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ANNUAL REPORT

GREAT BARRIER REEF
MARINE PARK AUTHORITY

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GREAT BARRIER REEF
MARINE PARK AUTHORITY

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

28 October 1998

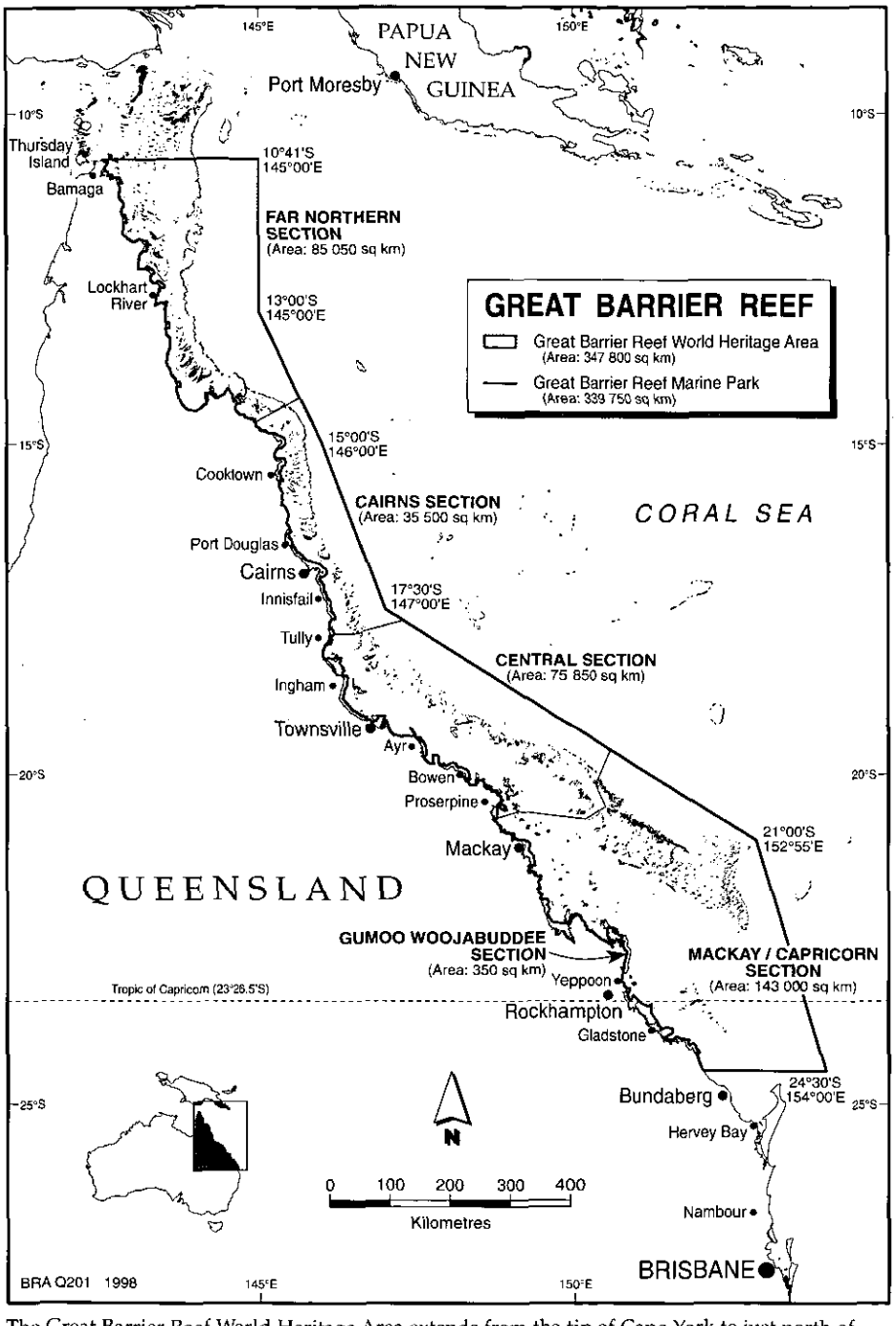
Senator the Hon Robert Hill
Minister for the Environment
Parliament House
Canberra ACT 2600

Dear Minister

In accordance with section 63 of the *Audit Act 1901*, I submit the Annual Report of the Great Barrier Reef Marine Park Authority for the year ended 30 June 1998.

Yours sincerely

Ian McPhail
Chairperson



The Great Barrier Reef World Heritage Area extends from the tip of Cape York to just north of Fraser Island, and from the low water mark on the Queensland coast to beyond the edge of the continental shelf. The World Heritage Area is 347 800 square kilometres in area and includes the Great Barrier Reef Marine Park (97.7% of the World Heritage Area), Queensland waters not in the Great Barrier Reef Marine Park (1.7%), and islands (0.6%). It is important to note that not all of the World Heritage Area is in the Great Barrier Reef Marine Park. In some places the coastal boundary of the Great Barrier Reef Marine Park is five nautical miles from the low water mark.

As specified in the *Great Barrier Reef Marine Park Act 1975*, the Authority is responsible for the care and development of the Great Barrier Reef Marine Park. This year, the Authority and other relevant Commonwealth Government agencies signed an agreement formalising the Authority's position as the lead agency for Great Barrier Reef World Heritage Area issues.

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Report from the Chairperson

The Great Barrier Reef is an immense, unique environment of global aesthetic and scientific significance comparable to any of the largest reef structures that have existed in the last 450 million years of the geological past.

(David Hopley and Peter Davis 1986)

Within this Annual Report there is comment upon a wide range of topics that highlight the rich array of issues involved in the management of the Great Barrier Reef Marine Park and the fractionally but significantly larger Great Barrier Reef World Heritage Area. Our day-to-day tasks involve us in a multi-jurisdictional, multi-sectoral, multi-agency and multiple stakeholder context. Implications of the World Heritage Convention and United Nations Convention on the Law of the Sea concern the Authority in one dimension while the consequences of terrestrial activities that are within the sovereignty of the State of Queensland and outside our direct jurisdiction form another. In the midst of this complexity, the principal task of the Great Barrier Reef Marine Park Authority is to protect the region and to provide for its reasonable use. The Marine Park Authority is a crucible for successful and sustainable resource use; not only as one of the great natural assets of this world, a World Heritage Area, or a multiple use protected area, but for any part of this planet. If it is not possible to have adequate protection of the natural system and assuredly sustainable use within the Great Barrier Reef Marine Park, then it is

difficult to contemplate where else on this earth it might be possible. The obligation is substantial and can only be discharged by the support of the broad Australian and regional community, willing acceptance by the commercial and recreational users of the need to approach the resources in a sustainable manner, the active involvement of stakeholders in the planning and management of the region, and strong political leadership from the Commonwealth and State governments.

An absolute obligation has been placed by the Commonwealth Parliament on the Minister and the Authority to protect the Great Barrier Reef, while providing for its reasonable use. To meet this requirement the Authority has set out to define the contemporary tasks and to focus our activities into the new century. In 1996, in 'The Changing Environment of Managing Use in the Great Barrier Reef World Heritage Area' (ABARE Outlook Conference), I outlined a set of critical issues on which the Marine Park Authority would focus. These issues are conservation, world heritage and endangered species; tourism and recreation use; the effects of fishing; shipping and oil spills; coastal development and water quality; and indigenous matters. These flow naturally from the 25 Year Strategic Plan for the Great Barrier Reef World Heritage Area which is the base document for approaching the management of the Great Barrier Reef. Further, in 1997, the Authority in conjunction with Environment Australia and the Queensland Department of Environment and Heritage, commissioned a study by Mr Bing Lucas et al. 'The Outstanding Universal Value of the Great Barrier Reef World Heritage Area ' which has elaborated the World Heritage values of the Great Barrier Reef, and provided a strong scientific basis for policy development.

On the basis of the insights provided through this material, the Authority has substantially restructured to reflect these critical issues. During this year Mr Richard Kenchington, a long-time member of the Authority's staff, and Mr John Tanzer, previously Chair of the Queensland Fisheries Management Authority, were appointed as Executive Directors. With them we have proceeded to develop a structure for the Authority which emphasises the critical policy components: Conservation, Biodiversity and World Heritage; Fisheries; Water Quality and Coastal Development; and Tourism and Recreation. Indigenous matters are seen to be a component of each of these groups and will be comprehended in each. Complementing these critical issues groups are the cross-cutting Executive and Secretariat, the Canberra-based Parliamentary and Ministerial Liaison unit, the Program Delivery Group, the Corporate Services Group and the Information Support Group. The Aquarium is a stand-alone business unit whose specialist skills are being applied more widely across the organisation. An active process of recruiting the Directors for these groups has been commenced, and by the end of this year a number of appointments were close to finalisation. We set a demanding timetable for this restructure, and the Senior Executive was impressed and grateful for the strong support given by staff to the process. In particular Ms Suzie Davies, Mr Simon Woodley and Mr Ian Burston led the restructure team in a dynamic manner, and in close and sympathetic association with staff. As a result of a 10%

budget reduction there was a need for some loss of staff, and a number of our colleagues applied for voluntary redundancies. Amongst these were some long-standing members of the Authority and their experience and wise counsel will be sadly missed.

Each of the critical issues groups will have an external advisory group to ensure close stakeholder contact and a full and complete exploration of topics. These will complement the statutory Great Barrier Reef Consultative Committee which contains a range of representatives from peak bodies and governments and which provides another range of strong advice. The local Regional Marine Resources Advisory Committees (RMRACs) are currently being reviewed with an intent to make sure they are operating as effectively as possible. The Great Barrier Reef Marine Park Authority has a strong history of public consultation, and these changes are intended to provide an even sharper focus to ensure that the outputs of the Authority are accurate, timely and supported to the greatest extent possible by stakeholders.

Reinforcing these new alignments, the Authority is preparing a three-year strategic work program. This will include for each of the areas a statement of broad outcome, objectives, and strategies to achieve these with outputs, performance indicators and resources to enable clear accountability. The program will be submitted to the Minister by 30 September 1998. In preparing this program, not only does it act as a program budgeting and accountability tool, it also links with the new accrual and outcomes/outputs approach of the Department of Finance and Administration. Regardless of these linkages to broader government policy the fundamental value to the Authority is the strong focus and achievement orientation that they provide.

Restructuring of organisations in times of change is no unusual thing. Our purpose is to ensure that the Marine Park Authority remains effective, responsive and relevant into the next century.

Although these comments have highlighted managerial changes being made by the Authority, it has in fact been a highly significant year in a number of important areas.

Dugong Protection

Senator Hill, the Commonwealth Minister for the Environment, provided strong leadership to establish in association with his state ministerial colleagues a chain of Dugong Protection Areas. In two areas netting was banned totally, while in the other Dugong Protection Areas 'A', severe restrictions on netting were introduced. In Dugong Protection Areas 'B' major changes to netting practice were agreed and introduced. The implementation of the new system was carried out by the Queensland Government under its nature conservation and fisheries legislation. Importantly, recognising the impact on individual fishers and the risk of displaced

effort, the two governments agreed to provide funding for an adjustment package to affected fishers.

The matter was hard debated, and there was much public argument about the merits of the proposal. The Authority and the Great Barrier Reef Ministerial Council were convinced that the reduction in the estimated numbers of dugong had reached a stage where positive action was required. They also accepted that netting was not the only contributor to the problem, and that action had been taken, or is needed, on a number of fronts to ensure that mortality rates remain as close to natural as possible.

Throughout it all, the Authority and its staff were open and transparent in the provision to all parties of information and reports.

Plans of Management

The Great Barrier Reef Marine Park Authority accepted new plans of management for the two most highly used areas of the park. In the Cairns and Whitsunday areas new planning principles were introduced that considered access in terms of settings; those areas that should be identified for low, moderate or high use. Each of the plans had very strong community origins, with the Cairns Region Marine Resources Advisory Committee being heavily involved in the original Moorings and Anchoring Plan while the Whitsunday Coastal Advisory Committee was instrumental in the public consultation process in that area. Because the plans are so innovative, the process of implementation entails considerable discussion. There is a fundamental requirement that there should be equity and fairness, and accordingly stakeholders are being consulted carefully by two Authority Task Forces to ensure minimum displacement. However, use patterns in both areas had become such that decisive steps had to be taken, and these plans represent a new approach to these demands.

Fisheries

Sustainability in the harvesting of fish and other commercial species from the Great Barrier Reef World Heritage Area is clearly of critical importance. Valuable commercial fisheries and a widespread and increasingly sophisticated recreational fishing use, direct the Authority toward a close involvement in the development of management policies. The impacts of fishing draw attention to issues of habitat change, sustainable harvests, and impacts on non-target and endangered species.

The Authority is heavily committed to fisheries management processes established by the Queensland Government. As well it is conducting with the wide support of industry and governments, a major experiment on the effects of trawling which has now reached final report stage, and an experiment on the effects of reef line-fishing which has reached halfway in the study. The purpose of these studies is to identify

impacts on habitat, and threshold or sustainable levels of exploitation.

However, the Authority commends steps taken by the Queensland Government to introduce turtle excluder devices and bycatch reduction devices on trawl nets. The Commonwealth minister in welcoming this advance has requested that these become compulsory throughout the Great Barrier Reef by March 2000. In turn the Authority applauds the pilot introduction of Vessel Monitoring Systems which will provide real-time information as to vessel location. This has great benefit in establishing fishing patterns and incursions into non-fishing zones. Consequently the Authority will work with Queensland on their broad introduction into the Great Barrier Reef.

Measures such as these have significant cost implications and the Authority will continue to discuss these closely with the industry organisation and our Queensland partners. However, assuredly sustainable use of the fish resources of the Great Barrier Reef is critically important, and the absolute prescription in the *Great Barrier Reef Marine Park Act 1975* to protect the Great Barrier Reef requires the Authority to ensure that the harvest is always sustainable and the natural system is properly protected.

Protected Areas

The Great Barrier Reef Marine Park is a protected area, and overall accords with Category 6 of the IUCN classification. This category provides for multiple use under established management regimes. Although this category frequently draws criticisms from those who believe legitimacy comes from high levels of protection, the size of the Great Barrier Reef, means that almost the entire ecosystem is included within its boundaries. This is of enormous importance, as this makes it a major test site for ecosystem management. However, within the region there is a hierarchy of protection, and a full review is under way to determine suitable additions to highly protected areas of the Great Barrier Reef. At present some 20% of the reefs are highly protected, but only 4% of the total area. The lagoonal or soft bottomed communities and coastal habitats are under-represented. A major review with broad consultation and expert involvement is under way, and it is intended that it will reach a conclusion within the next two years.

Coastal Development

With a coastline thousands of kilometres in length, bordered by scenically attractive coastline, highly productive cane and horticultural lands, and six major export ports, water quality, coastal developments and residential growth are all matters whose impact must be carefully considered. The Authority is heavily involved in a range of cooperative activities to improve land management and is frequently involved in public debates over land use issues. Land clearance, conversion of coastal wetlands, mangrove clearance, dams and schemes that alter river flows are

all matters that impact on the viability of the coastal zone as a fish nursery and as a filter for silts, nutrients and heavy metals from moving into the Great Barrier Reef. It is in this arena where jurisdictional rights are limited that the Authority must work most closely with its Queensland and stakeholder partners.

A series of major coastal developments, many with approvals dating back to the 1980s, are coming on stream or are expected to, in the next few years. The Authority's interest is both to consider immediate environmental impact and cumulative impact on the system as a whole. Each of these will be considered on an individual basis but the principles applied in their assessment will include those of the *Australian Heritage Commission Act 1975*, the *Environment Protection (Impact of Proposals) Act 1974* as well as the *Great Barrier Reef Marine Park Act 1975*.

Again this year many resources and much time have been devoted to Port Hinchinbrook. The Authority on behalf of the Minister is managing the Commonwealth's interest in the Deed of Agreement signed between the parties involved. The high level of parliamentary and public interest in this project has meant a very considerable effort beyond the task associated with the site development.

Other major developments such as the proposed resort on Keswick Island and the development of Magnetic Quays on Magnetic Island have been important.

The Authority strongly supports the Queensland coastal management process, because in the long term, good planning will be the only way development projects can be judged in a sensible framework. The present project-by-project approach places the Authority in a reactive position and creates an impression of opposition. This is not our view. Major developments can and will occur, but there is an urgent need to have them judged within a sound community-agreed plan.

Reviews

In this year the Australian National Audit Office presented its report on Commonwealth Management of the Great Barrier Reef while the Department of Finance and Administration provided advice to the Minister on the most effective way to introduce the savings required following the reduction in the Environmental Management Charge. Each of the reports acknowledged the complexity of issues involved in the management of such a large multi-jurisdictional and multi-sectoral region of Australia. Each of the reports provided constructive and helpful recommendations.

Nationally and internationally the Great Barrier Reef Marine Park Authority is held up as a leader of integrated marine management. Nevertheless there is a healthy and active debate as to the continuing improvement of the organisation, and the most effective discharge of its functions. I believe that in the restructuring and the

re-focusing of the Authority that has now been completed there is a sound basis for the successful management of the critical issues that face the Great Barrier Reef into the next century.

I welcome Mr John Lyons as a new member of the Authority, and thank him and my colleagues for their dedicated effort and deep commitment to our statutory objectives. Also, the new Great Barrier Reef Consultative Committee is demonstrating an enthusiasm for the issues, and is bringing a rich stakeholder experience to the table.

I am grateful to the Authority and Consultative Committee members, but I am particularly appreciative of my colleagues on the staff of the Authority. They have worked with great dedication through a year of major policy and operational issues, and committed themselves wholeheartedly to the re-orientation of the organisation. I thank them.

The Great Barrier Reef Marine Park Authority

The Great Barrier Reef Marine Park Authority is the principal adviser to the Commonwealth Government on the care and development of the Great Barrier Reef Marine Park. The Authority was established under the *Great Barrier Reef Marine Park Act 1975* as a Commonwealth statutory authority.

During 1997–98, the Minister for the Environment, Senator the Hon Robert Hill, held portfolio responsibility for the Great Barrier Reef Marine Park Authority.

Specific functions of the Authority are defined in sections 7 and 7A of the Act. These include a requirement that the Authority 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.

Goal and Aims

The Authority's goal is 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.

The Authority's goal is inclusive, encompassing a wide range of opportunities. However, implicit in the goal is the primary obligation to ensure conservation of the Great Barrier Reef. All other activities are dependent on this over-riding responsibility.

The Authority's 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 provide for economic development consistent with meeting the goal and other aims of the Authority.
- To achieve integrated management of the Great Barrier Reef through active leadership and through constantly seeking improvements in coordinated man agement.
- 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 provide recognition of Aboriginal and Torres Strait Islander traditional affiliations and rights in management of the Marine Park.
- To minimise costs of caring for and developing the Marine Park consistent with meeting the goal and other aims of the Authority.
- To minimise regulation of, and interference in, human activities, consistent with meeting the goal and other aims of the Authority.

- To achieve its goal and other aims by employing people of high calibre, assisting them to reach their full potential, providing a rewarding, useful and caring work environment, and encouraging them to pursue relevant training and development opportunities.
- To make the Authority's expertise available nationally and internationally.
- To adapt actively the Marine Park and the operations of the Authority to changing circumstances.

Membership of the Authority

The Great Barrier Reef Marine Park Authority consists of a full-time Chairperson and three part-time members. One of the part-time members is nominated by the Queensland Government. The Act provides for one of the part-time members to be appointed to represent the interests of Aboriginal communities adjacent to the Great Barrier Reef Marine Park.

As at 30 June 1998, the members of the Authority were **Dr Ian McPhail, Mr John Lyons, Mrs Evelyn Scott and Mr Tom Tolhurst.** The member nominated by Queensland is Mr Tolhurst. Mrs Scott is the member representing the interests of Aboriginal communities.

Dr McPhail is full-time Chairperson and Chief Executive Officer of the Authority.

Members of the Authority from left: Mrs Evelyn Scott, Dr Ian McPhail, Mr John Lyons. Insert, Mr Tom Tolhurst.

He was appointed for a five-year term commencing 20 December 1994. Mr Lyons, who was chairman of the Bi-Centennial Fund Great Barrier Reef Wonderland in 1987, is an accountant practising in Townsville. His three-year term commenced 28 April 1998. Mrs Scott was appointed for a three-year term commencing 17 June 1997. She now also chairs the Council for Aboriginal Reconciliation. Mr Tolhurst's three-year term commenced 20 March 1997. Throughout 1997–98, Mr Tolhurst was Director-General of the Queensland Department of Environment and Heritage.

Professor Rhondda Jones, Deputy Vice-Chancellor of James Cook University, concluded her latest three-year appointment on 26 February 1998. Professor Jones had served as a member since 1989.

Persons appointed to act as Chairperson or member during the year are listed in Note 21(b) on 'Related Parties' in the Financial Statements.

During 1997–98, the Authority held five meetings.

Date	Location	Date	Location
16 July 1997	Rockhampton	4 April 1998	Brisbane
19 September 1997	Townsville	26 June 1998	Townsville
5 December 1997	Cairns		

Commonwealth Authorities and Companies Act 1997

The *Commonwealth Authorities and Companies Act 1997*, which came into effect on 1 January 1998, provides reporting, accountability and other rules for Commonwealth authorities including the Marine Park Authority. The Authority is neither a Government Business Enterprise nor a Statutory Marketing Authority, which are special classes of Commonwealth authority recognised in the Act. Under the Act, the Authority, its directors (members) and officers (as defined by the Act) have new obligations. The Audit (Transitional and Miscellaneous) Regulations 1997 contain transitional provisions that qualify, for 1997–98, the nature of some of those obligations.

The Act requires directors to disclose their material personal interests. All members have made their disclosures at the earliest opportunity. The Act requires directors to prepare annual reports and budget estimates. It also provides for the Finance Minister to require interim reports. No such requirements have been put to the Authority.

The Act requires directors to notify the responsible Minister of defined significant events. There has been no cause for directors to make such a notification. However, the Authority, on the directors' behalf, has informed the Minister regularly of the operations of the Authority and has provided to the Minister reports, documents and information relating to those operations as has been required by the Minister.

The Finance Minister has made no request of directors for reports, documents or information.

The Authority has taken no action to indemnify its officers or to take out indemnity insurance for its officers. The Minister for Finance and Administration has agreed that, until 30 September 1998, the Commonwealth will indemnify 'officers' in respect of legal costs as applies generally to Commonwealth officials, but only where legal costs are not covered by commercial insurance or indemnities already provided by the 'Authority'.

The directors have not received any written notification from the Minister as to general policies of the Commonwealth that are to apply to the Authority.

Audit Committee of the Authority

The *Commonwealth Authorities and Companies Act 1997* requires the directors of the Authority to establish and maintain an audit committee. In September 1997, the Authority decided to establish such a committee. The following persons were appointed as inaugural members:

Mr Matt Pope, chairperson, a practising Townsville barrister,

Mr John Tanzer, member, an Executive Director on the Authority's staff,

Mr Tom Tolhurst, member, and a part-time member of the Authority.

During 1997–98, the Audit Committee held three meetings.

Date	Location
6 February	Townsville
20 May 1998	Townsville
16 June 1998	Townsville

Offices of the Authority

The Authority has its principal office in Townsville and a small office in Canberra. The location of the two offices enables the Authority to have its technical and management resources close to the Reef and also to carry out necessary liaison functions in Canberra.

Staff of the Townsville office, which includes the staff of the Great Barrier Reef Aquarium, numbered 122 at 30 June 1998. There were 8 staff working from the Canberra office at 30 June 1998.

Review and Restructure

Following several external reviews and an extensive internal assessment, a decision was made in late 1997 to move to a new issues-based structure to be effective from 1 July 1998. The purpose of the restructure was to provide a tighter focus for the

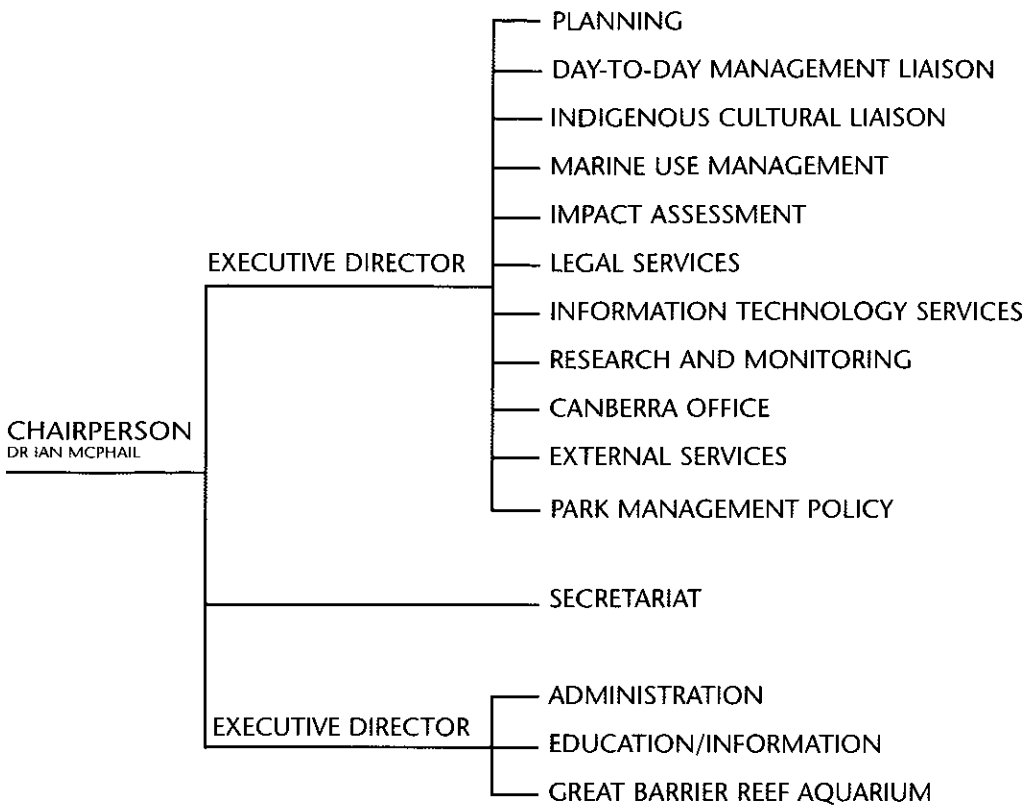

Figure 1. *Operational structure in June 1989*

organisation by concentrating on the major critical issues to be addressed and further, to ensure clear internal reporting lines and accountability.

Considerable effort was expended to design a matrix-based organisational structure and recruit a senior management team consisting of a director for each of the four Critical Issues Groups to address the priority policy areas and a director for each of three service groups.

The Critical Issues Groups are:

- Tourism and Recreation
- Conservation, Biodiversity and World Heritage
- Fisheries
- Water Quality and Coastal Development

and the three service groups are:

- Information Support

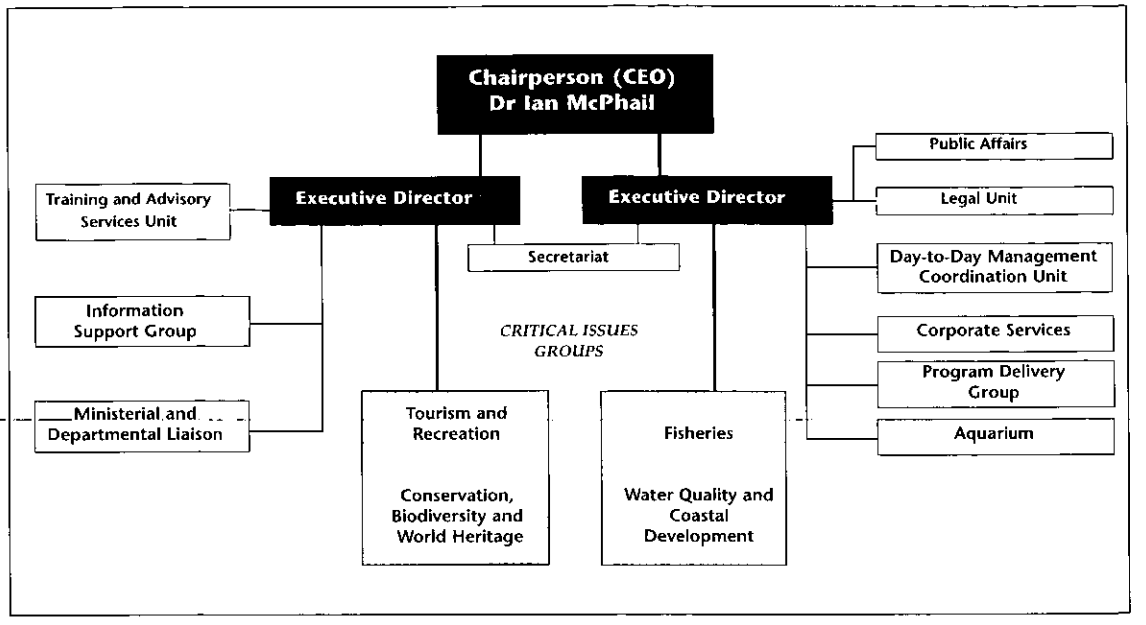

Figure 2. *Operational structure after June 1989*

- Corporate Services
- Program Delivery

This structure is now in line with the requirements of accrual budgeting and programming and will assist the development and implementation of an outcome/output basis for programming and reporting.

Each of the Critical Issues Groups will incorporate advisory groups involving key stakeholders in the Park to enhance responsiveness and an improved client focus.

Executive Group

The executive group of the Authority assists and advises the Chairperson in carrying out the functions of the Authority and provides a forum for discussing and coordinating programs, recommending priorities and direction, and reviewing program performance. A major consequence of the Authority's restructure has been the redesign of the group, now known as the Senior Management Team, which comprises the Chairperson, the Executive Directors and the Directors.

Executive and Secretariat

The Authority has designated its two Executive Directors as secretaries to the Authority. The staff of the Executive and Secretariat (now functioning as separate units) provided executive support for the Chairperson and the Executive Directors and secretariats for the Authority, its Audit Committee, the executive group, the Great Barrier Reef Consultative Committee and the Tourism Advisory Group. The

Executive and Secretariat staff facilitate communication between other staff and these committees.

Subsidiaries

The Authority has no subsidiaries. However, certain functions are carried out in conjunction with other State and Commonwealth organisations including the Queensland Department of Environment and Heritage, which has the responsibility for day-to-day management of the Great Barrier Reef Marine Park subject to the Authority. Certain powers of the Authority have been delegated to positions in other organisations.

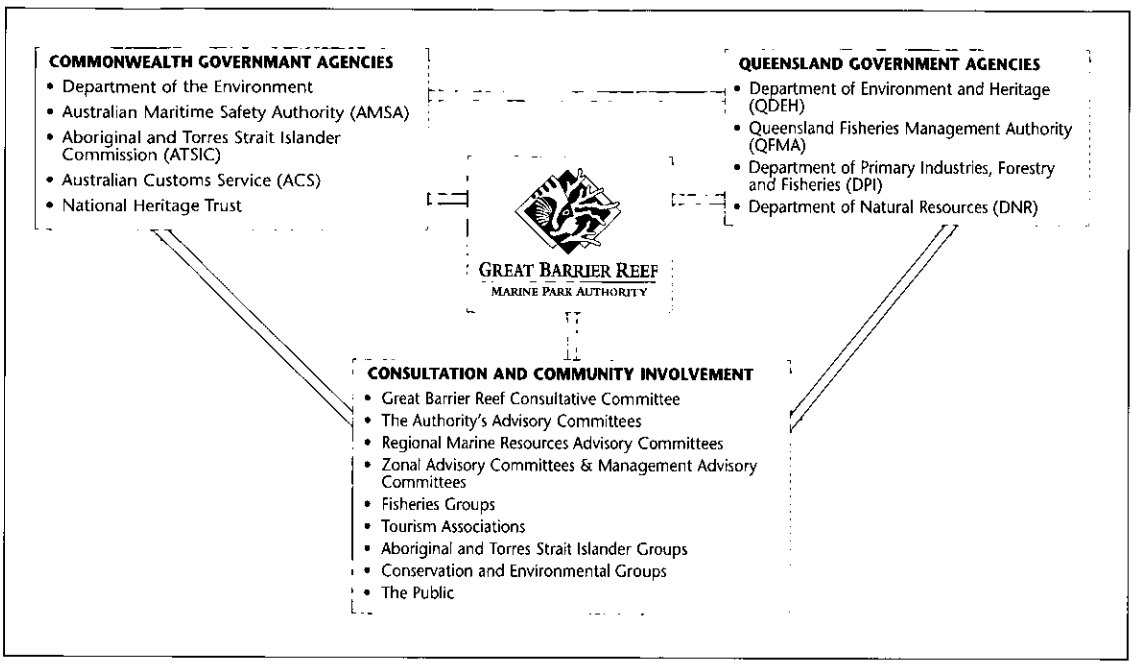

Figure 2. *External relationships*

Great Barrier Reef Ministerial Council

The Great Barrier Reef Ministerial Council was established in 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. Senator Robert Hill, Minister for the Environment, is convenor of the Council.

During 1997–98, the other members of the Council were the Hon John Moore, Minister for Industry, Science and Tourism, the Queensland Environment Minister, the Hon Brian Littleproud, and the Queensland Tourism Minister, the Hon Bruce Davidson. The Hon Trevor Perrett, Queensland Minister for Primary Industries, Fisheries and Forestry also attended the Council meetings to participate in discussions relating to his responsibilities for fisheries management.

The Council met on 14 August 1997 in Brisbane and by telephone on 16 December 1997. Both meetings were devoted to discussing the implementation of Dugong Protection Areas in the Great Barrier Reef. The Council agreed to create a two-tiered system of dugong sanctuaries as part of an emergency strategy to halt the decline in dugong numbers in the southern Great Barrier Reef region.

Measures for dugong protection entered into force on 12 January 1998. Under these measures, forms of mesh netting which represent a risk to dugong will be prohibited in Zone 'A' Dugong Protection Areas. In Zone 'B' areas, relevant fishing practices will be modified. Other threats to dugong are also being addressed.

Through the Ministerial Council, the Commonwealth and Queensland governments have provided funds for ex gratia payments to fishers who were adversely affected by the decision to ban netting in some areas.

Generally, the Ministerial Council meets about every 12 months.

Great Barrier Reef Consultative Committee

The Great Barrier Reef Consultative Committee, established by the Great Barrier Reef Marine Park Act, is an independent advisory body for both the Minister and the Authority. Functions, membership and business activities of the Consultative Committee are set out in appendix A.

Key Issues for the Great Barrier Reef Marine Park and World Heritage Area

Through developing the Vision, Principals for Management and Corporate Values, and with guidance from the 25 Year Strategic Plan, it has been possible to identify a series of issues which are crucial for the wellbeing of the Marine Park and World Heritage Area and for the management of use. These key issues are:

- Conservation
- Tourism and recreation
- Fisheries
- Water quality
- Shipping and maritime pollution response
- Coastal development and ports
- World Heritage status
- Aboriginal and Torres Strait Islander relationships.

CONSERVATION

Description

Implicit in the Authority's goal is the primary obligation to ensure conservation of the Great Barrier Reef. Ensuring the conservation of the natural and cultural values of the Reef is therefore a critical and high priority issue. The three main strategies currently being undertaken are the protection of threatened species, the identification and protection of representative areas of the broadscale habitats occurring within the Great Barrier Reef region, and improvements in our understanding of the effects of large-scale natural disturbances on the Reef.

Threatened Species

Strategic Direction

The effectiveness of measures for the protection of dugong and turtle populations needs to be kept under review. For threatened mammals, turtles and seabirds, the Authority is one of a number of agencies involved in identifying threats, and coordinating and facilitating conservation programs. Success will depend upon close working arrangements with the other agencies and interest groups.

Measures for the protection of dugong and turtle populations need to be improved, including consideration of greater constraints on commercial fishing and traditional hunting practices. It is important that seabirds are better protected through the management of threatening activities. There is also an ongoing need to assess which species are 'potentially threatened' and to develop management strategies as a precaution.

Specific targets included maintenance of a strong inter-agency approach to the management of threatened species, together with continuous assessment of their status and management. In particular, dugong and turtle species were priority conservation tasks. An additional target was further development of an approach to defining 'potentially threatened' species.

Performance Analysis

Dugongs

There was significant progress to enhance the prospect of recovery and conservation of dugong numbers in the World Heritage Area, and especially in Reef waters south of Cooktown. The management actions of previous years culminated in 1997 with a number of decisions by the Great Barrier Reef Ministerial Council to better protect dugong. These decisions were made on the basis of scientific and fisheries management evidence.

A major outcome was the establishment by the Ministerial Council of 16 Dugong Protection Areas. The implementation of a two-tiered system of sanctuaries was a milestone in efforts to save the dugong in the southern Great Barrier Reef. Zone 'A' sanctuaries represent the most significant dugong habitat and forms of mesh netting that represent a significant risk to dugongs were prohibited in January 1998. In Zone 'B' sanctuaries a number of restrictions in relation to mesh netting practices have been implemented to minimise risks to dugongs.

Other decisions by the Ministerial Council included minimising the impact of netting restrictions on the fishing industry with appropriate payments to fishers directly affected, and review of shark netting for bather safety. It was also decided to re-apply boat restrictions in dugong habitat areas of the Hinchinbrook region.

Increased surveillance effort was focused on Dugong Protection Areas. Greater enforcement was targeted through a review of penalties for illegal take. A dugong stranding reporting network was established. Analysis of pollutant levels in dugong carcasses provided information relevant to dugong health and also water quality management.

As part of the dugong conservation program, cooperative management arrangements have been established with indigenous peoples. Community-based permits for traditional hunting were also continued. Ministerial Council confirmed that dugong hunting permits will not be issued in the southern Great Barrier Reef during the current dugong decline.

Extension and education activities for key interest groups and the public have continued to increase support for protection of the dugong and its habitat. A targeted education program has raised awareness of dugong conservation issues with indigenous communities south of Cooktown.

Progress was made on the development of a Dugong Research Strategy and establishment of a Dugong Watch program. Research into seagrass habitat issues has been identified as an information need to support more effective management. Such research and monitoring activities will help assess and improve the effectiveness of the management decisions.

Turtles

Progress was made on a turtle conservation program, in particular in relation to

incidental capture of turtles in nets. In consultation with fisheries management agencies and industry, the Authority has proposed a substantial reduction in the total take of bycatch in trawl nets.

Proposed means of accomplishing bycatch reduction targets included mandatory use of Bycatch Reduction Devices (which include Turtle Excluder Devices) on trawlers operating within the Marine Park, with immediate implementation for known critical areas and implementation by early 1999 for all other areas of the Marine Park. Education programs on the use of Bycatch Reduction Devices, monitoring of the effectiveness of these devices, and on-board monitoring of bycatch were also proposed.

As part of a coordinated management approach, the Authority worked closely with the Queensland Departments of Environment and Heritage and Primary Industries to identify significant turtle habitats and areas where turtles are at increased risk from net capture. That appraisal is now being considered by the Queensland Fisheries Management Authority East Coast Trawl Management Advisory Committee.

Other species

During the year, work continued on status monitoring and management policy formulation for other known threatened species. To better protect whale and dolphin (cetacean) populations, development of a policy for cetaceans within the Marine Park commenced. The Whitsundays and Cairns Area plans of management restricted the issue of commercial whale watching permits to the levels existing in the planning areas at the time of finalisation of the plans.

Collaboration continued with the Queensland Department of Environment and Heritage and the Environment Australia Biodiversity Group in relation to seabird monitoring and management within the World Heritage Area and adjacent waters. Further progress was made in developing an inventory of threatened fauna in the Marine Park.

Representative Areas

Strategic Direction

Establishment of a comprehensive system of adequately sized and protected representative areas will be significant in ensuring the long-term ecological viability of the Marine Park. It will contribute to maintenance of ecological processes and systems, and protection of the biodiversity of the World Heritage Area.

The representative areas program is being developed against a background of international commitments, national strategies and agreements, and legislation. The aim is to develop a viable and adequate system of representative areas and ensure that they are free from structures and extractive uses and managed in a manner that constrains human use and/or impacts.

Specific targets included the development of a representative areas program, assessment of the significance and status of major habitats and biological communities, and increased understanding of the nature and distribution of these habitats and communities.

Performance Analysis

Consultation continued with scientific advisers and key stakeholders using the Interim Marine and Coastal Regionalisation for Australia as a first approximation for a planning framework. This classification system identifies bioregions with distinct biological and physical features and has been endorsed by Commonwealth and State nature conservation agencies to assist in the planning and conservation of marine protected areas.

Further information on biological communities and habitats was mapped using best available information. A program to determine the socioeconomic implications of a representative areas system also commenced.

The recently published report on the Outstanding Universal Value of the Great Barrier Reef World Heritage Area supported the implementation of a protected areas system. The report recommended that representative areas be distributed throughout the entire Reef to ensure the conservation of World Heritage natural attributes.

Crown-of-thorns Starfish and other Large-scale Perturbations

Strategic Direction

Large-scale disturbances such as cyclones, coral bleaching, outbreaks of crown-of-thorns starfish have marked effects on the ecology of coral reefs. Understanding the ecological role of these perturbations is crucial for the sustainable management of coral reef systems. Management actions in response to these phenomena need to be based on a sound understanding of both the causes and consequences of events, including the possible role of some human activities in affecting their frequency and intensity.

The major target was an improved understanding of long-term ecological perturbations in order to assess the actual level of human-induced impacts against the natural variability of reef ecosystems. In particular, the causes and consequences of crown-of-thorns starfish outbreaks and the effectiveness of local-scale starfish controls were targeted. An additional target was active participation of tourism operators and day-to-day managers in program activities.

Performance Analysis

Crown-of-thorns starfish

Active outbreaks of crown-of-thorns starfish have now been recorded from Lizard Island, north of Cooktown, to Lodestone Reef near Townsville. Analysis of age structures has indicated that the current cycle of outbreaks shows a larger scale synchrony over several degrees of latitude, in contrast to previous outbreaks which are thought to have followed a gradual spread from north to south.

Intensive surveys and monitoring of the crown-of-thorns starfish have helped tourism operators gain a much earlier warning of impending outbreaks, thereby enabling them to undertake more effective control measures. Five training workshops were conducted with tourism operators to update them on the current status of crown-of-thorns starfish outbreaks and techniques for controlling starfish at local scales.

Coral bleaching

A major coral bleaching event took place on the Great Barrier Reef between February and June 1998. Dedicated aerial surveys showed that coral bleaching was high to extreme on most inshore fringing reefs along the entire length of the Great Barrier Reef, but only mild to moderate on most mid- and outer-shelf reefs. Tourism operators, scientists, members of the public and other agencies were heavily involved in documenting the event and contributed valuable information on the extent and intensity of bleaching.

Results of long-term temperature monitoring indicated that the likely cause of the bleaching was elevated sea temperature, possibly exacerbated in the central Great Barrier Reef by high river run-off. Solar radiation may also have been a contributing factor.

Overall levels of coral mortality as a result of the bleaching have not yet been determined, but are likely to be high (> 80%) on the worst affected reefs. A conservative approach was used in environmental impact and permit assessments during the time of bleaching to reduce the risk of causing further stress to corals. The effect of additional human-induced stress on corals during bleaching events remains largely unknown.

Description

Tourism is the main commercial use of the Marine Park, each year bringing over 1.6 million visitors to the area. Ensuring that the ecological impacts of tourism and recreation activities are effectively managed is a major concern for the Authority. The importance of addressing issues related to reducing the individual and cumulative impacts of tourism use and minimising displacement effects on other users is reflected in the identification of tourism and recreation as one of the highest priority key issues.

Strategic Direction

In response to continued expansion of the tourism industry, the Authority has implemented a more strategic management program for tourism in the Great Barrier Reef Marine Park. The program has developed a sound regulatory framework using tools such as zoning plans and plans of management for the Marine Park.

Crucial to the success of the management approach is the strengthening of working relationships with the marine tourism industry. In particular, the Authority is encouraging appropriate self-regulation by the tourism industry through development of cooperative partnerships based on mutually agreed objectives and responsibilities including formal agreements and codes of best practice.

Performance Analysis

Management planning

A major outcome for tourism use management in 1997–98 was the gazettal of plans of management for the high-use Cairns and Whitsunday areas. These two statutory management plans were developed in comprehensive consultation with all major stakeholders and will provide the basis for more efficient permitting and effective tourism management in these areas. Development of plans of management for the Capricorn–Bunker group and the Hinchinbrook area has now commenced.

A joint working group has been established with the Queensland Department of Environment and Heritage to coordinate the implementation of the Cairns and

Whitsundays plans of management and the introduction of standard permits. In support of the management plans, reef protection 'no anchoring' markers have been installed in the Whitsundays.

The management approaches adopted in the plans of management were reviewed by tourism operators in the Cairns and Whitsunday areas. In Cairns, Port Douglas and the Whitsundays, the Regional Marine Resources Advisory Committees have assisted in planning, helping to ensure effective dissemination of information and feedback from the local community.

Permitting

Reef-wide work has continued on improving the effectiveness of the tools employed to manage tourism use in the Marine Park. A draft standard tourism program permits system was developed during 1997–98 to reflect the provisions of the Cairns Area and Whitsundays Plans of Management. This system is a precursor to a more simplified system of licensing for most tourism operations Reef-wide.

One component of the proposed standard permits system will be a manual of operation. The Reef Operators Manual will provide all permitted Marine Park tourism operators with essential information relevant to the operation of their permits, including requirements for operating within a plan of management area and best environmental practices. It will enable the simplification of the existing permit structure. The Reef Operators Manual concept has been revised to accommodate interim needs associated with the transition to the new permits system.

Bareboat accreditation and training

A pilot accreditation program for the Whitsunday bareboat industry has been developed in cooperation with industry representatives and relevant Queensland Government departments. The program details clear operating and client-briefing standards and includes an implementation, monitoring and auditing process. It is intended that linkages be developed between accreditation and Marine Park permits.

Work has begun on a modular training package for bareboat industry staff. The training will set baseline communication skills and levels of knowledge of marine safety, emergency procedures, Marine Park management and local area information.

The Authority has assisted Queensland Transport in updating an existing instructional video for bareboat clients. The video incorporates Marine Park and best environmental practice messages. Further development of interpretive materials by the Whitsunday bareboat industry will be supported to promote greater awareness of environmental values and management practices by users in the Whitsundays.

Industry involvement

Active industry participation supported the new tourism use management strategies. The expertise-based Tourism Advisory Group met once during 1997–98

to discuss implementation of the recommendations of the Review of the Marine Tourism Industry in the Great Barrier Reef World Heritage Area, the proposals contained in the plans of management, standard permit system and other issues related to tourism use. In addition, an affiliation has been initiated through the Association of Marine Park Tourism Operators to provide a tourism industry perspective on the use, presentation and appreciation of the World Heritage Area.

In response to feedback from the marine tourism industry, the Marine Park Tourism Staff Certificate Course was reviewed. As a result, the training package will be revised to adapt to industry requirements and will include implementation and trainer evaluation components. The training network established along the coast continued to provide an important means to increase tourist appreciation and understanding of the World Heritage Area.

The working partnership with the Reef tourism industry in the Cairns area was strengthened through the tourism industry's Reef Tourism 2005 project. This project, involving tourism operators and Commonwealth and State agencies, provided an effective means to extend existing operator training and education activities. Through involvement in such cooperative partnerships, the Authority can encourage the adoption of self-regulatory mechanisms that complement regulatory management.

FISHERIES

Description

Fishing is an important industry for the Queensland and Australian economies and relies on wise management of both the fish resources and the habitat. The Authority recognises that fishing has significant ecological effects that can impact on World Heritage and nature conservation values. In conjunction with the Queensland Government fisheries management agencies and the fishing industry, the Authority seeks to ensure that all fishing activities in the Marine Park are ecologically sustainable.

Strategic Direction

Fisheries management in the World Heritage Area should be consistent with World Heritage obligations as well as nature conservation, cultural, heritage and use values. Common to the charter of all resource management agencies involved in Queensland fisheries management are the principles of conservation, ecologically sustainable use, protection of critical areas, equitable resource use, and an integrated management approach involving consultation with the major users and interest groups. Marine Park and fisheries managers need to work closely to integrate ecosystem and fisheries management.

A major specific target was a better understanding of the impacts of fishing on the World Heritage Area. Other targets included better enforcement of fishing controls, and protection of threatened species and their habitat from the effects of fishing.

Performance Analysis

Fishing and its ecological effects

A five-year study on the effects of prawn trawling in the Far Northern Section of the Marine Park has been finalised, improving the understanding of the environmental impacts of trawling. Implications for management are being evaluated and progressed to develop both fisheries and Marine Park management strategies to reduce the effects of trawling on the environment and to ensure that trawling is sustainable.

The first year of a study on recovery dynamics of trawled habitats in the Far Northern Section has been completed. This follow-on research will provide a guide to the time necessary for a trawled area to recover to a natural state after prawn trawling has ceased.

The report from the first year of research on the effects of line fishing on the Great Barrier Reef detailed the impact on fish stocks from opening previously closed reefs to fishing. The study will provide Marine Park and fisheries managers with an evaluation of current and potential management strategies to ensure sustainable fishing.

The Bramble Reef replenishment area study has provided a valuable long-term dataset on the status of fish stocks and juvenile fish recruitment on Bramble and surrounding reefs. Implications for management included the need to adopt appropriate strategies for re-opening a replenished reef to fishing.

An extensive review of information pertaining to spawning aggregations of fish on the Great Barrier Reef was completed. This study has provided a valuable source of information for Marine Park managers to develop management strategies to protect breeding fish from human impacts. Such management strategies will be implemented in association with fish spawning seasonal closures proposed by the Queensland Government fisheries management agencies.

Information has been constantly gathered for core databases on the distribution of fishing catch and effort, and reefal and lagoonal community distribution and abundance. Reliable databases of these types of information have provided a better understanding of spatial patterns of fish distribution and fishing effort, and are essential to a more holistic approach to ecosystem management.

Fisheries management planning

In working towards ecologically sustainable fishing, the Authority has continued to be actively involved in the fisheries management planning process. It was represented on the Queensland Fisheries Management Authority's (QFMA) Trawl, Harvest and Reef Management Advisory Committees and a number of Queensland's Zonal and Regional Advisory Committees. It is contributing to the development of specific fisheries management plans through participation in working groups.

Dugong and turtle conservation

The introduction of a system of Dugong Protection Areas involved a cooperative management approach between Commonwealth and State governments to decrease the risk to dugong from fishing. Critical areas for dugong breeding and feeding have been identified through research surveys and a risk assessment of certain fishing gear designs on dugong survival was completed. A number of restrictions on mesh netting practices have been implemented in Dugong Protection Areas to minimise risks to dugongs.

In support of turtle conservation, key sites where turtles are at increased risk of capture in trawl nets have been identified and communicated to the Trawl Management Advisory Committee. On present indications, the Trawl Fishery Management Plan appears likely to require the mandatory use of turtle txcluder devices in many places of the World Heritage Area including these key sites.

Compliance

Strategies have been developed to dramatically improve compliance with Marine Park zoning. This includes public information and education programs and the introduction of computer-based and satellite-linked monitoring and communications technology in association with the Vessel Monitoring System developed by Queensland Government fisheries management agencies for scallop and prawn trawlers. The Great Barrier Reef Marine Park Authority is also ensuring that fishing within Marine Park closed areas is considered a serious fisheries offence under the Queensland Fisheries Management Authority fisheries management plans and that appropriate penalties apply to offenders.

WATER QUALITY

Description

Maintenance of water quality to ensure the preservation of Reef ecosystems and economic activities in the Great Barrier Reef Marine Park is a high priority issue. Degradation of water quality will lead to ecosystem change and loss. Major sources of water pollution in the Marine Park are the adjacent catchments (sediment, nutrients and pesticides) and shipping in the Great Barrier Reef (oil and ballast water).

Strategic Direction

The priority water quality issues have been identified as sediment and nutrient run-off from agricultural and urban lands, sewage discharges from towns and resorts near the Reef, loss of coastal freshwater wetlands and riparian vegetation, potential large-scale oil spills, and ballast water discharges leading to introduction of exotic marine species. Lesser priorities include antifouling residues, vessel sewage discharges, pesticide residues from agricultural and urban use, and aquaculture discharges.

A major target was better knowledge of temporal and spatial variability of water quality through long-term monitoring and assessment. Reduction of sediment and nutrient input from the land to the Great Barrier Reef was targeted by active involvement in integrated catchment management and provision of information on sustainable agricultural practices.

Performance Analysis

Long-term monitoring

Data collected from the first four years of the long-term water quality monitoring program demonstrated persistent cross-shelf and regional differences in chlorophyll concentrations (an indicator of eutrophication). Chlorophyll concentrations at inshore stations were twice the offshore values and had greater variability.

Chlorophyll concentrations were greatest in the south of the Great Barrier Reef particularly in Keppel Bay and the Capricorn–Bunker group. This result correlates

with the high occurrence of *Trichodesmium* blooms in these areas. Seasonal differences in chlorophyll concentrations were discernible at the offshore stations with generally higher levels in summer than winter. Inshore seasonal variability was obscured by high temporal variability.

Preliminary analysis of the inter-annual patterns indicated a decline in chlorophyll concentrations at offshore stations. This finding correlates well with a persistent drought between 1991 and 1995 and regional river run-off lower than the long-term average. Variability in the inshore regions was related to seasonal run-off.

The increased knowledge on natural variability of water quality provided by the long-term monitoring program has provided a better baseline against which future changes in water quality can be evaluated. Further refinement of the sampling design will permit closer correlation to be drawn between land-use changes and Reef water quality.

The first year of a collaborative project on water quality effects on corals has been completed. Results to date have indicated that elevated nutrient concentrations significantly reduce many aspects of the sexual reproductive process in many reef corals. Major advances have also been made in understanding how high temperatures affect coral zooxanthellae, and how these impacts may be rapidly measured in the field using portable, compact instrumentation.

Flood plumes

To date, a multi-institutional research program has mapped five cyclones and their associated flood waters between 1994 and 1998. The composition of flood plumes can be quite variable between years and between catchments.

In 1997–98 the flood monitoring program was expanded to quantify effects of terrestrial run-off on inshore coral reefs. Further work will also ascertain the spatial and temporal distribution and composition of terrestrially-derived material contained in the plumes. Such information is especially important considering rivers are the dominant means of input of terrestrial nutrients and sediment to the Reef.

Pollutant monitoring

Sediment and seagrass samples from 15 intertidal sites have been analysed for the presence of heavy metals, pesticides, herbicides, and toxic organic contaminants. The sampling sites are under a range of urban and agricultural influences. They include many of the recently created Dugong Protection Areas and other critical dugong habitat, thus providing important information for the dugong conservation program.

The results indicated that some areas have been subject to water pollution. Low levels of the herbicides atrazine and diuron were detected in some samples. Low concentrations of polycyclic aromatic hydrocarbons appeared to be widespread along the Queensland coast, as did polychlorinated biphenyls and dioxins.