park: Cairns Section and Cormorant Pass Section: Activities Guide.** Townsville, GBRMPA, November 1983 -

- 1 Lizard Island Area
- 2 Offshore Cooktown
- 3 Offshore Port Douglas
- 4 Offshore Cairns
- 5 Offshore Innisfail

#### **BROCHURES (Currently Available)**

**... Ours to use wisely.** Townsville, GBRMPA, July 1988. Reprinted April 1989. Also Japanese version, April 1989.

**Life on the Great Barrier Reef: an Introductory Guide.** Townsville, GBRMPA/Reef Biosearch, June 1988.

#### **SERIAL PUBLICATIONS**

**Reeflections.** (ISSN 0314-6510). Magazine. No. 1, September 1977 - No. 25 June 1990.

**Ebb and Flow.** (ISSN 0729-0403). Education Newsletter. No. 1, December 1982 - No. 8, June 1987. (Discontinued).

**Reef Notes.** Joint Series GBRMPA and QDEC (ISSN 0814-9453).

- Dugongs. June 1988
- Shells. June 1988
- Sharks. June 1988
- Turtles. June 1988 (revised edition)
- Captain Cook. June 1987
- Larval Fishes. June 1987
- Trochus Shells. June 1987
- World Heritage Site. June 1987
- Wrecks of the Reef. May 1987
- Whales. September 1986

The Annual Coral Spawning Event on the Great Barrier Reef. July 1986  
The Great Barrier Reef. July 1986  
Seabirds. July 1986  
Coral Cays. July 1985  
Fringing Reefs . July 1985  
Turtles. July 1985 (1st edition)  
The Coral Polyp. February 1985  
Crown of Thorns. February 1985  
The Soft Touch - another View of Coral. February 1985  
Reef Region Fisheries. February 1985

**REEF Current Awareness Bulletin** (ISSN 0813-7897). Annuals for 1983 to 1988.

**ANNUAL REPORTS** (ISSN 0155-8072). Issues from 1976-77 to 1989-90.

### **MAPS - GREAT BARRIER REEF SERIES**

**Mackay/Capricorn Section and Queensland Mackay/Capricorn Marine Park: Guide for Users 1: 250 000** (A1 size, coloured) July 1988 -

**Whitsunday Group** (BRA Q115a)  
**Hydrographers Passage** (BRA Q116a)  
**The Hard Line** (BRA Q117)  
**Northumberland Islands** (BRA Q118)  
**Riptide Cay** (BRA Q119)  
**Shoalwater Bay** (BRA Q120)  
**Howard Patch** (BRA Q121)  
**Keppel Islands** (BRA Q122)  
**Capricornia** (BRA Q123)  
**Lady Elliott Island** (BRA Q124)

**Central Section Zoning Information: Guide for Users 1: 250 000** (A1 size, coloured) [1987] -

**Dunk Island** (BRA Q109)  
**Hinchinbrook Island** (BRA Q110)  
**Broadhurst Reef** (BRA Q111)  
**Cleveland Bay** (BRA Q112)  
**Hardy Reef** (BRA Q113)  
**White Tip Reef** (BRA Q114)  
**Whitsunday Group** (BRA Q115)  
**Hydrographers Passage** (BRA Q116)

**Far Northern Section Zoning Maps 1: 250 000** (A1 size, coloured) August 1985 -

**Thursday Island** (BRA Q100)  
**Ashmore Reef** (BRA Q101)  
**Cockburn** (BRA Q102)  
**Weymouth Bay** (BRA Q103)  
**Tijou Reef** (BRA Q104)  
**Princess Charlotte** (BRA Q105)  
**Lizard Island** (BRA Q106)

**MISCELLANEOUS MAPS**  
(Currently available)

**The Great Barrier Reef Marine Park 1: 5 000 000** (A3 size, coloured) August 1988  
(BRA Q148)

**Companion Map to Great Barrier Reef 1: 2 200 000** (Strip map, coloured) March 1988 (BRA Q144)

**Cairns Section, Great Barrier Reef Marine Park Zoning Plans - Zoning Maps (2) to (6) 1: 300 000** (A3 size, coloured) May 1983 (BRA Q51) to (BRA Q55)

## POSTERS

(Currently available)

**Aerial of Hardy Island Reef.** 1985

**Clown Fish and Anemone.** 1985

**Gorgonia and Feather Stars.** 1985

**Reef Walking at North West Island Reef.** 1985

**Snorkelling at Heron Island.** 1985

**Turret Coral.** 1985

**Coral Trout of the Great Barrier Reef.** 1985

**Dugongs. Reef Heritage Series. 1984.** Joint Series GBRMPA and QDEC

**Portraits of the Reef.** [2 prints + notes] Robert Ingpen. Ruskin Press, October 1981

## AUDIOVISUAL PRODUCTIONS

**Reef Report.** Video Magazine, approximately 25 minutes. 1987 (3 issues), 1988 (3 issues), 1989 (3 issues) 1990 (2 issues).

**A Day on the Great Barrier Reef.** Video, 8 minutes. Townsville, GBRMPA, 1987.

**Encounters with the Reef. Structure and Evolution of the Great Barrier Reef.** 50 slides and audio cassette. Townsville, GBRMPA, 1987.

**Encounters with the Reef.** Video, 30 minutes. Townsville, GBRMPA, 1987.

**The Crown of Thorns Story.** Video, 25 minutes. Townsville, GBRMPA, 1987.

## FREEDOM OF INFORMATION

*Documents available for purchase through AGPS bookshops:*

Current Annual Report

**Nomination of the Great Barrier Reef by the Commonwealth of Australia for inclusion in the World Heritage List.** GBRMPA, 1981.

**Bibliography of the Great Barrier Reef Province.** Edgar Frankel, 1978 .

*Great Barrier Reef Marine Park Act 1975 and Regulations.*

*Documents available free of charge for single copies from the Authority's Townsville office:*

Appendixes

Zoning Plans

Research Report 1976-82

Information brochures, bulletins and leaflets

Page 70.

Selected maps of the Great Barrier Reef Marine Park

REEF database publications

**Reef Notes** series  
**Reeflections** magazine  
Media releases and communiques

*Documents available for bulk-purchase from the Authority's Townsville office:*

Posters

Various information brochures, books and audiovisual productions

Research Reports and Workshop Proceedings

Maps of Great Barrier Reef Marine Park

Small quantities may be purchased through the Great Barrier Reef Aquarium Shop.

*Facilities for access:*

The Townsville office holds most of the documents relating to the Authority, its Office and the Great Barrier Reef Consultative Committee. It is possible to arrange access to documents, available under provisions of the *Freedom of Information Act*, through either the Canberra or Townsville office (see addresses below), or at the State FOI Information Access Office. Staff are available to provide assistance in relation to any aspect of FOI requests.

Members of the public may make inquiries on FOI matters and inspect documents to which access has been granted at either office. Business hours, Monday to Friday, are 8.30am - 4.51pm. Formal requests for access to documents must be directed to the office listed in the following section.

Information about facilities for access by disabled persons can be obtained by contacting the FOI Officer at the Townsville office.

The following facilities for access are maintained at the Townsville office:

- . computer printer
- . microfiche reader
- . film and slide projectors
- . video and audio tape recorders
- . photocopy machine
- . reading room.

*FOI Procedures and Initial Contact Points:*

Inquiries may be made in writing, by telephone or in person at the official FOI access points listed below. It is also suggested that inquirers give a telephone number.

Great Barrier Reef Marine Park Authority  
Wonderland  
2-68 Flinders St  
TOWNSVILLE QLD 4810

PO Box 1379  
TOWNSVILLE  
QLD 4810

Telephone (077) 818811; Telex GBRMPA 47332; Fax (077) 72 6093

OR

Great Barrier Reef Marine Park Authority  
2nd Floor, Gas Industry House  
Cnr Moore & Rudd Streets  
CANBERRA CITY ACT 2600

GPO Box 791  
CANBERRA  
ACT 2601

Telephone (062) 470211; Telex ARRIC 62552; Fax (062) 47 5761

If any difficulty arises in the identification of a document or in providing access in the form requested, an officer of the Authority will contact the applicant with a view to resolving the difficulty.

In consultation with applications, documents will be made available as follows:

- . by mail to the address specified by the applicant
- . at the official FOI access point

The authorised decision-makers under the Act for the Authority and the Consultative Committee, with official addresses for the lodging of requests, are:

The Executive Officer  
Great Barrier Reef Marine Park Authority  
PO Box 1379  
TOWNSVILLE QLD 4810

The Secretary  
Great Barrier Reef Consultative Committee  
PO Box 1379  
TOWNSVILLE QLD 4810

## PUBLISHED/PRESENTED IN 1989

Barnett, Bryony, **Final-Stage Phyllosoma Larvae of *Scyllarus* Species (Crustacea:Decapoda:Scyllridae) from Shelf Waters of the Great Barrier Reef.** *Invertebrate Taxonomy*, No.3, 1989, pp 123-34

Craik, Wendy and Kelleher, Graeme, **The Great Barrier Reef: Maintenance of the Resource.** Paper presented to the Conference on Coastal Zone Management: Integrating Development and Conservation, Griffith University, 25-27 September 1989

Day, Jon, **Marine Park Planning.** Paper for CONCOM Planning Workshop, Howman's Gap, November 1989

Gillies, John and Craik, Wendy, **Environmental Monitoring Programs for Developments in the Great Barrier Reef Marine Park.** Paper presented at the Environment Institute of Australia Conference, Melbourne, 9-11 October 1989

Kelleher, Graeme, **Research Priorities in the Environmental Science.** Paper presented to the Australian Nuclear Science and Technology Organisation Thinktank Program, 24 July 1989

Kelleher, Graeme, **Management of the Great Barrier Reef Marine Park.** Paper presented at the Coastal Management Workshop, Belize, August 1989

Kelleher, Graeme, **Political and Social Dynamics for Establishing Marine Protected Areas.** Paper presented at the UNESCO/IUCN Workshop on the Application of the Biosphere Reserve Concept to Coastal Areas San Francisco, August 1989

Kelleher, Graeme, **Sustainable Development of the Great Barrier Reef Marine Park.** Paper presented at the Environment Institute of Australia Conference, Melbourne, 9-11 October 1989

Kenchington, Richard, **Tourism in the Galapagos Islands: The Dilemma of Conservation.** *Environmental Conservation* Vol.16 No.3,1989, pp 227-232/236

Kenchington, Richard, **Tourism Development in the Great Barrier Reef Marine Park,** *Proceedings of the Symposium on Queensland Tourism - A Briefing for Engineers*, Brisbane, 19 July 1989

Kenchington, Richard, **Managing Tourism on the Great Barrier Reef.** Paper presented at the Conference on Coastal Zone Management: Integrating Development and Conservation, Griffith University, 25-27 September 1989

Lawrence, David, **Early Scientific Investigations on the Great Barrier Reef**, *Australian Science Mag.* Issue 4, 1989, pp 46-51

Lawrence, David, **From the Other Side - Recently collected oral evidence of contracts between Torres Strait Islanders and Papuan peoples of the south-western coast.** *Aboriginal History* Vol.13 Parts 1-2, 1989 pp 95-123

Neale, Ray, **Great Barrier Reef Marine Park Authority: The Authority's Relationship with Australian Education.** Paper for the Malaysian-Australian Education Colloquium, Kuala Lumpur, 9 November 1989

Stroud, Gregory J, Goldman, Barry and Gladstone, William, **Larval Development Growth and Age Determination in the Sharpnose Pufferfish *Canthigaster valentini* (Teleostei: Tetraodontidae).** *Japanese Journal of Ichthyology* Vol 36 No.3 1989, pp 327-337

Woodley, Simon, **Environmental Impact Management in the Great Barrier Reef Marine Park.** Presented at the Coastal Zone Management: Integrating Development and Conservation Griffith University, 25-27 September 1989

## **PUBLISHED/PRESENTED IN 1990**

Day, Jon, **Planning in the Great Barrier Reef**, *Australian Ranger Bulletin*, Vol.5 No.4, pp 40 -43, June 1990

Gillies, John and Hillman, Steve, **Position Paper on Oil Spills and Associated Activities in the Great Barrier Reef Region.** Paper for 2nd Workshop on the role of scientific support co-ordinator (SSC) in oil spill response, Melbourne, 26-30 March 1990

Gillies, John and Craik, Wendy, **Environmental Monitoring Programs Associated with Developments in the Great Barrier Reef Marine Park.** Paper presented to the Congress on Coastal and Marine Tourism, Honolulu, Hawaii USA, 25-31 May 1990.

Kelleher, Graeme, **Who Is Responsible for National Parks?**, Paper presented to the 1990 Summer School of Park Management, University of Canberra, 3-10 February 1990

Kelleher, Graeme, **Requirements for Sustainable Development Of The Great Barrier Reef Marine Park.** Paper presented to Oceans Australia Conference (DITAC), Melbourne, 10 May 1990

Kelleher, Graeme, **The IUCN and its Contribution to Conservation.** Paper presented to the Challenges in the Asia-Pacific Conference, Darwin and Kakadu National Park, May 1990

Kelleher, Graeme, **How Can Aquaria Help Save the World?** Paper presented to the International Aquarium Symposium, Vancouver Public Aquarium, Canada, 7-8 June 1990

Kelleher, Graeme and Kenchington, Richard, **Draft Policy for Marine Conservation and Guidelines for the Establishment of Marine Protected Areas.** *Proceedings of Symposium on Marine Heritage and Recreation*, University of Waterloo, Canada, 1990, pp 127-186

Kenchington, Richard, **Tourism in Coastal and Marine Environments: A Recreational Perspective.** Paper presented at the Congress on Coastal and Marine Tourism, Honolulu, Hawaii, USA, 25-31 May 1990

Kenchington, Richard and Agardy, M T, **Achieving Marine Conservation through Biosphere Reserve Planning and Management.** *Environmental Conservation* Vol. 17 No. 1, 1990, pp 39-44

Kenchington, Richard, **Planning the Great Barrier Reef Marine Park.** *Proceedings of Symposium on Marine Heritage and Recreation*, University of Waterloo, Canada, 1990, pp 36-54

Kenchington, Richard, Agardy, T, Dobbin, J, Foster, N, Hanson, A, Broadus, J M, Gable, F and Gaines, A G, **Marine Conservation and Biosphere Reserves.** *Proceedings of Symposium on Marine Heritage and Recreation*, University of Waterloo, Canada, 1990, pp 187-210

Kinsey, Donald, **The Coral Reef: An owner-built, high-density, fully-serviced, self-sufficient housing estate in the desert - or is it?** Paper presented to the Joint US-Israel Workshop on Marine Symbioses: Molecular Biology to Ecosystem Function, March 1990

McGinnity, Peter, **Integrating Development with Conservation The Great Barrier Reef Marine Park.** Paper presented to the INDO-US Seminar on Marine Parks, Madurai Kamaray University, 8-13 January 1990

Murdoch, Lesley and Oliver, Jan, **The Reef and National Conservation Strategies.** Paper presented to the Australian Geography Teachers National Conference, Melbourne, January 1990

Murdoch, Lesley, **Communicating to a Community.** Paper presented at the Australian Society of Business Communicators Conference, Wollongong, March 1990

Woodley, Simon, Craik, Wendy and Kelleher, Graeme, **Environmental Engineering in the Great Barrier Reef Marine Park.** Proceedings of the Institution of Engineers Australia National Conference, Canberra, 1-6 April 1990, pp 131-136

# RESEARCH IN PROGRESS 1989-90

## APPENDIX F

Detailed descriptions of projects are available on the database **Australian Marine Research in Progress** (AMRIP) on CSIRONET. A special printed edition for the Great Barrier Reef Region is also published by the Authority.

\* Project completed during 1989-90 + Augmentative Research Grant  
(\$ ) Refers to 1989-90 funding only

### ANALYSIS OF USE

*The objectives of research in this field are to define resource utilisation of the Great Barrier Reef Region and to enable management to record the intensity, variability and periodicity of use of the Marine Park. The research includes collection of socio-economic data as well as evaluation of methods of investigation of usage.*

#### 257\* **Traditional Fisheries Workshop**

PROJECT LEADER: Dr L Zann (GBRMPA) (\$nil)

#### 260\*+ **The economic characteristics and significance of the Great Barrier Reef Region shell trade**

PROJECT LEADER: Miss K Herbert (Australian Environmental Studies, Griffith University)  
SUPERVISORS: Dr T Hundloe, Mr J Ware (\$nil)

#### 283\* **A preliminary review of the effects of trawling in the Great Barrier Reef Region**

PROJECT LEADERS: Dr I Poiner ,  
Dr K Sainsbury (CSIRO, Cleveland Marine Laboratory) (\$nil)

#### 284\* **Attitudes of tourists to North Queensland with emphasis on the Great Barrier Reef**

PROJECT LEADER: Mr F M Vanclay (Australian Environmental Studies, Griffith University) (\$nil)

#### 377 **Impact of trawling - general**

PROJECT LEADER: W Craik (GBRMPA) (\$nil)

#### 379\* **Attitudes monitoring program/visitor surveys**

PROJECT LEADERS: Ms S Driml, Ms C Baldwin (GBRMPA), Dr L Scherl (James Cook University) (\$5819)

#### 382+ **Evaluating island landscapes Heron Island - a case study**

PROJECT LEADER: Ms M Donahoe (University of Queensland) SUPERVISOR: Dr G Hill (\$nil)

#### 434 **An economic evaluation of conflicting uses of coastal and marine resources on the Great Barrier Reef near Cairns**

PROJECT LEADER: Mr R Blamey (Griffith University) SUPERVISOR: Dr T Hundloe (\$1500)

#### 444 **Survey at boat ramps adjacent to the Marine Park**

PROJECT LEADER: Dr T Hundloe (Griffith University) (\$35,200)

### MARINE BIOLOGY

*Biological research is undertaken to increase our understanding of the ecosystems of the Great Barrier Reef Region and involves studies on many aspects of the reef environment. Work undertaken involves bird, dugong and turtle research as well as the obvious fields of fish and coral investigations. The Authority has a mandate to protect the health of the Reef and biological research is fundamental to this task. Much of the work is new and research has had to be carried out to determine methods of survey suitable for the task at hand and to assess the suitability of existing techniques.*

#### 124 **The effects of fuel oil, oil emulsifier, and lower salinity upon the common Indo-Pacific reef coral *Acropora formosa***

PROJECT LEADERS: Dr P Harrison (Biological Sciences, James Cook University through Sir George Fisher Centre) (\$nil)

#### 163, 225\* **Methods for re-establishment of hard corals in denuded reef systems**

PROJECT LEADER: Dr V Harriott (Sir George Fisher Centre for Tropical Marine Studies, and Marine Biology, James Cook University) (\$nil)

#### 165 **Coral reef metabolism and calcification**

PROJECT LEADERS: Assoc Prof M Pichon (AIMS) Dr J Morrissey (GBRMPA) (\$nil)

**177 Analysis of fish tagging data**

PROJECT LEADER: Mr R Giddins (James Cook University) (\$nil)

**200 Demersal reef fish study**

PROJECT LEADERS: Mr R Pearson, Dr G Goeden (Fisheries Research, Qld Department of Primary Industries) Mr G McPherson (Qld Department of Primary Industries) (\$nil)

**201\* Giant clam study**

PROJECT LEADER: Mr R Pearson (Fisheries Research, Qld Department of Primary Industries) (\$1000)

**238 Monitoring coral spawning using remote sensing (Pilot Study)**

PROJECT LEADERS: Dr J T Baker, Mr J Oliver, (Biological Sciences, James Cook University), Dr D Kuchler (Mapping & Monitoring Technology Pty Ltd) (\$nil)

**290 Seagrass habitat survey - southern sections of the Marine Park**

PROJECT LEADER: Dr R Coles (Qld Department of Primary industries) - (\$nil)

**291 Coral spawning experiment (CORSEX)**

PROJECT LEADER: Dr B Willis et al. (Biological Sciences, James Cook University) (\$1650)

**292 Reef survey of coral trout - report production**

PROJECT LEADER: Dr A M Ayling (Sea Research) -(\$nil)

**294\* Population dynamics of Eastern Australian green turtles**

PROJECT LEADER: Dr C Limpus (Q.NPWS) (\$10,000)

**295 Trawling impact - red spot king prawn**

PROJECT LEADER: Mr M Dredge (Qld Department of Primary Industries) (\$nil)

**298 Coral trout workshop**

PROJECT LEADERS: GBRMPA , QDEH (\$nil)

**337\* Benthic survey of Low Isles (Pilot Study)**

PROJECT LEADER: Mr D Fisk (Reef Research and Information Services) (\$2000)

**339\* Seagrass habitat survey, Cairns to Bowen - analysis of samples**

PROJECT LEADER: Dr R Coles (Qld Department of Primary Industries) (\$nil)

**340\* Oral history - Japanese divers on the Great Barrier Reef**

PROJECT LEADER: Ms R Ganter (Australian Environmental Studies, Griffith University) (\$1500)

**350\* Investigation of sampling biases in manta tow surveys**

PROJECT LEADERS: Ms L Fernandes, Dr H Marsh (Zoology, James Cook University) (\$2000)

**354+ Colonisation and succession of reef-flat algae at Heron Island**

PROJECT LEADER: Ms C Catterall (Botany, University of Queensland) SUPERVISOR: Dr R Rogers (\$nil)

**358 Sea snakes of northern Australia**

PROJECT LEADER: Mr T Ward (Zoology, James Cook University) SUPERVISOR: Dr H Marsh (\$5948)

**361+ An evaluation of the parasites of the Black Marlin and Pacific Sailfish as population markers and indicators of migratory movements**

PROJECT LEADER: Mr P Spear (Marine Biology, James Cook University) SUPERVISOR: Prof J H Choat (\$nil)

**373\* History of dredging in Cleveland Bay and its effects on sediment movement and growth of corals, mangroves and seagrass**

PROJECT LEADER: Dr A Pringle (University of Lancaster) (\$nil)

**381 Review of published and unpublished information on reef fishes of commercial and recreational fishing interest in the Great Barrier Reef Region**

PROJECT LEADERS: Prof. J H Choat, Dr G Russ (James Cook University), Dr D Williams (Australian Institute of Marine Science) (\$nil)

**383 An investigation of optimum methods and unit sizes for the visual estimation of abundances of some coral reef organisms**

PROJECT LEADERS: Dr A M Ayling, Dr A L Ayling (Sea Research), Dr B Mapstone (James Cook University) (\$nil)

**385 CORSEX Analysis of plankton samples**

PROJECT LEADERS: Dr B Willis, Dr J Oliver (James Cook University) (\$1650)

**387\* Hard coral regeneration on Green Island Reef**

PROJECT LEADER: Mr D Fisk (Reef Research and Information Services) (\$2918)

**388\* The distribution and abundance of cetaceans in the Great Barrier Reef Region**

PROJECT LEADER: Dr H Marsh (James Cook University) (\$6000)

**389\* Monitoring impact of Whitsundays area discharges**

PROJECT LEADERS: Mr R van Woesik (James Cook University), Dr T Done (Australian Institute of Marine Science) (\$12,355)

**391 Monitoring impact of dredge spoil dumping - Cairns Port Authority**

PROJECT LEADER: Connell Wagner (Consultants) (\$nil)

**392 Heron Island spoil dump - short term monitoring and environmental effects**

PROJECT LEADERS: Dr J Jell, Dr M Gourlay (University of Queensland) (\$5000 - 50% developer funded)

**393 Monitoring of Heron Island**

PROJECT LEADER: Dr I Lawn (Heron Island Research Station) (\$5000 - 50% developer funded)

**394 A case history of a tourist pontoon on an outer barrier reef and on-going monitoring projects relating to marine biota**

PROJECT LEADER: Ms W Richards (Reef Biosearch Pty Ltd) (\$nil)

**395\* Coordination of monitoring projects**

PROJECT LEADER: Dr J Oliver (Consultant) \$6000)

**396 Collection and analysis of amateur fishing data**

PROJECT LEADER: Ms M Zann Schuster (Consultant) (\$nil)

**397\* Heron Island reef and coral cay, Great Barrier Reef, Australia: A collection of historical photographs and images**

PROJECT LEADER: Dr D Kuchler (Mapping and Monitoring Technology Pty Ltd) (\$nil)

**398\* Heron Island - monitoring program**

PROJECT LEADER: Prof J H Connell (University of California) (\$nil)

**399 Heron Island - monitoring program**

PROJECT LEADER: Mr D Fisk (Reef Research and Information Services) (\$nil)

**400\* Determination of light profiles for Magnetic Island bays adjacent to the proposed Magnetic Quay Development**

PROJECT LEADER: Mr J Brodie (James Cook University) (\$nil)

**401 Baseline study for Daydream Island (Marina Development)**

PROJECT LEADER: Mr D Fisk (Reef Research and Information Services) (\$29,853 - 100% developer funded)

**402\* Synoptic survey - McBrides Point**

PROJECT LEADER: Marine Bio Logic (\$845 100% developer funded)

**403 Monitoring impact of dredge spoil dumping - Cleveland Bay**

PROJECT LEADERS: Mr B Service (Townsville Port Authority), Dr E Wolanski (Australian Institute of Marine Science), Dr M Heron, Mr J Brodie (James Cook University) (100% developer funded)

**404 Monitoring John Brewer Reef - biological**

PROJECT LEADERS: Dr P Saenger (Northern Rivers College of Advanced Education), Prof J H Choat (James Cook University), Mr M I McCormick (100% developer funded)

**405 Monitoring John Brewer Reef - Human Use**

PROJECT LEADERS: Dr P Saenger, Mr I Dutton (Northern Rivers College of Advanced Education), Mr P Valentine (James Cook University) Ms K Watson (Consultant) (100% developer funded)

**406 Baseline study for Environmental Monitoring Program: Magnetic Quay Development - benthic communities, water quality turbidity/ sediments**

PROJECT LEADER: Marine Biology Department (James Cook University) (\$27,061 - 100% developer funded)

**407 Biological calibration and construction-study for Environmental Monitoring Program: Magnetic Quay Development**

PROJECT LEADER: James Cook University (\$293,000 -100% developer funded)

**408 Baseline environmental study: proposed site day trip pontoon Wistari Reef**

PROJECT LEADER: Mr J Thorogood (Fisheries Research Consultants) (\$9020 - 100% developer funded)

**409+ Biotic factors influencing the population dynamics of selected species belonging to an alcyonarium (Cnidaria: Octocorallia) community on the Great Barrier Reef**

PROJECT LEADER: Ms J Griffith (University of Queensland) SUPERVISOR: Dr R Endean (\$nil)

**410 A+ The effects of sediments on corals at Magnetic Island**

PROJECT LEADER: Ms S Seddon (James Cook University) SUPERVISORS: Prof J H Choat, Dr R Babcock (\$nil)

**410 B+ Comparative biology and ecology of leiognathid species found in Cleveland Bay and environs**

PROJECT LEADER: Ms A Cabanban (James Cook University) SUPERVISORS: Prof J H Choat, Dr A Robertson (\$nil)

**411+ Caridea and Penaeidae associated with Green Island seagrass meadows**  
PROJECT LEADER: Mr L McKenzie (James Cook University) SUPERVISOR: Prof J H Choat (\$nil)

**412+ Population biology and distribution of *Acropora millepora***  
PROJECT LEADER: Ms K Walker (James Cook University) SUPERVISOR: Dr J D Collins (\$nil)

**413+ Experimental culture of the Great Barrier Reef scallop, *Amusium balloti***  
PROJECT LEADER: Mr N Connolly (James Cook University) SUPERVISORS: Assoc Prof J S Lucas, Dr R Braley (\$nil)

**435\* Seagrass habitat survey - Lookout Point to Barrow Point**  
PROJECT LEADER: Dr R Coles (Qld Department of Primary Industries) (\$5000)

**436 Effects of oil and dispersants on corals**  
PROJECT LEADER: Mr P Hough (Great Barrier Reef Aquarium) (\$17,500)

**437\* Pilot survey for Reef Monitoring Trust - North Queensland waters**  
PROJECT LEADERS: Dr D Kinsey, Ms C Baldwin (GBRMPA) (\$nil)

**438 Impact assessment at Green Island**  
PROJECT LEADER: Mr D Fisk, (Reef Research and Information Services) (\$nil)

**439\* Benthic surveys at Nelly Bay and Bright Point, Magnetic Island**  
PROJECT LEADER: Dr A M Ayling (Sea Research) (\$2750)

**440 Development of monitoring system**  
PROJECT LEADER: Mr J Gillies (GBRMPA) (\$26,000)

**441\* Whitsunday tourist development region, Great Barrier Reef Marine Park: a collection of historical photographs and images**  
PROJECT LEADER: Dr D Kuchler (Mapping and Monitoring Technology Pty Ltd) (\$4500)

**442 Assessment of the effects of the removal of a pontoon system supporting a large-scale tourist operation on the Barrier Reef.**  
PROJECT LEADER: Ms A E Gibson (Reef Biosearch Pty Ltd) - (\$10,000 partly developer funded)

**443 Survey of volutes at Heron Island**  
PROJECT LEADER: Dr C Catterall (Griffith University) - (\$5616)

**445 Low Isles: a collection of historical photographs and images**  
PROJECT LEADER: Dr D Kuchler (Mapping and Monitoring Technology Pty Ltd) (\$3000)

**446 Survey of Middle Reef**  
PROJECT LEADER: Mr B Kettle (Marine Bio Logic) (\$4000)

**447 Monitoring John Brewer Reef - post hotel removal**  
PROJECT LEADER: Mr M I McCormick (\$nil)

**448+ Systematics & bio-geography of the benthic octopus of the Great Barrier Reef**  
PROJECT LEADER: Mr M Norman (University of Melbourne) SUPERVISORS: Dr G Watson, Dr C C Lu, (\$1044)

**449+ The epifaunal communities of the reefal and near reefal benthos of Magnetic Island**  
PROJECT LEADER: Mr B Cohen (James Cook University) SUPERVISORS: Dr B Mapstone, Dr J D Collins (\$900)

**450+ Age structure, growth and mortality of reef fishes of commercial and recreational interest**  
PROJECT LEADER: Ms B Ferreira (James Cook University) SUPERVISORS: Dr G Russ, Prof J H Choat (\$1140)

**451+ Chemical defences of the octo-coral *Heliopora coerulea* (Alyconaria: Coenthecalia) against the crown-of-thorns starfish, *Acanthaster planci***  
PROJECT LEADER: Mr de Nys, (James Cook University) SUPERVISORS: Dr J Coll, Dr I Price (\$900)

**452+ Feeding ecology of coral trout, *Plectropomus maculatus* and *Plectropomus laevis***  
PROJECT LEADER: Ms J St John (James Cook University) SUPERVISORS: Dr G Russ, Dr B Mapstone (\$1600)

**453+ Effects of bait, mesh size and depth of set on the performance of fish traps as sampling devices on the Great Barrier Reef**  
PROJECT LEADER: Stephen Newman (James Cook University) SUPERVISOR: Dr G Russ (\$1050)

#### INFORMATION SYSTEMS

*These systems are used for the collection, storage and, most importantly, the dissemination of information. Data includes reef related physical and biological information, geographical data, information on research in progress as well as permits and representations data.*

**117 Australian Marine Research in Progress (AMRIP)**  
PROJECT LEADERS: Australian Institute of Marine Science, Great Barrier Reef Marine Park Authority, Victorian Institute of Marine Sciences, Information Resources Unit (CSIRO) - (\$20,996)

Research In Progress

**345\* Bibliography of marine parks**  
PROJECT LEADER: Ms J Dartnall (Consultant)  
(\$nil)

**347 Conversion of Great Barrier Reef Resource inventory to data base format**  
PROJECT LEADER: Australian Littoral Society  
(\$nil)

**348 Great Barrier Reef Resource inventory, Cairns Section Update**  
PROJECT LEADER: Australian Littoral Society  
(\$1315)

**414\* A survey of public awareness levels: Mackay/Capricorn Section of the Great Barrier Reef Marine Park**  
PROJECT LEADER: Survey Research and Consultancy Unit (University of Queensland)  
(\$3996)

**415 Draft production of oil slick identity pamphlet**  
PROJECT LEADER: Mr B Kettle (Marine Bio Logic) (\$nil)

**416 Digitising of manta tow maps**  
PROJECT LEADER: Dr J Oliver (Consultant)  
(\$1000)

**456\* Production of a video of the oil spill strategic atlas (ASAP)**  
PROJECT LEADER: Mr B Kettle (Marine Bio Logic) GBRMPA (\$3210)

#### MANAGEMENT STRATEGIES

*The program aims to evaluate the effectiveness of current and alternate strategies for the management of the Marine Park consistent with conservation of the resources of the area. Studies include risk analysis of activities that occur in the park such as shipping as well as review of the zoning plans to determine whether objectives are being met.*

**237\* Biological basis for managing populations of dugongs and other marine mammals in the Great Barrier Reef Marine Park**  
PROJECT LEADER: Dr H Marsh (Zoology, James Cook University) (\$nil)

**288 Fringing reef studies including fish study**  
PROJECT LEADERS: Mr S Domm (Q.DEC), Mr R van Woesik, Mr A Steven ( James Cook University) (Aus. Littoral Society) (\$nil)

**133, 293 Monitoring Replenishment Areas: Stages 1 and 2**  
PROJECT LEADER: Mr K Beinssen (QDEH)  
(\$nil)

**417\* Workshop for Scientific Support Coordinators**  
PROJECT LEADERS: Mr I Dutton (Northern Rivers College of advanced Education), GBRMPA, Dept. of Transport and Communications (\$nil)

**418\* Research and Monitoring Section Review**  
PROJECT LEADER: Ms M Watson (Consultant)  
(\$nil)

**419\* 2 Staff/Researcher Conferences**  
PROJECT LEADER: Ms M Watson (Consultant)  
(\$4480)

**420\* Oil spill strategic atlas - assessment of an appropriate system**  
PROJECT LEADER: Mr B Kettle (Marine Bio Logic) (\$347)

**421\* Magnetic Island Management Plan**  
PROJECT LEADERS: GBRMPA, Marine Bio Logic, Townsville City Council, Gutteridge, Haskins & Davey (\$nil)

**457 Survey of the educational effectiveness of the Great Barrier Reef Aquarium**  
PROJECT LEADER: Ms G Moscardo, (James Cook University) (\$9500)

**458\* A rapid assessment technique of anchor damage on coral reefs**  
PROJECT LEADERS: Dr V J Harriott, Mr D Fisk (Reef Research and Information Services)  
(\$3000)

**459 Risk management study**  
PROJECT LEADER: Sedgwick James Pty Ltd  
(\$10,000)

**460 Study of the impact of developments on seagrass beds**  
PROJECT LEADER: Dr H Marsh (James Cook University) (\$3530)

#### MARINE CHEMISTRY

*Chemical analysis of the Great Barrier Reef environment is necessary to determine the background concentrations and distribution of possible contaminants of the environment. This allows the assessment of impacts of pollutants such as nutrients*

**234\*+ Effects of disturbed rainforest catchments on adjacent fringing reefs - Cape Tribulation**  
PROJECT LEADERS: Assoc Prof D Hopley, Mr D Hoyal and Mr B Partain, Ms C Rasmussen (James Cook University) Dr K Parnell (Auckland) - (\$1500)

### **300\* Waste water disposal guidelines**

PROJECT LEADERS: Dr P Bell, Dr P Greenfield (University of Queensland), Dr D Connell, Dr D Hawker (Griffith University) (\$nil)

### **342 Water quality and the effect of seasonal change - Trinity Inlet to Green Island**

PROJECT LEADERS: Dr F Thomas, Assoc Prof D Yellowlees Mr B Brady (Chemistry, James Cook University) (\$10,000)

### **343\* Dissolved and particulate nutrient concentrations in waters of the Whitsunday Island group**

PROJECT LEADER: Dr M Furnas (Australian Institute of Marine Science) (\$nil)

### **359+ Phosphorus metabolism in corals**

PROJECT LEADER: Ms A Jackson (Chemistry, James Cook University) SUPERVISOR: Assoc Prof D Yellowlees (\$nil)

### **374\* Coordination of water quality studies**

PROJECT LEADER: Dr P Bell (Chemical Engineering, University of Queensland) (\$nil)

### **390\* Supervision of Whitsunday water quality**

PROJECT LEADER: Dr P Bell (University of Queensland) (\$nil)

### **422 Nitrogen and phosphorus budgets for Great Barrier Reef shelf waters**

PROJECT LEADER: Dr M Furnas (Australian Institute of Marine Science) (\$36,000)

### **423 Green Island water quality - pilot**

PROJECT LEADER: Mr J Brodie  
Mr A Steven (James Cook University) (\$nil)

### **461\* Water quality in Cleveland Bay**

PROJECT LEADER: Dr M Furnas (Australian Institute of Marine Science) (\$1200)

### **462 Water quality for northern Great Barrier Reef waters**

PROJECT LEADER: Dr M Furnas (Australian Institute of Marine Science) (\$10,000)

### **463+ Studies on coral calcification**

PROJECT LEADER: Mr B Baillie (James Cook University) SUPERVISOR: Assoc Prof D Yellowlees (\$890)

### **464+ An investigation of a possible link between anthropogenically derived mainland nutrients and enhanced nutrient levels in the marine environment**

PROJECT LEADER: Mr J Taylor (James Cook University) SUPERVISOR: Dr C Cuff (\$1100)

## **MARINE GEOSCIENCES**

*There is a need for understanding of the processes which formed the Great Barrier Reef so that contemporary development and degradation can be placed in perspective. The research includes analysis of sediments, growth rates of reefs and study of the processes of degradation of senile reefs.*

### **151\* Biological reef destruction - products, rates and causes**

PROJECT LEADERS: Dr P A Hutchings (Australian Museum), Dr P J Davies (Bureau of Mineral Resources), Dr W Kiene (Geology, Australian National University) (\$4673)

### **152 Coastal processes forming and maintaining the coral cays of the Great Barrier Reef and their implications for Marine Park Management**

PROJECT LEADER: Dr M Gourlay (Civil Engineering, University of Queensland) (\$nil)

### **153 Stratigraphy of lagoon sediments and reef margins - Lady Musgrave Island**

PROJECT LEADER: Assoc Prof C V G Phipps (Geology and Geophysics, University of Sydney) (\$nil)

### **232\* Coral recruitment on fringing reefs near Cape Tribulation**

PROJECT LEADER: Mr D Fisk (Reef Research and Information Services) (\$nil)

### **233 Monitoring of Cape Tribulation fringing reefs**

PROJECT LEADER: Dr A M Ayling (Sea Research) (\$nil)

### **344+ The importance of siltation and sedimentation resuspension on reefal development in the Whitsunday Islands area**

PROJECT LEADERS: Dr D Johnson, Mr S Blake (Geology, James Cook University) (\$nil)

### **351+ The effects of sediment and turbidity on reef corals and implications for monitoring**

PROJECT LEADER: Ms M Stafford Smith (University of York) SUPERVISOR: Dr R F G Ormond (Tropical Marine Research Unit, University of York) (\$nil)

### **467+ Sediment input and sea level rise, morphological predictions of Cape 'Bowling Green and Burdekin Delta**

PROJECT LEADER: Mr S Goh (James Cook University) SUPERVISOR: Dr M Mabin (\$1000)

### **468 Carbonate/Silica sands study**

PROJECT LEADER: Dr M Mabin (James Cook University) (\$14,167)

## OCEANOGRAPHY

*Studies of wave patterns, tides and currents in the Region allow better understanding of the processes by which larvae and pollutants are dispersed throughout the Region. Modelling work will allow better prediction of dispersal patterns and the inter-connectivity of reefs.*

### **229 Establishment of remote weather stations on the Great Barrier Reef**

PROJECT LEADER: Dr J C Andrews (Australian Institute of Marine Science) (\$2520)

### **302\* Physical oceanography review**

PROJECT LEADERS: Prof G Pickard, Dr J C Andrews (Australian Institute of Marine Science) (\$nil)

### **346\* Review of physical oceanographic models and their application to management**

PROJECT LEADER: Dr R Steedman (Consultant) (\$nil)

### **424\* Zoning needs: Identification of sink and source reefs in Cairns Section**

PROJECT LEADER: Mr I Dight (James Cook University) (\$500)

### **425 Provision of advice on oceanographic and engineering matters**

PROJECT LEADER: Marine Modelling Unit (James Cook University) - \$45,000

### **426 Small-scale and inter-reef dispersal of larvae, pollutants and nutrients on the Great Barrier Reef**

PROJECT LEADER: Dr K Black (Victorian Institute of Marine Sciences) (\$nil)

## SURVEY AND BATHYMETRY

*The objective of these projects is to provide detailed charts and maps of the Great Barrier Reef Region and to establish the ability of remote sensing to assist in classifying the area. Work has taken place using both aerial and satellite survey methods.*

### **198\* Spectrographic analysis of reef features**

PROJECT LEADERS: Dr D Jupp, Dr D Kuchler (CSIRO, Division of Water and Land Resources), (\$nil)

### **285 The Northeast Australian Satellite Imagery System (NASIS)**

PROJECT LEADERS: James Cook University, Australian Institute of Marine Science, Great Barrier Reef Marine Park Authority, (\$nil)

## CROWN-OF-THORNS STARFISH

*This is the program of research funded following recommendations by the Crown-of-Thorns Starfish Research Committee (COTSREC)*

### **271\* The relationships between crown-of-thorns starfish outbreaks and water mass characteristics in the Great Barrier Reef**

PROJECT LEADERS: Mr D van R Claasen, Dr L Zann (GBRMPA), Ms E Coumbis (Consultant) (\$3000)

### **272 Potential human causes of *Acanthaster planci* aggregations in the South Pacific**

PROJECT LEADERS: Dr L Zann (GBRMPA), Ms G Brodie (University of the South Pacific, Fiji), Ms K Weaver, Mr G Andrews (Consultants) (\$4784)

### **273 Socio-economic consequences of major populations of crown-of-thorns starfish**

PROJECT LEADER: Dr T Hundloe (Australian Environmental Studies, Griffith University) (\$nil)

### **274 Biological and economic risk analysis study to contribute to assessment of the need for control of crown-of-thorns starfish**

PROJECT LEADERS: Dr T Hundloe, Dr J Parslow (Australian Environmental Studies, Griffith University) (\$nil)

### **276 Studies of the diseases of the crown-of-thorns starfish**

PROJECT LEADER: Prof R S F Campbell, Dr J Glazebrook (Tropical Veterinary Science, James Cook University) (\$7595)

### **280 Population dynamics of crown-of-thorns starfish on Suva Barrier Reef**

PROJECT LEADERS: Mr J Brodie (University of the South Pacific, Fiji) Dr L Zann (GBRMPA) (\$5500)

### **281\* Monitoring juvenile crown-of-thorns starfish on the Great Barrier Reef (pilot study)**

PROJECT LEADER: Mr R Bell (Consultant) (\$nil)

### **321 Chemical pathways:**

PROJECT LEADER: Dr R B Johns (Organic Chemistry, University of Melbourne) (\$nil)

### **322 Mainland run-off hypothesis (land use)**

PROJECT LEADER: Assoc prof D Hopley, Mr P Valentine, Ms C Rasmussen (Sir George Fisher Centre for Tropical Marine Studies, James Cook University) (\$8000)

### **324 Crown-of-thorns starfish sighting survey**

PROJECT LEADER: Dr L Zann, Dr B Lassig, Dr W Gladstone (GBRMPA) (\$nil)

**326 Crown-of-thorns starfish booklet**  
PROJECT LEADER: Dr L Zann (GBRMPA) (\$nil)

**327 Use of infra red photography for monitoring effects of *A. planci* outbreaks**  
PROJECT LEADER: Assoc Prof D Hopley (Sir George Fisher Centre for Tropical Marine Studies, James Cook University) (\$nil)

**329\* Consequences of commercial fishing (analysis of catch)**  
PROJECT LEADERS: Prof J H Choat, Mr A Steven (Marine Biology, James Cook University) (\$2500)

**330 Abundance and distribution patterns of *Acanthaster planci* on the Great Barrier Reef**  
PROJECT LEADER: Dr A M Ayling (Sea Research) (\$nil)

**331 Information base and pilot study for an interdisciplinary study of Green Island**  
PROJECT LEADERS: Prof J H Choat, Mr I Baxter (Marine Biology, James Cook University) (\$nil)

**356+ Application and assessment of methods for ageing crown-of-thorns starfish**  
PROJECT LEADER: Mr R Stump (Zoology, James Cook University)  
SUPERVISOR: Assoc Prof J S Lucas (\$nil)

**364 An interdisciplinary research and monitoring program to determine the consequences and possible causes of *Acanthaster planci* infestations at Green Island**  
PROJECT LEADERS: Prof J H Choat, Assoc Prof D Hopley (Marine Biology and Sir George Fisher Centre for Tropical Marine Studies, James Cook University) (\$nil)

**366\* Search for evidence within subsurface sediments of the occurrence of previous aggregations of crown-of-thorns starfish on Heron Island Reef, southern Great Barrier Reef**  
PROJECT LEADERS: Dr P Flood (University of New England), Dr E Frankel (University of Technology, Sydney) (\$5890)

**367 Distribution of skeletal elements of crown-of-thorns starfish in surface sediments, central Great Barrier Reef**  
PROJECT LEADERS: Prof R A Henderson (Geology, James Cook University)  
Dr P Moran (Australian Institute of Marine Science) (\$nil)

**368\* Search for evidence within surface sediments of the occurrence of previous aggregations of crown-of-thorns starfish on Capricorn and Pompey Reefs**  
PROJECT LEADERS: Dr P Flood (University of New England), Dr E Frankel (University of Technology, Sydney) (\$1860)

**427 Search for evidence within subsurface sediments of the occurrence of previous aggregations of crown-of-thorns starfish on reefs of the Howick Group, northern Great Barrier Reef**  
PROJECT LEADERS: Dr P Flood (University of New England), Dr E Frankel (University of Technology, Sydney) (\$nil)

**428\* Set up public display of aspects of the crown-of-thorns starfish phenomenon**  
PROJECT LEADER: Great Barrier Reef Aquarium (\$1990)

**429\* Develop interactive crown-of-thorns display based on Apple Macintosh**  
PROJECT LEADER: Mr B Kettle (Marine Bio Logic) (\$6000)

**430\* Monitoring juvenile crown-of-thorns starfish on Green Island Reef**  
PROJECT LEADER: Mr D Fisk (Reef Research and Information Services) (\$17,000)

**431 The impact of the crown-of-thorns starfish *Acanthaster planci* on the community structure, demography and morphology of massive corals**  
PROJECT LEADER: Mr L DeVantier (Australian Institute of Marine Science) (\$16,000)

**432\* Discussions with Prof. Masahi Yamaguchi in Japan re culturing work**  
PROJECT LEADER: Mr J Keesing (Australian Institute of Marine Science) (\$nil)

**433\* Crown-of-thorns starfish in the Whitsunday region - surveys and controls**  
PROJECT LEADERS: Mr R van Woelik, Mr A Steven (James Cook University)  
Mr L. De Vantier (Australian Institute of Marine Science) (\$nil)

**469 Survey of marine scientists and other experts for anecdotal observations of crown-of-thorns predation**  
PROJECT LEADER: Mr B Kettle (Marine Bio Logic) (\$1200)

**470 Development of a robust method for determining the status of individual reefs with respect to outbreaks of crown-of-thorns starfish**  
PROJECT LEADERS: A/Prof H D Marsh (James Cook University), Dr P Moran (Australian Institute of Marine Science) - (\$7060)

**471 Modelling approach to hydrodynamics and the large-scale larval dispersal of *Acanthaster planci***  
PROJECT LEADERS: Dr L Bode, Mr I Dight  
Dr M K James (James Cook University) (\$31,000)

**472 Modelling to assess the impact of predators on crown-of-thorns starfish populations**

PROJECT LEADERS: Dr H McCallum, (University of Queensland) Dr R Bradbury (Australian Institute of Marine Science) (\$17,037)

**473\* Crown-of-thorns and density on three Central Section reefs: 1983:1989**

PROJECT LEADER: Dr A M Ayling (Sea Research) (\$6090)

**474\* Feasibility/strategy study of a fund-raising campaign**

PROJECT LEADER: Fundraising Development Consultants (\$7504)

**475 The biology and ecology of the giant triton shell, *Charonia tritonis*, with particular reference to its role as a predator of the crown-of-thorns starfish**

PROJECT LEADERS: Dr L P Zann, Dr W Gladstone (\$3693)

**476 Age determination in *Acanthaster planci***

PROJECT LEADERS: Prof J Lucas, Mr R Stump (James Cook University) (\$33,750)

**477 Feeding studies on potential fish predators of post-settlement *Acanthaster planci*: A post-doctoral fellowship**

PROJECT LEADER: Prof J H Choat (James Cook University) (\$nil)

**478 COTSREC**

COTSREC Committee (\$5000)

**479 An investigation of scales and magnitudes of variability in population densities of some coral reef organisms: Stage 11 in the development of long term monitoring procedures**

PROJECT LEADERS: Dr B D Mapstone, Prof J H Choat, A/Prof H D Marsh (James Cook University, Dr A M Ayling (Sea Research) (\$35,000)

**480\* Manta Tow Data Analysis**

PROJECT LEADER: Dr J Oliver (AIMS) (\$nil)

**TORRES STRAIT BASELINE STUDY**

*A four year environmental study in the Torres Strait marine environment, funded by the Commonwealth Government. The study will determine the background levels of environmental parameters particularly heavy metals, in selected marine species and in sediments in the Torres Strait marine environment. It will assist in determining whether there is evidence of contamination from mining operations in the Fly River catchment area.*

**481 Torres Strait baseline scientific program coordination.**

PROJECT LEADER: Dr D Lawrence (GBRMPA) Mr Ian Dight (James Cook University) (\$35,000)

# MEMBERS OF ADVISORY COMMITTEES

APPENDIX G

## **Crown of Thorns Starfish Research Committee (COTSREC)**

Professor J M Swan (Chairman)

Dr J T Baker *Director, Australian Institute of Marine Science*

Dr P J Moran *Australian Institute of Marine Science*

Mr G Kelleher *Chairman, Great Barrier Reef Marine Park Authority*

Dr L P Zann *Senior Project Officer, Great Barrier Reef Marine Park Authority*  
( to February )

Dr B Lassig *Great Barrier Reef Marine Park Authority* (from February)

Professor R M Golding *Vice Chancellor, James Cook University of North Queensland*

Mr R Pearson *Executive Officer, Division of Fisheries and Wetlands Management, Queensland, Department of Primary Industries*

Dr K Sainsbury *Principal Research Scientist, Division of Fisheries Research, CSIRO*

## **Water Quality Advisory Committee**

Dr D W Kinsey (Chairman) *Great Barrier Reef Marine Park Authority*

Dr P Bell *Department of Chemical Engineering, University of Queensland*

Mr J Brodie *Australian Centre for Tropical Freshwater Research, James Cook University of North Queensland*

Dr D W Connell *Government Chemical Laboratory (Queensland)*

Dr M Furnas *Australian Institute of Marine Science*

Dr G Jones *Department of Chemistry and Biochemistry, James Cook University of North Queensland*

Dr J Hansen *School of Biological Sciences, University of Sydney*

Mr Andrew Moss *Division of Environment, Queensland Department of Environment and Heritage*

Ms C Baldwin (Program Coordinator) *Great Barrier Reef Marine Park Authority*

Dr W Craik *Great Barrier Reef Marine Park Authority*

Dr L Zann *Great Barrier Reef Marine Park Authority*

## **Great Barrier Reef Marine Park Management Coordinating Committee**

Dr D W Kinsey (Chairman) *Great Barrier Reef Marine Park Authority*

Mr P Neville *Department of Primary Industries*

Mr D Perkins *Queensland National Parks and Wildlife Service and Premier's Department*

## **Advisory Committee on Research into the Effects of Fishing in the Great Barrier Reef Region**

Dr D W Kinsey (Chairman) *Great Barrier Reef Marine Park Authority*

Dr M Pichon *Australian Institute of Marine Science*

Dr B Hill *CSIRO*

Mr P Appleton *Queensland Fish Management Authority*

Mr T Loveday *Queensland Commercial Fishermen's Organisation*

Dr B Pollock *Queensland Department of Primary Industries*

Mr D Perkins *Queensland Department of Environment and Heritage*

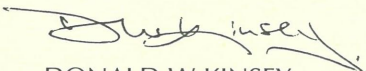
Dr W Craik (Secretariat) *Great Barrier Reef Marine Park Authority*

### GREAT BARRIER REEF MARINE PARK AUTHORITY

Financial Statements for the Year Ended 30 June 1990

In our opinion, the accompanying Statement of Activity (General Operations), Profit and Loss Statement (Great Barrier Reef Aquarium), Statement of Assets and Liabilities, Statement of Capital Accumulation and Statement of Sources and Applications of Funds, have been prepared in accordance with the 'Guidelines for Financial Statements of Commonwealth Entities' approved by the Minister for Finance, as amended from time to time, and

- (a) show fairly the operations of the Authority for the financial year ended 30 June 1990 and the financial position as at 30 June 1990; and
- (b) at the date of this certificate there are reasonable grounds to believe that the Authority will be able to pay its debts as and when they fall due.



DONALD W KINSEY  
Executive Officer



GRAEME KELLEHER  
Chairman

GREAT BARRIER REEF MARINE PARK AUTHORITY  
GENERAL OPERATIONS  
STATEMENT OF ACTIVITY for the year ended 30 June 1990

	Notes	1989-90 \$	1988-89 \$
<b>REVENUE</b>			
Parliamentary appropriations	3	9 266 000	8 632 000
Payments from Queensland for day-to-day management	2(a)(c)	2 191 140	1 829 750
Miscellaneous Revenue	3	1 035 734	666 330
		<u>12 492 874</u>	<u>11 128 080</u>
Less parliamentary appropriations for capital items transferred to statement of capital accumulation		-	70 000
<b>TOTAL OPERATING REVENUE</b>		<u>12 492 874</u>	<u>11 058 080</u>
<b>EXPENSES</b>			
Corporate Management and Services	6	1 534 751	1 392 375
Research and Monitoring Planning and Management		1 902 359	1 436 588
Education/Information		1 269 637	1 231 404
Environmental Impact Management		1 201 081	1 137 734
Payments to Queensland for day-to-day management	2	948 160	1 216 630
		4 791 595	4 199 000
<b>TOTAL OPERATING EXPENSE</b>		<u>11 647 583</u>	<u>10 613 731</u>
<b>OPERATING SURPLUS OR DEFICIT BEFORE PROVISIONS AND UNFUNDED CHARGES</b>		845 291	444 349
Aggregate of provisions and unfunded charges	4	375 987	335 108
<b>OPERATING SURPLUS</b>		469 304	109 241
Accumulated deficits at beginning of financial year		(161 196)	(270 437)
<b>RETAINED SURPLUSES OR ACCUMULATED DEFICITS AT END OF FINANCIAL YEAR</b>		<u>308 108</u>	<u>(161 196)</u>

Appendixes The accompanying notes form an integral part of these financial statements.

GREAT BARRIER REEF MARINE PARK AUTHORITY  
 GREAT BARRIER REEF AQUARIUM  
 PROFIT AND LOSS STATEMENT for the year ended 30 June 1990

	Notes	<b>1989-90</b>	1988-89
		\$	\$
<b>REVENUE</b>			
Admission fees		<b>1 289 885</b>	1 611 818
Other revenue	7	<u>130 185</u>	<u>106 054</u>
Total Operating Revenue		<b>1 420 070</b>	<u>1 717 872</u>
Shop Sales		<b>256 695</b>	283 066
Less: Cost of goods sold	8	<u>139 915</u>	<u>159 441</u>
Gross profit from shop trading		<b>116 780</b>	<u>123 625</u>
<b>TOTAL OPERATING REVENUE</b>		<b>1 536 850</b>	<u>1 841 497</u>
<b>EXPENSES</b>			
Curatorial Operations		<b>52 611</b>	124 187
Interpretative Facilities		<b>60 253</b>	89 594
Marketing/Promotions		<b>111 138</b>	99 040
Shop Management and Services		<b>63 186</b>	83 081
Repairs and Maintenance		<b>47 119</b>	41 057
Administrative Services			
- salaries and allowances		<b>724 034</b>	648 942
- superannuation	1(h)	<b>60 680</b>	79 338
- property services		<b>391 026</b>	419 212
- general services		<b>110 535</b>	90 290
Interest Paid		<b>32 000</b>	42 000
Depreciation of non-current assets	1(c)	<b>438 271</b>	429 267
Staff provisions and other charges	9	<u>23 030</u>	<u>45 183</u>
<b>TOTAL OPERATING EXPENSE</b>		<b>2 113 883</b>	<u>2 191 191</u>
<b>OPERATING PROFIT OR LOSS</b>		<b>(577 033)</b>	<u>(349 694)</u>
Retained profits or accumulated losses at beginning of financial year	1(c)	<u>7 721 195</u>	<u>8 070 889</u>
<b>TOTAL AVAILABLE FOR APPROPRIATION</b>		<b>7 144 162</b>	7 721 195
Aggregate of amounts transferred to reserves	1(c)	<u>8 376 043</u>	<u>-</u>
<b>RETAINED PROFITS OR ACCUMULATED LOSSES AT END OF FINANCIAL YEAR</b>		<b>(1 231 881)</b>	<u>7 721 195</u>

The accompanying notes form an integral part of these financial statements.

GREAT BARRIER REEF MARINE PARK AUTHORITY  
 STATEMENT OF CAPITAL ACCUMULATION for the year ended 30 June 1990

	Notes	<b>1989-90</b>	1988-89
		\$	\$
Balance at beginning of financial year	1(c)	<b>1 103 988</b>	1 033 988
Parliamentary appropriations for capital items transferred from statement of activity		-	70 000
Balance at end of financial year		<u>1 103 988</u>	<u>1 103 988</u>

The accompanying notes form an integral part of these financial statements.

GREAT BARRIER REEF MARINE PARK AUTHORITY  
STATEMENT OF ASSETS AND LIABILITIES as at 30 June 1990

		General Operations	
	Notes	1989-90 \$	1988-89 \$
<b>CURRENT ASSETS</b>			
Cash		1 184 651	938 349
Receivables	19	240 414	41 685
Inventories		-	-
Other		10 453	13 693
<b>TOTAL CURRENT ASSETS</b>		<b>1 435 518</b>	993 727
<b>NON-CURRENT ASSETS</b>			
Property, plant and equipment	14	1 318 511	1 217 211
<b>TOTAL NON-CURRENT ASSETS</b>		<b>1 318 511</b>	1 217 211
<b>TOTAL ASSETS</b>		<b>2 754 029</b>	2 210 938
<b>CURRENT LIABILITIES</b>			
Creditors and borrowings	15	300 396	265 483
Provisions	16	386 146	341 105
Other		74 282	65 651
<b>TOTAL CURRENT LIABILITIES</b>		<b>760 824</b>	672 239
<b>NON-CURRENT LIABILITIES</b>			
Provisions	16	528 827	543 627
Other	17	-	-
<b>TOTAL NON-CURRENT LIABILITIES</b>		<b>528 827</b>	543 627
<b>TOTAL LIABILITIES</b>		<b>1 289 651</b>	1 215 866
<b>NET ASSETS</b>		<b>1 464 378</b>	995 072
<b>EQUITY</b>			
	Notes	As at June 30	
		1990 \$	1989 \$
Capital Accumulation		1 103 988	1 103 988
Authority:			
-Retained surpluses or accumulated deficits		308 108	(161 196)
Aquarium:			
-Retained profits or accumulated losses		(1 231 881)	7 721 195
-Reserves	1(c)	8 376 043	-
<b>TOTAL EQUITY</b>		<b>8 556 258</b>	8 663 987

Appendixes

The accompanying notes form an integral part of these financial statements.

Great Barrier Reef Aquarium		Total	
1989-90	1988-89	1989-90	1988-89
\$	\$	\$	\$
1 013 136	25 017	2 197 787	963 366
76 083	79 807	316 497	121 492
69 872	66 872	69 872	66 872
-	-	10 453	13 693
<b>1 159 091</b>	171 696	<b>2 594 609</b>	1 165 423
<b>7 684 266</b>	8 060 464	<b>9 002 777</b>	9 277 675
<b>7 684 266</b>	8 060 464	<b>9 002 777</b>	9 277 675
<b>8 843 357</b>	8 232 160	<b>11 597 386</b>	10 443 098
<b>327 959</b>	153 487	<b>628 355</b>	418 970
<b>84 445</b>	73 189	<b>470 591</b>	414 294
<b>25 887</b>	21 394	<b>100 169</b>	87 045
<b>438 291</b>	248 070	<b>1 199 115</b>	920 309
<b>34 294</b>	45 175	<b>563 121</b>	588 802
<b>1 278 892</b>	270 000	<b>1 278 892</b>	270 000
<b>1 313 186</b>	315 175	<b>1 842 013</b>	858 802
<b>1 751 477</b>	563 245	<b>3 041 128</b>	1 779 111
<b>7 091 880</b>	7 668 915	<b>8 556 258</b>	8 663 987

GREAT BARRIER REEF MARINE PARK AUTHORITY  
STATEMENT OF SOURCES AND APPLICATIONS OF FUNDS for the year ended 30 June 1990

	Notes	1989-90 \$	1988-89 \$
<b>SOURCES OF FUNDS</b>			
<b>Funds from Operations</b>			
General Operations			
Inflows of funds from operations			11 058 170
Other Revenue		<u>12 516 189</u>	11 058 170
	23	<u>12 516 189</u>	
Less outflows of funds on operations		<u>11 670 898</u>	<u>10 613 821</u>
		<b>845 291</b>	444 349
Great Barrier Reef Aquarium			
Inflows of funds from operations			1 894 884
Sales revenue		1 546 580	107 511
Other revenue		<u>131 388</u>	<u>2 002 395</u>
		<u>1 677 968</u>	2 002 395
Less outflows of funds on operations		<u>1 816 355</u>	<u>1 865 489</u>
		<b>(138 387)</b>	136 906
<b>Capital funds from Government</b>			
Parliamentary appropriations		-	70 000
<b>Reduction in Assets</b>			
Current Assets			
Receivables		-	62 369
Inventories		-	19 809
Other		<u>3 240</u>	33 988
Non-current Assets			
Property, plant and equipment		<u>64 381</u>	2 739
Other		-	<u>399</u>
			<u>67 621</u>
		<b>67 621</b>	119 304
<b>Increase in Liabilities</b>			
Current Liabilities			
Creditors and borrowings		209 385	636
Other		<u>13 124</u>	11 731
Non-current Liabilities			
Other		<u>1 008 892</u>	-
		<u>1 231 401</u>	<u>12 367</u>
Total sources of funds		<u>2 005 926</u>	<u>782 926</u>
<b>APPLICATIONS OF FUNDS</b>			
<b>Increase in Assets</b>			
Current Assets			
Cash		1 234 421	291 121
Receivables		195 005	-
Inventories		<u>3 000</u>	-
		<u>1 432 426</u>	<u>291 121</u>
Non-current Assets			
Property, plant and equipment		<u>573 500</u>	<u>401 805</u>
		<u>573 500</u>	<u>401 805</u>
		<b>2 005 926</b>	692 926
<b>Reduction in Liabilities</b>			
Non-current Liabilities			
Other		-	90 000
Total applications of funds		<u>2 005 926</u>	<u>782 926</u>

Appendixes

Page 92.

The accompanying notes form an integral part of these financial statements.

NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS  
for the year ended 30 June 1990

1. ACCOUNTING POLICIES

The following accounting policies have been adopted in the preparation of the accounts.

(a) Accounts Format

The accounts of the Authority have been prepared in accordance with:

- the 'Guidelines for Financial Statements of Commonwealth Entities', issued by the Minister for Finance in June 1990; and
- accounting standards issued by Australian accounting bodies (where applicable).

The format of the financial statements has been changed to comply with the new guidelines issued by the Minister for Finance and comparative figures for the 1988-89 financial year have been converted to the new format. Major changes relate to the aggregation of items in the financial statements and redefining the Statement of Capital Accumulation to show only parliamentary appropriations for capital items. The Statement of Activity now reflects the accumulated operating deficits since the commencement of accrual accounting in the financial statements of the year ended 30 June 1986.

(b) Historical Cost Convention

These accounts have been prepared on the basis of the historical cost convention and except where stated do not show the current cost of specific assets and the impact of such costs on operating results.

(c) Non-current Assets

Capitalisation occurs on all items which cost more than \$400. Non-current assets are depreciated by the straight line method over their estimated useful lives.

Great Barrier Reef Aquarium -

The Great Barrier Reef Aquarium building was funded as a Commonwealth-State Bicentennial project, through the Great Barrier Reef Wonderland Association Incorporated. The Aquarium is sub-leased by the Authority from the Association for a period of 75 years. Under the terms of the sub-lease agreement the Authority is responsible for the replacement of the Aquarium building as necessary and for all expenses and revenue in relation to its operation. Consequently, the value of the Aquarium building has been taken up as an asset in the Authority's accounts and is being amortised over 25 years, which is the estimated useful life of the building.

In the financial statements for previous years, construction and fitout costs associated with the Great Barrier Reef Aquarium, which were funded through the Great Barrier Reef Wonderland Association (from the Bicentennial grant and public donations) have been incorporated into the statement of capital accumulation. However, for the financial year ended 30 June 1990 they have been incorporated into the profit and loss statement of the Great Barrier Reef Aquarium and shown as amounts transferred to reserves in the year ended 30 June 1990. This change is in accordance with the 'Guidelines for Financial Statements of Commonwealth Entities', issued by the Minister for Finance in June 1990.

The base stock of audio visual displays at the Great Barrier Reef Aquarium and the base stock of marine life, sand, coral and water in the Aquarium have been included under non-current assets as a non-depreciable item. Additions to these stocks are added to the value of the base stock at cost. Future stock replacement costs will be treated as operating expenses.

(d) Advances to Consultants

Under the terms of certain contracts with consultants, payments are made in advance. Except for expenditure on assets which, under the terms of the contract become the property of the Authority from the date of acquisition, such advances are fully expensed in the year of payment. Where ownership of assets vests in the Authority on the completion of a contract, such assets are brought on charge by the Authority at that time, at their written down value and depreciated over their remaining useful life.

(e) Day-to-day Management Advances

Except for expenditure on fixtures upon land owned by or under the direct control of

the Commonwealth or the Authority, advances to the Queensland Department of Environment and Heritage for day-to-day management are fully expensed in the year of payment (refer Note 2 for details of the day-to-day management item).

(f) Stock on Hand

Goods for resale have been valued at the lower of cost or net realizable value.

(g) Provision for Long Service Leave

Provision has been made for pro-rata entitlements of all staff who have at least five years eligible service at balance date.

The current liability represents the estimated value of long service leave that is proposed to be taken by staff during the succeeding year.

For the financial year ended 30 June 1990 the accrued liability for long service leave entitlements taken up in the Aquarium accounts has been adjusted to reflect a change in policy whereby the Aquarium is to be responsible only for that portion of the liability which can be attributed to the period of service during which an officer has been employed by the Aquarium.

(h) Superannuation

Staff of the Authority are employed under the Public Service Act and prior to 1988-89 there had been no obligation in respect of employer contributions to the Commonwealth Superannuation Scheme. However as the Authority is required to manage the Great Barrier Reef Aquarium on a cost recovery basis, employer superannuation contributions for Aquarium employees became payable from 1 July 1988.

The June 1986 National Wage Case Decision provided for new or additional superannuation benefits. The Commonwealth Government agreed to an additional 3 % overall benefit with 1.5% commencing from 1 January 1988 and the balance no later than 1 January 1989. As at 30 June 1989 the Authority was responsible for the payment of this benefit when its employees resigned from the Australian Public Service and comparative figures for the year ended 30 June 1989 reflect this liability. As at 30 June 1990 the liability for this payment, including any accrued entitlement will rest with the Superannuation Fund.

2. DAY-TO-DAY MANAGEMENT OF THE GREAT BARRIER REEF MARINE PARK

(a) Principles agreed between the Commonwealth and Queensland Governments relating to the day-to-day management of the Great Barrier Reef Marine Park provide for:

- . the Queensland Department of Environment and Heritage (QDEH) to carry out the day-to-day management of the Great Barrier Reef Marine Park, subject to the Authority
- . the Commonwealth to fund 100% of an initial capital works program (in the first three years or so) required to establish management of the Great Barrier Reef Marine Park on a sound basis; other capital costs (i.e. the post-initial program) of day-to-day management of the Great Barrier Reef Marine Park to be shared equally between the two Governments
- . the Commonwealth and Queensland to meet in equal shares the recurrent costs for day-to-day management in relation to the Great Barrier Reef Marine Park (which may include Queensland national parks or Queensland marine parks, the use or management of which would or might affect the Great Barrier Reef Marine Park)
- . moveable property funded pursuant to the arrangements to be used and administered by Queensland; proceeds from the sale of any such moveable property are paid into the day-to-day management account to offset Commonwealth/Queensland contributions on a 50:50 basis
- . fixed assets funded pursuant to the arrangements to be used by Queensland and administered by the Government (or Authority) which owns or controls the land on which the fixture is located
- . expenditure on day-to-day management to be in accordance with an annually agreed program, and
- . the Authority to administer funds provided by the Commonwealth and Queensland for these purposes.

(b) The Commonwealth appropriation for day-to-day management was made up of:

	<b>1989-90</b>	1988-89
	\$	\$
(i) Recurrent and Post-Initial Capital Programs	<b>2 191 140</b>	1 829 750
(ii) Initial Capital Works	<b>535 860</b>	536 250
	<u><b>2 727 000</b></u>	<u>2 366 000</u>

(c) The total Queensland contribution to day-to-day management was \$2 191 140 in 1989-90 compared with \$1 829 750 in 1988-89.

(d) Financial statements for day-to-day management which have been prepared by QDEH and audited by the Queensland Auditor General are at Note 24.

### 3. REVENUE

Parliamentary appropriations comprises the following:	<b>1989-90</b>	1988-89
	\$	\$
Operational	<b>6 539 000</b>	6 196 000
Capital	-	70 000
Commonwealth contribution to day-to-day management	<u><b>2 727 000</b></u>	<u>2 366 000</u>
	<u><b>9 266 000</b></u>	<u>8 632 000</u>

Refer to Notes 2(a) and 2(b) for additional detail on Commonwealth contribution to day-to-day management.

Miscellaneous revenue comprises the following:

Payments from the GBR Aquarium for employer superannuation contributions and establishment loan repayment	<b>198 944</b>	198 559
Monies for industry funded monitoring and baseline studies	<b>234 391</b>	140 788
Sale of Authority education and information materials	<b>74 700</b>	61 325
Interest	<b>280 174</b>	201 632
Permit assessment fees	<b>60 500</b>	-
Recovered assets	<b>6 613</b>	-
Revenue from other miscellaneous sources	<u><b>180 412</b></u>	<u>64 026</u>
	<u><b>1 035 734</b></u>	<u>666 330</u>

### 4. PROVISIONS AND UNFUNDED CHARGES

Provisions and unfunded charges of the Authority comprise the following:

	<b>1989-90</b>	1988-89
	\$	\$
Depreciation of non-current assets - refer 1 (c)	<b>345 747</b>	255 529
Long service leave	<b>60 973</b>	(1 398)
Annual leave	<b>29 098</b>	26 926
Superannuation - refer 1 (h)	<b>(67 241)</b>	52 607
Leave fares	<b>7 410</b>	1 444
TOTAL	<u><b>375 987</b></u>	<u>335 108</u>

### 5. TRUST MONEY

An amount of \$8 500 is held by the Authority in trust. This amount is the balance of proceeds remaining from a bank guarantee.

### 6. CORPORATE MANAGEMENT AND SERVICES

Corporate management and services comprises the following:

	<b>1989-90</b>	1988-89
	\$	\$
Expenses of the Authority	<b>159 658</b>	163 987
Expense of the Great Barrier Reef Consultative Committee	<b>34 964</b>	12 094
Executive and Secretariat Administration	<b>487 694</b>	489 516
	<u><b>852 435</b></u>	<u>726 778</u>
	<u><b>1 534 751</b></u>	<u>1 392 375</u>

The item "Expenses of the Authority" includes remunerations paid in accordance with the Remuneration Tribunal Determination to:

	<b>1989-90</b>	1988-89
	\$	\$
Chairman	<b>74 151</b>	69 570
Part-time members	<b>12 162</b>	8 357

The item "Expenses of the Great Barrier Reef Consultative Committee" includes sitting fees paid to part-time members in accordance with the Remuneration Tribunal Determination. In 1989-90 payments totalled \$9 720 compared with \$5 215 in 1988-89.

The item "Administration" includes the following:

	<b>1989-90</b>	1988-89
	\$	\$
Bad debts written off	<b>448</b>	156
Net loss on disposal of non-current assets	<u><b>35 625</b></u>	<u>1 192</u>
	<u><b>36 073</b></u>	<u>1 348</u>

7. OTHER REVENUE

Other revenue of the Aquarium comprises the following:

	<b>1989-90</b>	1988-89
	\$	\$
Donations and sponsorships	<b>25 311</b>	28 310
Membership program	<b>18 434</b>	13 779
Interest	<b>24 945</b>	31 310
Donated assets - see below for detail	<b>27 229</b>	18 254
Recovered assets	<b>688</b>	-
Other revenue	<u><b>33 578</b></u>	<u>14 401</u>
	<u><b>130 185</b></u>	<u>106 054</u>

During the financial year a number of items of plant and equipment were donated to the Aquarium. These items were taken up into the assets records at their estimated value as at the date of acquisition.

8. COST OF GOODS SOLD

This item represents the cost of goods sold through the Great Barrier Reef Aquarium Shop as follows:

	<b>1989-90</b>	1988-89
	\$	\$
Opening Stock	<b>66 872</b>	86 681
Purchases	<b>142 915</b>	139 632
Less: Closing Stock	<u><b>69 872</b></u>	<u>66 872</u>
	<u><b>139 915</b></u>	<u>159 441</u>

9. STAFF PROVISIONS AND OTHER CHARGES

Staff provisions and other charges of the Aquarium comprise the following:

	<b>1989-90</b>	1988-89
	\$	\$
Long service leave	<b>3 619</b>	21 403
Annual leave	<b>8 586</b>	21 747
Leave fares	<b>4 433</b>	1 404
Bad debts written off	<b>2 154</b>	629
Net loss on disposal of non-current assets	<u><b>4 238</b></u>	<u>-</u>
	<u><b>23 030</b></u>	<u>45 183</u>

10. REPAYMENT OF GREAT BARRIER REEF AQUARIUM ESTABLISHMENT COSTS

The Department of Finance has determined that establishment costs of \$450 000 appropriated in 1986-87 are recoverable. It is expected that this amount, plus interest at the long-term bond rate, will be repaid in the form of instalments deducted from Authority appropriation and made up from Aquarium revenue.

11. INSURANCE

The Authority has a policy of self-insurance for its general operations but has commercial insurance cover for the operation of the Great Barrier Reef Aquarium.

12. ADVANCE FROM DEPARTMENT OF FINANCE

In the 1989-90 financial year the Commonwealth provided \$1 000 000 to the Great Barrier Reef Aquarium in the form of a repayable advance. This amount, together with the remaining balance of the repayable establishment costs (see Note 10) is to be repaid over a period of ten years. The first repayment is due to be made in the 1991-92 financial year. Interest on the outstanding principal is to be charged at the long-term bond rate.

13. HIRE PURCHASE AGREEMENT - AQUARIUM

Included in the Aquarium figures for 'Creditors and borrowings' and 'Other' non-current liabilities are amounts payable under a hire purchase agreement entered into by the Aquarium. The amounts payable are as follows:

	\$
Creditors and borrowings	3 812
Other	<u>8 892</u>
Total	<u>\$12 704</u>

14. NON-CURRENT ASSETS

The detailed breakup of property, plant and equipment between the Authority's General Operations and the Great Barrier Reef Aquarium is as follows:

	Cost		Accumulated Depreciation		Written Down Value	
	1989-90	1988-89	1989-90	1988-89	1989-90	1988-89
	\$	\$	\$	\$	\$	\$
<b>GENERAL OPERATIONS</b>						
Furniture, fittings & displays	<b>156 466</b>	145 635	<b>71 674</b>	59 074	<b>84 792</b>	86,561
Office machines	<b>172 120</b>	188 062	<b>99 999</b>	100 448	<b>72 121</b>	87,614
Audiovisual & photographic	<b>55 431</b>	52 409	<b>37 492</b>	30 893	<b>17 939</b>	21,516
Marine & diving	<b>36 027</b>	39 454	<b>19 484</b>	23 114	<b>16 543</b>	16,340
Computer hardware	<b>1 056 528</b>	975 996	<b>465 779</b>	480 866	<b>590 749</b>	495,130
Computer software	<b>266 769</b>	296 898	<b>94 008</b>	89 552	<b>172 761</b>	207,346
Scientific & technical	<b>105 525</b>	76 812	<b>49 368</b>	40 706	<b>56 157</b>	36,106
Vehicles & mobile plant	<b>65 290</b>	23 935	<b>17 409</b>	14 939	<b>47 881</b>	8,996
Other plant & equipment	<b>7 178</b>	7 178	<b>4 340</b>	4 123	<b>2 838</b>	3,055
Improvements to leasehold property - Fixtures & fittings	<b>291 246</b>	278 248	<b>34 516</b>	23 701	<b>256 730</b>	254 547
<b>Total General Operations</b>	<b>2 212 580</b>	2 084 627	<b>894 069</b>	867 416	<b>1 318 511</b>	1 217 211
<b>GBR AQUARIUM</b>						
Furniture & fittings	<b>220 719</b>	220 719	<b>43 543</b>	29 378	<b>177 176</b>	191 341
Office machines	<b>4 679</b>	10 527	<b>1 898</b>	4 199	<b>2 781</b>	6 328
Audiovisual & photographic	<b>264 514</b>	258 692	<b>35 210</b>	23 612	<b>229 304</b>	235 080
Marine & diving	<b>7 660</b>	5 660	<b>3 727</b>	2 553	<b>3 933</b>	3 107
Computer hardware	<b>57 849</b>	30 975	<b>16 917</b>	6 532	<b>40 932</b>	24 443
Computer software	<b>991</b>	527	<b>105</b>	48	<b>886</b>	479
Scientific & technical	<b>42 869</b>	42 851	<b>16 216</b>	11 541	<b>26 653</b>	31 310
Vehicles & mobile plant	<b>12 669</b>	12 669	<b>5 701</b>	3 167	<b>6 968</b>	9 502
Other plant & equipment	<b>542 248</b>	524 976	<b>105 395</b>	69 436	<b>436 853</b>	455 540
Aquarium contents	<b>343 576</b>	343 256	-	-	<b>343 576</b>	343 256
Improvements to leasehold property - Aquarium building	<b>7 503 295</b>	7 492 950	<b>1 088 091</b>	732 872	<b>6 415 204</b>	6 760 078
<b>Total GBR Aquarium</b>	<b>9 001 069</b>	8 943 802	<b>1 316 803</b>	883 338	<b>7 684 266</b>	8 060 464
<b>TOTAL</b>	<b>11 213 649</b>	11 028 429	<b>2 210 872</b>	1 750 754	<b>9 005 783</b>	9 002 777

15. CURRENT LIABILITIES - CREDITORS AND BORROWINGS

Included in the item "Creditors and borrowings" are the following amounts:

	Notes	General Operations	
		1989-90	1988-89
		\$	\$
<b>CURRENT LIABILITIES</b>			
Creditors and borrowings:			
Establishment cost repayment	10	-	-
Creditors	13	<b>300 396</b>	265 483
<b>TOTAL</b>		<b>300 396</b>	265 483

16. PROVISIONS

Additional detail relating to provisions is as follows:

	Notes	General Operations	
		1989-90	1988-89
		\$	\$
<b>CURRENT LIABILITIES</b>			
Provision for long service leave	1(g)	<b>17 268</b>	8 736
Provision for annual leave		<b>325 848</b>	296 749
Provision for leave fares		<b>43 030</b>	35 620
<b>TOTAL</b>		<b>386 146</b>	341 105
<b>NON-CURRENT LIABILITIES</b>			
Provision for long service leave	1(g)	<b>528 827</b>	476 386
Provision for superannuation	1(h)	-	67 241
<b>TOTAL</b>		<b>528 827</b>	543 627

17. NON-CURRENT LIABILITIES - OTHER

Included in the item "Other" are the following amounts:

	Notes	Great Barrier Reef Aquarium	
		1989-90	1988-89
		\$	\$
<b>NON-CURRENT LIABILITIES</b>			
Other:			
Establishment cost repayment	10	<b>270 000</b>	270 000
Advance received from Dept of Finance	12	<b>1 000 000</b>	-
Other non-current liabilities	13	<b>8 892</b>	-
<b>TOTAL</b>		<b>1 278 892</b>	270 000

18. LEASES

(a) The aggregate amount of operating leases contracted for and outstanding as at 30 June 1990 is \$2 944 504. These leases are for office accommodation and the discharge will be:

	1989-90	1988-89
	\$	\$
Within one year	<b>457 121</b>	338 842
In the second year	<b>440 863</b>	315 516
Within a three to five year period	<b>1 227 912</b>	946 548
Later than five years	<b>818 608</b>	946 548
<b>TOTAL</b>	<b>2 944 504</b>	2 547 454

(b) The Authority sub-leases the Great Barrier Reef Aquarium building from the Great Barrier Reef Wonderland Association Incorporated for a nominal amount payable if demanded.

19. DEBTORS

	1989-90	1988-89
	\$	\$
Debtors	<b>316 497</b>	121 492
Less: Provision for doubtful debts	-	-
<b>Total Debtors</b>	<b>316 497</b>	121 492

20. COMMITMENTS FOR CAPITAL EXPENDITURE

The Authority has outstanding commitments for capital expenditure totalling \$43 881 as at 30 June 1990. The full amount is payable within a period of not later than one year.

Great Barrier Reef Aquarium		Total	
1989-90	1988-89	1989-90	1988-89
\$	\$	\$	\$
90 000	90 000	90 000	90 000
237 959	63 487	538 355	328 970
<b>327 959</b>	<b>153 487</b>	<b>628 355</b>	<b>418 970</b>

Great Barrier Reef Aquarium		Total	
1989-90	1988-89	1989-90	1988-89
\$	\$	\$	\$
-	1 763	17 268	10 499
72 472	63 886	398 320	360 635
11 973	7 540	55 003	43 160
<b>84 445</b>	<b>73 189</b>	<b>470 591</b>	<b>414 294</b>
<b>34 294</b>	<b>28 912</b>	<b>563 121</b>	<b>505 298</b>
-	16 263	-	83 504
34 294	45 175	563 121	588 802

21. RESOURCES PROVIDED FREE OF CHARGE TO THE AUTHORITY

The following resources were provided free of charge to the Authority and accordingly are not reflected as expenses in the Statement of Activity:

	1989-90	1988-89
	\$	\$
(a) External audit services (the Australian National Audit Office audits the Authority's accounts)	33 900	35 600
(b) Coastal Surveillance	640 000	191 000

In 1988-89 coastal surveillance arrangements were revised and funds were appropriated direct to the Australian Customs Service to pay for surveillance within the Great Barrier Reef Region south of Cairns. In 1989-90 this funding arrangement was extended to also include the area north of Cairns.

22. CONTINGENT LIABILITIES

The Authority is unaware of any contingent liability existing as at 30 June 1990.

23. RECONCILIATION OF OPERATING RESULT WITH FUNDS FROM OPERATIONS

Reconciliation of operating result with funds from operations is as follows.

	General Operations		Great Barrier Reef Aquarium	
	1989-90	1988-89	1989-90	1988-89
	\$	\$	\$	\$
Operating result	469 304	109 241	(577 033)	(349 694)
Add: - Depreciation of non-current assets	345 747	255 529	438 271	429 267
- Long service leave	60 973	(1 398)	3 619	21 403
- Annual leave	29 098	26 926	8 586	21 747
- Leave fares	7 410	1 444	4 433	1 404
- Superannuation	(67 241)	52 607	(16 263)	12 779
Funds from operations	<b>845 291</b>	<b>444 349</b>	<b>(138 387)</b>	<b>136 906</b>

Refer to Note 1(h) for additional detail on superannuation

24. DEPARTMENT OF ENVIRONMENT AND HERITAGE  
 GREAT BARRIER REEF MARINE PARK  
 STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 30 JUNE 1990

1988-89		1989-90	
\$		\$	\$
	The balance at 1 July comprised -		
	Recurrent Costs		
10 823	Salaries and Wages	29 648	
28 243	Operating Costs	80 261	
	Capital Works and Services		
136 544	Initial Program	222 541	
(21 450)	Post Initial Program	37 057	
-	Balance of proceeds from sale of Moveables	30 730	
<u>154 160</u>			<u>400 237</u>
	Receipts for the year were -		
	Recurrent Costs		
1 727 100	Salaries and Wages	1 968 479	
1 617 294	Operating Costs	1 947 658	
	Capital Works and Services		
489 000	Initial Program	409 314	
365 606	Post Initial Program	466 144	
52 190	Disposal of Moveables	52 602	
3 082	Other Receipts	-	
<u>4 254 272</u>	Total Receipts (Note 1)		<u>4 844 197</u>
	From which the following payments were made -		
	Recurrent Costs		
1 708 275	Salaries and Wages	1 963 836	
1 565 276	Operating Costs (Note 2)	1 992 297	
	Capital Works and Services		
403 003	Initial Program (Note 3)	421 005	
307 099	Post Initial Program (Note 3)	186 178	
21 460	To GBRMPA for Moveables sold	83 332	
3 082	To GBRMPA for Other Receipts	-	
<u>4 008 195</u>	Total Payments		<u>4 646 648</u>
246 077	Resulting in an excess of receipts over payments of -		197 549
	Leaving a balance at 30 June comprising -		
	Recurrent Costs		
29 648	Salaries and Wages	34 291	
80 261	Operating Costs	35 622	
	Capital Works and Services		
222 541	Initial Program	210 850	
37 057	Post Initial Program	317 023	
30 730	Balance of proceeds from sale of Moveables	-	
<u>400 237</u>			<u>597 786</u>

Appendixes

NOTES TO AND FORMING PART OF THE ACCOUNTS

(A) Statement of Accounting Policies

(a) Basis of Accounts

The accounts have been prepared on a cash basis, consistent with the basis applied in the previous financial year and in the form, as approved by the Minister for Finance (Commonwealth), as required by the Agreement.

(B) Statement of Significant Items Outside the Ambit of the Statement

1. Current Assets/Liabilities

Current assets and liabilities stood at a normal level at the beginning and end of the year.

2. Contingent Assets/Liabilities

There were no known contingent assets or liabilities of a significant nature at 30 June 1990.

3. Statement of Capital Assets (at cost) as at 30 June 1990.

	Funded by Commonwealth (cumulative from 1 July 1981)		Funded by Queensland (cumulative from 1 July 1981)	
	1989 \$	1990 \$	1989 \$	1990 \$
Buildings and infrastructure	1 113 354	<b>1 230 733</b>	91 772	<b>114 068</b>
Vessels and associated equipment	617 965	<b>826 413</b>	119 800	<b>137 533</b>
Vehicles	243 576	<b>*281 510</b>	109 455	<b>126 968</b>
Other plant and equipment	763 003	<b>888 948</b>	67 987	<b>103 534</b>
	<b>2 737 898</b>	<b>3 227 604</b>	<b>389 014</b>	<b>482 103</b>

\* The cumulative figure for Commonwealth funded vehicles in 1989-90 has been reduced by \$33 527 (1988-89 \$31 049). This represents the cost price of vehicles and accessories disposed of during that year. The cumulative figure for Commonwealth funded vehicles in 1989-90 has been increased by \$9 139 to correct an error in previous years.

Stocktakes of assets other than Buildings and Infrastructure were carried out by officers of the Department of Environment and Heriatage and equipment on hand at 30 June 1990 balances with official equipment cards.

(C) Explanatory notes	1988-89	1989-90
	\$	\$
Note 1 Receipts during the year were provided from the following sources:		
Commonwealth Government:		
Recurrent 50%		
Salaries and Wages	863 550	<b>984 239</b>
Operating Costs	808 647	<b>973 829</b>
Capital Works and Services:		
Initial Program 100%	489 000	<b>409 314</b>
Post-Initial Program 50%	182 803	<b>233 072</b>
	<u>2 344 000</u>	<u><b>2 600 454</b></u>
Queensland Government:		
Recurrent 50%		
Salaries and Wages	863 550	<b>984 240</b>
Operating Costs	808 647	<b>973 829</b>
Capital Works and Services:		
Post-Initial Program 50%	182 803	<b>233 072</b>
	<u>1 855 000</u>	<u><b>2 191 141</b></u>
Disposal of Moveables	52 190	<b>52 602</b>
Fines	3 082	-
Total Receipts	<u>4 254 272</u>	<u><b>4 844 197</b></u>
Note 2 Operating Costs:		
Superannuation	163 700	<b>175 376</b>
Payroll tax	84 645	<b>98 775</b>
Travel and subsistence	141 240	<b>144 035</b>
Office services and requisites	*310 564	<b>402 822</b>
Field support, project requisites and consultancies	*246 604	<b>417 516</b>
Staff development and requisites	32 839	<b>27 771</b>
Vessel and vehicle maintenance and running	301 146	<b>406 283</b>
Vessel charter	60 539	<b>79 686</b>
Aircraft charter	223 999	<b>240 033</b>
	<u>1 565 276</u>	<u><b>1 992 297</b></u>
Note 3 Capital Works and Services		
- Initial Program		
Buildings and infrastructure	199 442	<b>95 084</b>
Vessels and associated equipment	107 786	<b>190 715</b>
Vehicles	33 935	<b>44 809</b>
Office and field equipment	*61 840	<b>90 397</b>
	<u>403 003</u>	<u><b>421 005</b></u>
- Post-Initial Program		
Buildings and infrastructure	76 061	<b>44 591</b>
Vessels and associated equipment	60 553	<b>35 466</b>
Vehicles	125 654	<b>35 026</b>
Office and field equipment	*44 831	<b>71 095</b>
	<u>307 099</u>	<u><b>186 178</b></u>
	<u>710 102</u>	<u><b>607 183</b></u>

Appendixes

CERTIFICATE OF THE QUEENSLAND DEPARTMENT OF ENVIRONMENT AND HERITAGE

We have prepared the foregoing annual financial statement in relation to the operation of the Great Barrier Reef Marine Park as required by the relevant Agreements dated 10 May 1988 between the Commonwealth and Queensland Governments and the Great Barrier Reef Marine Park Authority and certify as follows -

- (a) the foregoing financial statement and appended notes to and forming part thereof are in agreement with the accounts and records of the Queensland Department of Environment and Heritage;
- (b) the receipt and expenditure of monies were in accordance with the approved programs and in accordance with the aforementioned agreements and previous draft agreements executed between the Commonwealth and Queensland Governments with regard to day-to day management and control and ownership of assets; and
- (c) in our opinion -
  - (i) the prescribed requirements in respect of the establishment and keeping of accounts have been complied with in all material respects; and
  - (ii) the foregoing annual financial statement has been drawn up so as to present a true and fair view, on a basis consistent with that applied in the financial year last preceding, of the transactions of the Queensland Department of Environment and Heritage in relation to the Great Barrier Reef Marine Park for the period 1 July 1989 to 30 June 1990 and of the financial position as at the close of that year.



C. Nicolson  
Assistant Director (Financial Services)  
Department of Environment  
and Heritage.



H. Bonney  
Acting Director General  
Department of Environment  
and Heritage

11 October 1990

11 October 1990

## CERTIFICATE OF THE AUDITOR-GENERAL

I certify that, in my opinion:

- (1) the foregoing Statement of Receipts and Payments and appended notes for the period 1 July 1989 to 30 June 1990 are based on proper accounts and records and are in agreement with those accounts and records; and
- (2) the expenditure of moneys was in accordance with the relevant Agreements dated 10 May 1988 between the Commonwealth and Queensland Governments and the Great Barrier Reef Marine Park Authority in respect of financial assistance for the Great Barrier Reef Marine Park.



P.B. Nolan  
Auditor-General

12 October 1990

# AUDITOR - GENERAL'S REPORT

APPENDIX I

16 October 1990

The Honourable the Minister for Arts,  
Sport, the Environment, Tourism and Territories  
Parliament House  
CANBERRA ACT 2600

Dear Minister

## GREAT BARRIER REEF MARINE PARK AUTHORITY AUDIT REPORT ON FINANCIAL STATEMENTS

Pursuant to sub-section 63M(2) of the Audit Act 1901, the Authority has submitted for audit report financial statements for the year ended 30 June 1990. These comprise a Statement of Activity, Profit and Loss Statement for the aquarium, Statement of Assets and Liabilities, Statement of Capital Accumulation, Statement of Sources and Applications of Funds, and Notes to and forming part of the financial statements and the Certificate of the Chairman and Executive Officer.

The statements have been prepared in accordance with the policies outlined in Note 1 to the Accounts and in accordance with the Guidelines for Financial Statements of Commonwealth Entities issued by the Minister for Finance. The statements are in the form approved by the Minister for Finance pursuant to sub-section 63M(1) of the Act. A copy of the financial statements is enclosed for your information.

The statements have been audited in conformance with the Australian National Audit Office Auditing Standards which incorporate the Australian Auditing Standards.

In accordance with sub-section 63M(2) of the Act, I now report that the financial statements are in agreement with the accounts and records of the Authority, and in my opinion:

- (a) the statements are based on proper accounts and records, and
- (b) the receipt and expenditure of moneys, and the acquisition and disposal of assets by the Authority during the year have been in accordance with the Act.

Yours sincerely



P.A. Farrelly  
Group Director  
Australian National Audit Office

Auditor General's Report

Page 105.

## APPENDIX J ABBREVIATIONS

AAT	Administrative Appeals Tribunal
AGPS	Australian Government Printing Service
AIMS	Australian Institute of Marine Science
ALS	Australian Littoral Society
ASL	Average Staffing Levels
AUSLIG	Australian Surveying and Land Information Group
CDPIE	Commonwealth Department of Primary Industries and Energy
COTSARC	Crown of Thorns Starfish Advisory Review Committee
COTSREC	Crown of Thorns Starfish Research Committee
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DASETT	Department of the Arts, Sport, the Environment, Tourism and Territories
DITAC	Department of Industry, Technology and Commerce
EEO	Equal Employment Opportunity
ERIN	Environmental Resources Information Network
FOI	Freedom of Information
GBR	Great Barrier Reef
GBRMPA	Great Barrier Reef Marine Park Authority
GIS	Geographic Information Systems
IUCN	International Union for the Conservation of Nature and Natural Resources
JCU	James Cook University
MESA	Marine Education Society of Australasia
QBFP	Queensland Boating and Fisheries Patrol
QCFO	Queensland Commercial Fishermen's Organization
QDEH	(formerly QDEC) Queensland Department of Environment and Heritage
QDPI	Queensland Department of Primary Industries
QFMA	Queensland Fish Management Authority
Q.NPWS	Queensland National Parks and Wildlife Service
QSRFC	Queensland Sport and Recreational Fishing Council
UNESCO	United Nations Educational, Scientific and Cultural Organisation

No.	Place	Project Type	Proponent	Current Status of Application	In the Marine Park
-----	-------	--------------	-----------	-------------------------------	--------------------

FAR NORTHERN					
1.	Lloyd Bay	Marina	Farndale Pty Ltd	Received	Partially
2.	Owen Channel	Pearls	Barrier Pearls (Coutts)	Approved 5/89	Wholly
3.	Bromley	Space Base	Cape York Space Agency	Received	Partially

CAIRNS					
4.	Baileys Creek	Marina	Suntel Pty Ltd	On Hold	Partially
5.	Arlington Reef	Underwater Observatory	Tinsail Pty Ltd	EIS in progress, more info requested	Wholly
6.	Green Is.	Underwater Observatory	Great Adventures	Design revision	Wholly
7.	Hastings Reef	Pontoon	Stay and Play	Received	Wholly
8.	Arlington Reef	Pearl Farm	Atlantic Fishing Co. (Foggin)	Approved 6/90	Wholly
9.	Arlington Reef	Clams	Reef Mariculture (Stevens)	None received	Wholly
10.	Kent Is.	Pearls	Pacific Clam (Marcum)	Commonwealth Lease required; PER guidelines issued	Partially
11.	Sudbury Reef	Clams	Pacific Clam (Marcum)	Received	Wholly
12.	Upolo Reef	Underwater complex	Aquatics Holdings (Wildenborg)	Received	Wholly
13.	Moore Reef	Artificial Wreck	Tropical Traders (Devine)	Received	Wholly
14.	Agincourt No. 4 Reef	Pontoon	Quicksilver	Approved 6/90	Wholly
15.	Arlington Reef	Pearls	Peiper	Received	Wholly
16.	Arlington Reef	Pearls	APM	Received	Wholly
17.	Batt Reef	Pearls	Cairns Port Authority	Approved 6/90	Wholly
18.	Cairns Port	Dumping	Cairns Port Authority	Received	Partially
19.	Cooktown - 8 Offshore Reefs	Pearl spat Collection	Pirate Pearls	Received	Wholly

CENTRAL					
20.	Oyster Point	Marina	Resort Village, Cardwell (Tekin)	In Liquidation	Partially
21.	Dent Is.	Harbour	Hamilton Island Enterprises	Received	Partially
22.	Dent Is.	Golf Course	Hamilton Island Enterprises	Received	Partially
23.	Hamilton Is.	Northern Harbour	Hamilton Island Enterprises	Approved 2/89	Partially
24.	Pioneer & Double Bay	Marina and Jetty	Kumagai/Wardley	Received	Partially
25.	Halifax Bay	Ore Offloading Facility	Dallhold Nickel Management P/L	Not Approved 6/90	Partially

No.	Place	Project Type	Proponent	Current Status of Application	In the Marine Park
-----	-------	--------------	-----------	-------------------------------	--------------------

CENTRAL					
26.	Katchors Cove	Marina	Shute Harbour Marinas	Approved 8/89	Partially
27.	Hardy Reef	Walkway	Hamilton Island Enterprises	Received	Wholly
28.	South Molle Is.	Barge Ramp	APA Oceanic Funds Management	Received	Partially
29.	Hayman Is.	Pipeline	Hayman Island Resort	Received	Partially
30.	Long Is.	Marina	Eastpac	None received	Partially
31.	Daydream Is.	Marina	Daydream Is. Resort	Approved	Partially
32.	Shute Harbour	Redevelopment	Seymour Porter	Received	Partially
33.	Cockle Bay	Marina	Punchon	Received	Partially
34.	Kelso Reef	Pontoon	Pure Pleasure Cruises	Approved 5/90	Wholly
35.	Shute Harbour	Marina	Scotex Pty Ltd	Received	Partially
36.	Shute Harbour	Marina	McInerney/Ferngate	None received	Partially
37.	Cleveland Bay	Fish Farm	Hart	Received	Wholly
38.	Cockle Bay	Commercial Oyster Farm	Anderson	Site not approved	Wholly
39.	Dunk Is.	Jetty	Shire Council	Approved 6/90	Partially
40.	Fitzroy Reef	Floating Hotel	Reef Resorts Pty Ltd	Approved 2/89	Wholly

MACKAY/CAPRICORN					
41.	Keswick Is.	Resort	Transtate Pty Ltd	Received	Partially
42.	St Bees Is.	Resort	St Bees Island Pty Ltd	Received	Partially
43.	Heron Is.	Barge	Islander Ferry & Barge Service (Dunnett)	Lapsed	Wholly
44.	Wistari Reef	Walkway	P & O	Approved 6/90	Wholly
45.	Wild Duck Is.	Resort	Design Management Group	None received	Outside
46.	Keppel Is.	Resort	Australian Resorts	None received	Partially
47.	Brampton Is.	Fuel	Brampton Island Pty Ltd	Approved 3/90	Partially
48.	Lady Elliot Is.	Resort/Education Program	Lady Elliot Island Holidays	Approved 5/90	Partially
49.	Lady Musgrave Is.	Pontoon	Newby/Woodrow	Received	Partially
50.	Midge Point	Rezoning	Whitsunday Gold Pty Ltd Whitsunday Water Estates Pty Ltd	Received	Partially

PROJECTS OUTSIDE THE MARINE PARK					
51.	Hinchinbrook Is.	Prawn Mariculture	Sea Farms	Proposed	Outside
52.	Townsville Port	Dumping	Townsville Port Authority	Monitoring	Outside

