



Australian Government

Review of the *Great Barrier Reef Marine Park Act 1975*

Review Panel Report



Review of the *Great Barrier Reef Marine Park Act 1975*
Cover Photo Credits

© Copyright all photos: Australian Government



Snorkellers with Low Isles in background, Port Douglas, Far North Queensland.

Image: A. Elliott



Fishing at Pelorus Island, Lucinda in background, Far North Queensland

Image: J. Jones



Coastal trader *River Embley*, en route to Gladstone through the Great Barrier Reef

Image: photographer unknown



Slashers Reef, Great Barrier Reef

Image: J Jones



Coral Cod on Stevens Reef, Great Barrier Reef

Image: Ben Cropp



Oblique view of North West Island reef, looking across top of reef towards the island, Capricorn Bunker Group, Rockhampton, Queensland

Image: photographer unknown



Australian Government

Review of the *Great Barrier Reef Marine Park Act 1975*

Review Panel Report

Review of the *Great Barrier Reef Marine Park Act 1975*

Review Panel Report

© Commonwealth of Australia 2006

ISBN 0 642 55305 X

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without prior written permission from the Commonwealth, available from the Australian Government Department of the Environment and Heritage.

Department of the Environment and Heritage

GPO Box 787

Canberra ACT 2601

This report is available at www.deh.gov.au

Foreword



The Great Barrier Reef is the world's largest coral reef, covering some 344 400 square kilometres of unparalleled biodiversity and unique ecosystems. Recognised internationally as a World Heritage Area, the Great Barrier Reef is an icon for all Australians.

The *Great Barrier Reef Marine Park Act 1975* established the Great Barrier Reef Marine Park some 30 years ago, and has been during this time an exemplar for marine management and conservation. An important part of this has been – and continues to be – a collaboration with the Queensland Government in managing and protecting the Marine Park.

In commissioning a review of the Act, the Australian Government has recognised the evolving needs and challenges of safeguarding the Marine Park for the future. Meeting these requires up-to-date, relevant legislation and an approach that provides for continued protection for marine life and biodiversity, as well as for ongoing sustainable economic and recreational activity and engagement with business and local communities.

I am pleased to present the report of the Review Panel, which sets out a clear direction for the future management of the Great Barrier Reef Marine Park. The Australian Government is committed to the long-term protection and wise use of this precious asset, and commends this report.

A handwritten signature in black ink, appearing to read 'Ian Campbell'.

Senator the Hon. Ian Campbell
Minister for the Environment and Heritage



Review of the *Great Barrier Reef Marine Park Act 1975*

Senator The Hon Ian Campbell
Minister for the Environment and Heritage
Parliament House
CANBERRA ACT 2600

Dear Minister

In accordance with the terms of reference, we are pleased to present to you the report of the Review of the *Great Barrier Reef Marine Park Act 1975*.

In conducting the Review, we have considered carefully the 227 substantive submissions to the Review made from a wide range of interested parties. We have also held a total of 36 consultation meetings with relevant industry, community, government and conservation organisations.

We are confident that our recommendations provide a framework for ensuring the effective protection and management of the Great Barrier Reef into the future.

Yours sincerely,

David Borthwick
Chair of the Review Panel
Secretary
Department of the
Environment and Heritage

28 April 2006

Barbara Belcher
First Assistant Secretary
Department of the
Prime Minister and Cabinet

28 April 2006

Jonathan Hutson
General Manager
Department of Finance
and Administration

28 April 2006

Contents

Foreword	iii
Letter of transmittal	v
Glossary of commonly used terms and acronyms	xiii
PART 1	1
1 Introduction	3
1.1 Background to the Review	4
1.2 Terms of Reference	5
1.3 The Review process	5
1.4 Structure of this report	6
2 Executive summary	7
3 The environmental, social, economic and cultural values of the Great Barrier Reef	13
3.1 Environmental values	14
3.2 Economic, social and cultural values	20
4 Overview of the Great Barrier Reef Marine Park and the Authority	27
4.1 Establishment and development of the Great Barrier Reef Marine Park	28
4.2 Functions, governance, and accountability	30
4.3 The Authority's budget	36
4.4 The structure of the Authority	37
5 Operating environment	43
5.1 Overview of the operating environment	44
5.2 Policy environment	44
5.3 Regulatory framework	47
6 The Representative Areas Programme	55
6.1 Introduction	56
6.2 Submissions to the Review about the Representative Areas Programme	56
6.3 Science and policy underpinning the Representative Areas Programme	59
6.4 Development and implementation of the Representative Areas Programme	62
6.5 Public consultation on the rezoning process	65
6.6 Synopsis of the Representative Areas Programme process and key issues	67
6.7 How user activities were addressed in the <i>Great Barrier Reef Marine Park Zoning Plan 2003</i>	68
6.8 Case study of zoning plan development in the Capricorn Bunker Region of the Great Barrier Reef	78

7	Pressures on the Marine Park	91
7.1	Water quality	93
7.2	Climate change	95
7.3	Coastal development	97
7.4	Tourism	98
7.5	Fishing	100
7.6	Shipping	103
7.7	Summary	104
PART 2		105
8	Challenges, priorities and framework for the future	107
8.1	Achievements of the first 30 years	108
8.2	Challenges for the future	109
8.3	Stakeholder views	110
8.4	Future considerations	110
8.5	A framework for the future	111
9	Roles and responsibilities	113
9.1	The role of the Authority	114
9.2	The roles of the Minister and the Department	116
9.3	The role of Queensland	118
10	Engaging users and communities	125
10.1	The importance of engagement	126
10.2	Current engagement mechanisms	126
10.3	Enhancing engagement	127
11	Research, reporting and socio-economic information	133
11.1	Current approach	134
11.2	Future research, monitoring and reporting	137
11.3	Socio-economic information and analysis	139
12	The management framework	145
12.1	The legal nature of the Authority	146
12.2	Corporate structure of the Authority	148
12.3	Financial management and accountability	153
13	The regulatory framework	155
13.1	The objectives of regulation	157
13.2	Creating the Marine Park	158
13.3	Zoning plans	158
13.4	Permitting and environmental impact assessment	159
13.5	Protected species	161
13.6	Enforcement and compliance	162

14 Findings and recommendations	163
14.1 Overall findings of the Review	164
14.2 Recommendations	167
REFERENCES	177
APPENDICES	183
A Terms of Reference for the Review	184
B The Review secretariat	185
C Public submissions to the Review	186
D Consultation meetings held as part of the Review	191
E The Emerald Agreement of 1979	193
F Legislation, Regulations and conventions relevant to management of the Great Barrier Reef	194
G Government agencies of relevance to management of the Marine Park	195
H Biophysical Operational Principles for the Representative Areas Programme	196
I Selected scientific studies on the establishment of 'no-take' areas in Marine Protected Areas available at the time of the Representative Areas Programme	201
J Economic, social, cultural and management feasibility operational principles for the Representative Areas Programme	203
MAPS	
Map 1 The Great Barrier Reef Marine Park and World Heritage Area	15
Map 2 Australia's marine parks	16
Map 3 Non-reef bioregions in the Great Barrier Reef Marine Park	18
Map 4 Reef bioregions in the Great Barrier Reef Marine Park	19
Map 5 Defence areas within the Great Barrier Reef Marine Park	23
Map 6 Shipwrecks in the Great Barrier Reef Marine Park	24
Map 7 Native Title claims and Indigenous groups in the Great Barrier Reef and adjacent land areas	26
Map 8 Great Barrier Reef regulatory and management environment	48
Map 9 Great Barrier Reef Marine Park zoning prior to 1 July 2004	69
Map 10 Great Barrier Reef Marine Park Draft Zoning Plan June 2003	70
Map 11 Zoning introduced in July 2004 by the <i>Great Barrier Reef Marine Park Zoning Plan 2003</i>	71
Map 12 East Coast Otter Trawl Fishery Gross Value of Production and the 2003 Zoning Plan	72
Map 13 East Coast Otter Trawl Fishery Vessel Monitoring System data and the 2003 Zoning Plan	73
Map 14 East Coast Line Fishery Gross Value of Production and the 2003 Zoning Plan	74
Map 15 East Coast Net Fishery Gross Value of Production and the 2003 Zoning Plan	75

Map 16	Ship reporting information and Designated Shipping Areas in the 2003 Zoning Plan	76
Map 17	Recreational fishing diary data and the 2003 Zoning Plan	77
Map 18	Capricorn Bunker Region – bioregions on broad scale	80
Map 19	Case study area – reef and non-reef bioregions	81
Map 20	Case study area – East Coast Commercial Otter Trawl Fishery Average Gross Value of Production (GVP) 2001–2002	82
Map 21	Case study area – Line Fishery Gross Value of Production data	83
Map 22	Case study area – Spanner Crab Fishery Gross Value of Production data	84
Map 23	Areas of importance to stakeholders raised in the first round of public consultation	85
Map 24	Case study area – Draft Zoning Plan	86
Map 25	Areas of importance to stakeholders raised in the second round of public consultation	87
Map 26	Case study area showing final zoning changes to address key stakeholder issues	88
Map 27	Case study area – final 2003 Zoning Plan	90
Map 28	Tourism development and usage in the Whitsunday area	99

TABLES

Table 1	Main ecological communities/habitat types in the Great Barrier Reef Marine Park	17
Table 2	Significant features of the Great Barrier Reef World Heritage Area	17
Table 3	Establishment of the Marine Park	29
Table 4	Marine Park zones before and after implementation of the <i>Great Barrier Reef Marine Park Zoning Plan 2003</i>	29
Table 5	Great Barrier Reef Marine Park Authority planning and reporting framework	35
Table 6	Representative Areas Programme milestones	63
Table 7	Overview of public communications and consultation	66
Table 8	Summary of maps	68
Table 9	Case study maps	79
Table 10	Population change in coastal regions adjacent to the Great Barrier Reef	98
Table 11	Annual catch in tonnes of principal species harvested by otter trawl in the Queensland East Coast Trawl Fishery (includes areas outside the Marine Park), 1996–2004	102
Table 12	Great Barrier Reef Marine Park Authority key research partners	135
Table 13	Key research that has informed Marine Park management	136
Table 14	The research needs of the Great Barrier Reef Marine Park Authority	137

FIGURES

Figure 1	Current governance and accountability framework	31
Figure 2	Great Barrier Reef Marine Park Authority expenditure by administrative section (Budget 2005–06)	36
Figure 3	Great Barrier Reef Marine Park Authority organisational structure	37
Figure 4	Great Barrier Reef jurisdictional boundaries and regulatory responsibilities	49
Figure 5	Great Barrier Reef Marine Park zoning before implementation of the <i>Great Barrier Reef Marine Park Zoning Plan 2003</i>	57
Figure 6	Great Barrier Reef Marine Park zoning after implementation of the <i>Great Barrier Reef Marine Park Zoning Plan 2003</i>	57
Figure 7	Great Barrier Reef Marine Park zoning – guide to activities permitted or prohibited within zones	58
Figure 8	Increase in Queensland land area used for sugar cultivation, 1930–1996	93
Figure 9	Increase in phosphorus and nitrogen use in the Great Barrier Reef catchment, 1910–1990	94
Figure 10	Annual thermal stress indices averaged from 11 sites in the Pacific Ocean, 1871–2006	96
Figure 11	Projected bleaching events Great Barrier Reef	97
Figure 12	East Coast Trawl Fishery – annual number of otter trawl days fished and number of reporting licences (includes Moreton Bay), 1988–2004	101
Figure 13	Proposed framework for the future	112

Glossary of commonly used terms and acronyms

Authority – refers to the Great Barrier Reef Marine Park Authority

Bioregion – an area which shares similar environmental, physical and climatic conditions and contains characteristic ecosystems of plants and animals. The protection of representative areas of each of the 70 bioregions in the Great Barrier Reef is a key objective of the *Great Barrier Reef Marine Park Zoning Plan 2003*

CRC Reef – the Cooperative Research Centre for the Great Barrier Reef World Heritage Area. CRC Reef was established in 1994–95 as a knowledge-based partnership of coral reef ecosystem managers, researchers and industry. Its mission has been to plan, fund and manage science for the sustainable use of the Great Barrier Reef World Heritage Area. CRC Reef will cease in 2006 and will be largely superseded by the Marine and Tropical Sciences Research Facility

CSIRO – the Commonwealth Scientific and Industrial Research Organisation

Department – refers to the Australian Government Department of the Environment and Heritage

Ecosystem-based management – an approach to environmental and resource management that seeks to manage ecosystems and their component parts on an integrated and holistic basis, rather than considering single issues in isolation from their environment and other inter-related issues. The key objective of ecosystem-based management is the maintenance of ecosystem processes and biodiversity

EEZ – Exclusive Economic Zone

Emerald Agreement – a 1979 agreement between the Australian and Queensland governments that provides the current framework for intergovernmental cooperation in the protection and management of the Great Barrier Reef (see Appendix E)

EPBC Act – *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)

EMC – Environmental Management Charge

Executive management – an approach to governance, outlined in Uhrig (2003), under which governance of a statutory authority is primarily the responsibility of the government

GBRMPA – Great Barrier Reef Marine Park Authority

Governing board – an approach to governance, outlined in Uhrig (2003), under which governance of a statutory authority is primarily the responsibility of a board of directors accountable to the government

Great Barrier Reef – used in a non-technical sense to refer in general terms to the area of the Great Barrier Reef

Great Barrier Reef Region – the areas in relation to which the Great Barrier Reef Marine Park may be established. This area is defined in the *Great Barrier Reef Marine Park Act 1975*. Around 98 per cent of the Great Barrier Reef Region has been declared to be a part of the Marine Park

Great Barrier Reef World Heritage Area – the area constituting the Great Barrier Reef World Heritage Area, as inscribed on the World Heritage List. This area has the same outer boundaries as the 'Great Barrier Reef Region', but also includes Queensland islands and areas considered to be 'internal waters' of Queensland within this Region. Around 98 per cent of the World Heritage Area has been proclaimed as part of the Marine Park. An additional 1 per cent has been proclaimed by Queensland to be national parks (island areas) and a marine park (areas considered to be 'internal waters' of Queensland)

Green Zone – refers to Marine National Park Zones, as established by the *Great Barrier Reef Marine Park Zoning Plan 2003*. Green Zones are closed to extractive uses such as fishing

Gross Value Added (GVA) – a measure of the economic value of the *net* output produced by an industry. Generally, this equates to the profit of the industry

Gross Value of Production (GVP) – a measure of the economic value of the *gross* output of an industry. Unlike GVA, GVP does not deduct the costs of producing the output, thereby providing an indication of the value added by upstream industries

IUCN – World Conservation Union (formerly International Union for the Conservation of Nature and Natural Resources)

LMAC – Local Marine Advisory Committee

The marine and national parks – refers collectively to the Great Barrier Reef Marine Park, the Queensland Great Barrier Reef Coast Marine Park and Queensland national parks established in relation to islands in the Great Barrier Reef

Marine Park – refers to the Great Barrier Reef Marine Park established under the *Great Barrier Reef Marine Park Act 1975* (Cwlth) and not used to refer to the Queensland marine or national parks

Marine Protected Area – refers generically to protected areas of various forms (e.g. national parks, reserves) established in relation to marine areas for the purpose of the protection and maintenance of biological diversity and of natural and associated cultural resources. The term is not used in this report to refer to areas closed to extractive uses (i.e. 'no-take' areas), as is sometimes the case

Ministerial Council – the Great Barrier Reef Ministerial Council, established pursuant to the Emerald Agreement of 1979

Multiple use – a management objective applied to some protected areas (including the Great Barrier Reef Marine Park), whereby social, economic and cultural uses of the area are permitted and managed subject to overarching environmental protection and conservation objectives

Portfolio – the Environment and Heritage portfolio. Encompasses the Department of the Environment and Heritage and executive agencies and statutory authorities (including the Great Barrier Reef Marine Park Authority) for which the Minister for the Environment and Heritage is responsible

Precautionary principle – the principle that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental harm. The precautionary principle is a component part of the concept of ecologically sustainable development

RAC – Reef Advisory Committee

RAP – Representative Areas Programme

Statutory authority – a public sector entity established by legislation

UNESCO – United Nations Educational, Scientific and Cultural Organisation

WWF – World Wildlife Fund

2003 Zoning Plan – refers to the *Great Barrier Reef Marine Park Zoning Plan 2003*

PART 1

1. Introduction

1 Introduction

1.1 Background to the Review

It is now over 30 years since the *Great Barrier Reef Marine Park Act 1975* and the Great Barrier Reef Marine Park Authority (the Authority) were established. In the context of the 2004 Federal Election, the Australian Government made a commitment to review the Act 'to improve the performance of the Great Barrier Reef Marine Park Authority, its office holders and its accountability frameworks'.¹ The Minister for the Environment and Heritage, Senator the Hon. Ian Campbell, formally announced the Review and its Terms of Reference on 23 August 2005.

Since 1975 much has been achieved. In 1981 the conservation value of the Great Barrier Reef was internationally recognised with inscription on the World Heritage List. By 2001, 33 sections had been defined and proclaimed to be part of the Marine Park. In July 2004 the *Great Barrier Reef Marine Park Zoning Plan 2003* came into force, representing a major transition point in the management and protection of the Marine Park. The 2003 Zoning Plan consolidated the zoning of the Marine Park and significantly increased the area and level of protection. The introduction of this Plan was not without some social and economic impacts, with a number of stakeholders raising concerns about the process. In his August announcement of the Review, the Minister stated² that the Review would not revisit the outcomes of the 2003 Zoning Plan but that the Review's consideration of consultation, accountability and regulatory frameworks would be informed by an examination of the rezoning process.

Since the *Great Barrier Reef Marine Park Act 1975* and Authority were established there have been fundamental changes in Australia's regulatory and governance landscape. Most notably, the Australian Government's role in and approach to environmental regulation has changed with the enactment of the *Environment Protection and Biodiversity Conservation Act 1999*. There is a need to ensure that the *Great Barrier Reef Marine Park Act 1975* operates in a cohesive and integrated manner with this Act. The Review Terms of Reference provide for this to be addressed.

In recent years Australian Government agencies have seen governance and financial management frameworks evolve significantly, with landmark legislation like the *Commonwealth Authorities and Companies Act 1997* and the *Financial Management and Accountability Act 1997* impacting on their operating environments. In 2003 a report by Mr John Uhrig AC, the *Review of Corporate Governance of Statutory Authorities and Office Holders* (Uhrig 2003), established templates and principles for the governance of statutory authorities against which all Commonwealth statutory authorities are currently being assessed. The Terms of Reference for the current Review provide for the Authority's governance framework to be assessed in the context of these changes.

Consideration has also been given by the Review Panel to the regulatory and governance structures required for the continued protection, conservation and sustainable use of the Great Barrier Reef over the next 30 years.

¹ *The Howard Government Election 2004 Policy: Supporting North Queensland*, 2004, Canberra.

² Campbell I, Minister for the Environment and Heritage, *Review of the Great Barrier Reef Marine Park Act*, media release, Parliament House, Canberra, 23 August 2005.

1.2 Terms of Reference

The Terms of Reference (Appendix A) for the Review that have been addressed by the Review Panel are as follows:

The Review will focus on:

- the role of office holders
- the functions of the Authority
- accountability frameworks
- consultation mechanisms.

The Review will provide advice, in light of the Uhrig principles, on:

- the appropriateness of current arrangements
- the efficiency and effectiveness of current consultation mechanisms
- any changes to improve the corporate governance arrangements of the Authority
- any adjustment of the function of the Authority
- improving consistency between the *Great Barrier Reef Marine Park Act 1975* and the *Environment Protection and Biodiversity Conservation Act 1999*
- any legislative amendments required to make such changes.

1.3 The Review process

The Minister for the Environment and Heritage, in announcing the Review, also announced the appointment of a Review Panel chaired by Mr David Borthwick, Secretary of the Department of the Environment and Heritage, and assisted by Ms Barbara Belcher, First Assistant Secretary, Department of the Prime Minister and Cabinet and Mr Jonathan Hutson, General Manager, Department of Finance and Administration. The Review Panel was supported by a secretariat staffed by officers of the Department of the Environment and Heritage (Appendix B).

Public submissions

Public submissions to the Review were invited on 23 August 2005, with a closing date of 30 September 2005, although a small number of submissions received after the closing date were also considered. The invitation for submissions was advertised in national and Queensland State and regional newspapers.

To guide submissions, the Terms of Reference and a background³ paper discussing issues covered by the Review were provided on a Review website⁴ and via post (upon request). All substantive submissions not containing confidential information were published on the Review website. A total of 227 substantive submissions were received, as well as a number of 'campaign' submissions. A list of the persons and organisations that made substantive submissions to the Review is provided in Appendix C.

³ <http://www.deh.gov.au/coasts/mpa/gbrmpa/pubs/background-paper.pdf>

⁴ <http://www.deh.gov.au/coasts/mpa/gbrmpa/index.html>

Consultation

The Review Panel met with key groups and interested persons in Cairns, Townsville, Brisbane, Sydney and Canberra. A total of 36 meetings were held with:

- associations representing commercial and recreational fishing, marine services and tourism interests
- Queensland Government officials
- the board and senior management of the Authority
- Chairpersons of Local Marine Advisory Committees and Reef Advisory Committees
- researchers and academics
- conservation organisations
- federal parliamentarians
- ports and shipping authorities.

Appendix D provides a full list of parties with whom the Review Panel met.

1.4 Structure of this report

This report is presented in two parts. Part 1 provides context and raises issues that need to be addressed in the future. Part 2 provides analysis and the Review Panel's considerations in developing their recommendations.

Part 1

Part 1 explains the establishment and evolution of the Great Barrier Reef Marine Park in the context of its environmental, social, economic and cultural values. This includes an overview of the Authority and the legislative and policy environment in which it operates. Issues raised by stakeholders in submissions to the Review and consultations are covered in this part. The development of the *Great Barrier Reef Marine Park Zoning Plan 2003*, which implemented the Representative Areas Programme, is then described in some detail, as the 2003 Zoning Plan provides the basis for the protection of the Marine Park into the future. The future role and functions of the Authority, and the legal and governance structures in place, will need to provide a comprehensive framework for maintaining the health and resilience of the Marine Park ecosystem. Part 1 therefore concludes with a description of the nature and relative scale and scope of pressures on the Marine Park.

Part 2

Part 2 distils the issues to be addressed and sets out the reasoning and recommendations of the Review Panel. It discusses the roles and responsibilities of the Authority and the Australian and Queensland governments, consultative arrangements, accountability mechanisms, governance structures and the regulatory environment. A consolidated summary of the findings and recommendations of the Review Panel is provided at the end of Part 2.

2. Executive summary

2 Executive summary

In 1975 the Australian Government, in its introduction of the legislation to establish the Marine Park, stated that ‘protection of our unique Barrier Reef is of paramount importance to Australia and the world’ and ‘conservation and protection of the Great Barrier Reef will be the paramount aim of the Authority in all zones of the Marine Park.’⁵

The *Great Barrier Reef Marine Park Act 1975* was ground breaking legislation in providing for ‘reasonable use’ to co-exist with conservation, thus establishing the concept of a multiple use park. The Act provides for the ‘establishment, control, care and development of a marine park in the Great Barrier Reef Region’ and establishes the Great Barrier Reef Marine Park Authority (the Authority).

On 23 August 2005 the Minister for the Environment and Heritage, Senator the Hon. Ian Campbell, announced a review of the *Great Barrier Reef Marine Park Act 1975* with terms of reference that focus on improving the performance of the Authority, its office holders and its accountability frameworks. The Terms of Reference of the Review are at Appendix A.

The Great Barrier Reef has significant environmental, social, economic and cultural values. It is the world’s largest coral reef ecosystem, and within Australia the Great Barrier Reef Marine Park is by far the largest of any Commonwealth or State Marine Protected Area. The Marine Park extends over 2 300 kilometres along the Queensland coastline and covers approximately 344 400 square kilometres. It includes some 2 900 individual reefs, 900 islands and cays and 70 distinct habitat types, called bioregions. These habitats contain great biodiversity including 30 per cent of the world’s soft corals, 30 per cent of Australia’s sponges, six of the world’s seven species of marine turtle and breeding areas for humpback whales and dugong.

The Great Barrier Reef is an Australian and international icon. In 1981 its conservation value was internationally recognised with its inscription on the World Heritage List as:

- an outstanding example representing the major stages of the earth’s evolutionary history
- a significant example of an ongoing ecological and biological process
- a superlative natural phenomenon
- a source of important and significant habitats for *in situ* conservation of biological diversity.

The Great Barrier Reef and the surrounding coastal and catchment areas support substantial economic activity. The catchment area adjacent to the Great Barrier Reef comprises 22 per cent of Queensland’s land area and around 850 000 people live along the coast. Mining and tourism are the largest industries in catchment areas. The Gross Value of Production for minerals is around \$7 billion per annum and for tourism \$4 billion, with the value for commercial and recreational fishing being \$359 million per annum. Shipping within the Great Barrier Reef and Torres Strait is vital to this economic activity, with the majority of Queensland’s \$17 billion per annum commodity exports being shipped through 10 major ports on the coast adjacent to the Great Barrier Reef. Unusual as it may seem, the Great Barrier Reef Marine Park also overlays and abuts some of Australia’s most important military training areas and facilities.

In addition, there are more than 70 Traditional Owner groups along the Great Barrier Reef coast from Bundaberg to the eastern Torres Strait islands. Their traditional customs, spiritual lore and beliefs continue to be practised today. The sense of custodianship extends to all marine resources, and the sea and islands are collectively considered to be an integral part of their traditional country, known as ‘sea country’.

Since 1975, both the Australian and Queensland governments have demonstrated their long-term commitment to work together collaboratively and protect the Great Barrier Reef. During this time the Queensland Government has been actively and formally engaged at many levels in the strategic oversight

⁵ Hansard, House of Representatives, 22 May 1975, pp. 2679–2680

and management of the Marine Park. Under the *Great Barrier Reef Marine Park Act 1975* the State nominates one of the four members of the Authority. A Commonwealth/State Ministerial Council was established in 1979, under the Emerald Agreement, to oversee establishment of the Marine Park, research and field management. This agreement also provides for the operational day-to-day management of the Marine Park to be delivered by the Queensland Parks and Wildlife Service.

A collaborative approach has also been necessary due to jurisdictional issues. The Marine Park lies within both Commonwealth and Queensland coastal waters and, by agreement under the Offshore Constitutional Settlement, the Commonwealth has jurisdiction up to low water mark. This agreement also provides for Queensland management of the fisheries within its coastal waters, including the Marine Park. The Queensland coastal marine park covers areas between low and high water mark and areas recognised as Queensland 'internal waters'. Queensland national parks cover the State islands within the Marine Park. Around 1 per cent of the Great Barrier Reef World Heritage Area is constituted as Queensland marine and national parks.

Equally important are the many points of intersection in both policy and legislation that apply to the Marine Park and surrounding area, which require the two governments to work closely together. These areas include environment protection and impact assessments, marine park management, natural resource management, coastal development, heritage management, pollution, climate change, fishing and shipping. There are a number of matters affecting the Marine Park where assessments and permits are required from the Australian Government, Queensland and the Authority. A range of administrative arrangements have been put in place to minimise overlap and duplication from a stakeholder perspective. However, greater streamlining and integration is possible.

The *Great Barrier Reef Marine Park Act 1975* established the Great Barrier Reef Marine Park Authority as a statutory authority and body corporate. The Authority comprises the Chairperson, and a member nominated by Queensland and two other members. In addition, there is a statutory Consultative Committee in place to advise the Authority and the Minister for the Environment and Heritage. The Authority has also established a number of consultative committees, in particular, four Reef Advisory Committees and 11 Local Marine Advisory Committees. The Authority opened its headquarters in Townsville in 1979 and is supported by around 180 staff employed under the *Public Service Act 1999*. The Authority is subject to the *Commonwealth Authorities and Companies Act 1997*. It has an overall budget of \$38 million for 2005–06, which includes a \$4.8 million contribution from the Queensland Government for day-to-day management.

In the 30 years since the *Great Barrier Reef Marine Park Act 1975* came into force much has been achieved. The Act established the Authority and defined the boundaries of the Great Barrier Reef Region—the 'outer shell'—within which areas can be declared as marine park. Thus, the establishment of the Marine Park itself has been a major focus of the Authority and governments over this period. The first section of the Marine Park was proclaimed in 1979 and by 2001, 33 component sections had been defined and formally declared to be part of the Marine Park.

In July 2004, the *Great Barrier Reef Marine Park Zoning Plan 2003* consolidated the zoning of the Marine Park and significantly increased the area and level of protection. The 2003 Zoning Plan implemented the Representative Areas Programme and, in conjunction with associated State processes, has put in place a level of protection that will place the ecosystem in a strong position to maintain its resilience over the longer term. Such resilience will be of paramount importance in helping the Great Barrier Reef withstand the impacts of climate change in particular. This resilience can be eroded through the gradual accumulation of pressures on the ecosystem, for example, from poor water quality entering the waters of the Great Barrier Reef, poorly planned coastal development, unsustainable fishing or mounting demands on the Marine Park for recreational and commercial activities.

Whilst globally 27 per cent of coral reefs have already been lost to human impacts and coral bleaching, with many more under threat, the Great Barrier Reef is in relatively good shape. The Australian and Queensland governments are determined to keep it that way by being proactive and avoiding the

mistakes that have severely degraded many other coral systems around the world. This aspiration was universally shared in submissions to the Review. Nevertheless, managing and deciding between alternative uses of the Marine Park is likely to become much more challenging in the future. In meeting this challenge there will be a need to scientifically and transparently assess the overall level of protection of the Marine Park ecosystem and the likely social and economic impacts of any changes being considered. Comprehensive processes for engaging with stakeholders and clearly understood decision making will also be of paramount importance, as illustrated by the introduction of the 2003 Zoning Plan.

The 2003 Zoning Plan covers the entire Marine Park. Its development and implementation was an undertaking of considerable scale and scope with the potential to affect many local and regional communities and stakeholders. Indeed, nearly 32 000 submissions were made over the course of the development of the Plan. The final 2003 Zoning Plan drew both accolades and severe criticism in regard to the process and outcome. On the one hand, many stakeholders, including the tourism industry, scientific community, and shipping and maritime safety interests, considered that the Representative Areas Programme was well handled and produced a sound overall outcome. However, a number of other stakeholders, mainly recreational and commercial fishers and related businesses, disagreed with the Zoning Plan's scientific basis and considered that the process and approach were biased, with inadequate consideration of the impacts on individuals and communities. Indeed, the 2003 Zoning Plan has resulted in short-term adjustment pressures that have been locally quite intense, particularly as its introduction came at a time when businesses were also being impacted by a number of State fisheries management changes, State coastal marine park zoning changes and external market factors.

Whilst the Review Panel has not revisited the outcomes of the 2003 Zoning Plan itself, as this is outside the scope of the Review, the Zoning Plan process has been considered with a view to applying the lessons learnt to the future. The Review Panel considers that the Authority undertook extensive consultations and, in implementing the overarching operating principles of the Representative Areas Programme, sought to achieve a balanced outcome between alternative uses. However, it appears that an effective relationship with recreational and commercial fishing stakeholders is lacking. To an extent, such tensions between the Authority and affected stakeholders were inevitable in view of the substantial change to zoning arrangements proposed. Nevertheless, the Review Panel is of the view that the processes for engagement with all stakeholders can be improved. The Review Panel has made recommendations with regard to the need for transparent scientific and socio-economic analyses, consultation and measures which will improve the accountability of the Authority.

After 30 years of intense activity under the *Great Barrier Reef Marine Park Act 1975*, the establishment of the Marine Park has been completed and an effective operational and institutional framework for the management of the Park has been put in place. The current level of protection in place for the Marine Park provides a sound base for achieving a balance of commercial activities, while maintaining the health of the Great Barrier Reef in the future. However, the Review Panel considers that improvements can be made to increase the capacity of governments and the Authority to deliver the goal of the long-term protection of the Great Barrier Reef. This view is based on three considerations. Firstly, it recognises the importance of addressing the pressures on the Marine Park ecosystem in an integrated manner, including developments along the coast and in the catchments. Secondly, the maintenance of effective collaboration with the Queensland Government and its agencies is essential and needs to be underpinned by a more clearly articulated framework. Thirdly, there is a need for trends in the health of the Great Barrier Reef to be regularly reported and consideration of any changes in future planning and zoning arrangements to be undertaken in a robust, transparent and accountable way.

The Review Panel's recommendations are summarised below. They provide for enhancements to the governance arrangements, updating and streamlining the regulatory framework and ensuring effective engagement across all stakeholder groups.

The current suite of formal and informal agreements between governments would benefit from being updated and consolidated. Under such an integrated intergovernmental agreement, the Great Barrier Reef Ministerial Council would provide a forum for strategic oversight of Marine Park management and consideration of onshore and offshore issues affecting the Great Barrier Reef. Such issues include the challenges of catchments, coastal development and island management, and improving the coordination of management activities impacting fishing.

The long-term protection and management of the Great Barrier Reef is a complex and intensive task requiring an objective and expertise-based approach. The Review Panel is of the view that the original conception of there being a dedicated statutory authority responsible for advising and acting on behalf of the Australian Government in relation to management of the Great Barrier Reef Marine Park was well founded. A statutory authority allows for a focused, specialised and expertise-based approach to management, as well as providing a degree of independence from government, while being accountable to government. The Review Panel considers that the Authority should be constituted with a minimum of three statutory officeholders and a maximum of five. The officeholders should not be representational but appointed for their relevant expertise, with one member being nominated by the Queensland Government, as at present. An Advisory Board comprising members representing a broad range of interests would provide a further avenue for advice on specific issues to the Minister for the Environment and Heritage.

The Authority should remain as a body corporate so as to provide for collective decision making. However, as a regulatory and advisory entity that is a non-commercial government body, it is not appropriate for the Authority to be subject to the *Commonwealth Authorities and Companies Act 1997*. The Review Panel therefore proposes that the Authority be subject to the *Financial Management and Accountability Act 1997* as a 'prescribed agency'. The Chairperson of the Authority would then have the role of chief executive for the purposes of the *Financial Management and Accountability Act 1997*. The Chairperson would also perform the role of agency head under the *Public Service Act 1999*, with the agency comprising staff employed under that Act.

The Authority will need to focus on the day-to-day management of the Marine Park on an ecosystem basis, on facilitating multiple use and on ensuring that longer-term issues are effectively and accountably addressed. To undertake these things effectively, more attention needs to be given to monitoring the use of the Marine Park and the performance of management measures, assessing future risks and pressures, and analysing biophysical, social and economic factors necessary to support consideration of any changes to the level, area or type of protection.

Given the degree of interest in, and concern about, the level of protection of the Great Barrier Reef, the Review Panel recommends that information gained from this monitoring, assessment and analysis should be drawn together and published as the '*Great Barrier Reef Marine Park Outlook Report*' on a five-yearly basis in order to better inform the public and decisions on management.

To a large extent the concerns raised by stakeholders in regard to the 2003 Zoning Plan process arise from disagreement with the scientific underpinning, and perceptions of a lack of transparency, accountability and due process. While not sharing all these concerns, the Review Panel proposes that any future zoning arrangements be undertaken following approval of the process and operational principles by the Minister, that they allow for extended public consultation and that they be based on substantive socio-economic and biophysical information. In addition, the Review Panel considers that it is important that the 2003 Zoning Plan remain in place for a period that provides stability for business and the community and is long enough for the ecosystem to respond. The Panel also considers it important that information on the nature of that response is available through the five-yearly *Outlook Reports*.

The *Great Barrier Reef Marine Park Act 1975* has served its purpose well and the legislation remains sound. However, there are three areas that need to be addressed to meet future requirements. Firstly, the Act needs to be brought up to date and better aligned with the *Environment Protection and*

Biodiversity Conservation Act 1999. Secondly, it is important that issues arising from overlaps and gaps in Commonwealth and Queensland legislation are addressed to deliver streamlined and consistent environmental impact assessment, approval and permit processes for business and the community. Thirdly, the compliance provisions in the *Great Barrier Reef Marine Park Act 1975* are less robust than in its more modern counterpart, the *Environment Protection and Biodiversity Conservation Act 1999*.

The Review Panel has provided a number of proposals aimed at modernising the *Great Barrier Reef Marine Park Act 1975*, including that the objects of the Act incorporate contemporary concepts such as ecologically sustainable development and improved recognition of the Authority's role in helping Australia meet its obligations under the World Heritage Convention. In regard to enforcement and compliance, the current provisions are not consistent with the *Environment Protection and Biodiversity Conservation Act 1999*. The enforcement provisions of the *Great Barrier Reef Marine Park Act 1975* are broad and this is a highly technical area. Therefore, rather than making specific recommendations, the Review Panel considers that this area requires detailed and expert consideration, and recommends that the enforcement and compliance powers of the Act be reviewed to ensure consistency with the *Environment Protection and Biodiversity Conservation Act 1999* and that the Authority is appropriately positioned to effectively manage the Marine Park.

The Review Panel, in considering the interaction between the *Great Barrier Reef Marine Park Act 1975* and the *Environment Protection and Biodiversity Conservation Act 1999*, has concluded that it is appropriate to maintain a separate Act relating to the Great Barrier Reef. Whilst both Acts do have a range of issues in common, the *Great Barrier Reef Marine Park Act 1975* applies uniformly to both Queensland and Commonwealth waters within the Great Barrier Reef Region, but the *Environment Protection and Biodiversity Conservation Act 1999* does not. Another important difference is that the *Great Barrier Reef Marine Park Act 1975* reflects and implements a cooperative approach to management agreed between the Australian and Queensland governments.

The Review Panel recommendations are designed to ensure that the two Acts do not unnecessarily duplicate each other and operate in a cohesive and integrated manner. It is proposed that the *Environment Protection and Biodiversity Conservation Act 1999* provide the overarching basis for environmental impact and assessment and for approval of activities affecting the Marine Park. Under this approach, responsibility for assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999*, where the activity is within the Marine Park, would generally remain with the Authority. This would remove regulatory duplication in a key area and allow the comprehensive, transparent and robust environmental impact assessment processes and requirements of the *Environment Protection and Biodiversity Conservation Act 1999* to be employed. The Authority would continue to perform its normal regulatory permitting functions.

After 30 years of intense activity under the *Great Barrier Reef Marine Park Act 1975*, the establishment of the Marine Park has been completed and an effective framework for the management of the Marine Park has been put in place. The level of protection in place for the Park provides a sound base for maintaining the health of the Great Barrier Reef in the future. This will require effective collaboration between the Australian and Queensland governments, particularly as many of the issues impacting on the Marine Park are external to the Park. The recommendations of the Review Panel seek to improve the capability to address these future challenges through updating the consultative arrangements between the Australian and Queensland governments and adjusting elements of the regulatory framework, whilst strengthening the transparency and accountability of decision making affecting the protection and use of the Marine Park.

3. The environmental, social, economic and cultural values of the Great Barrier Reef

3 The environmental, social, economic and cultural values of the Great Barrier Reef

3.1 Environmental values

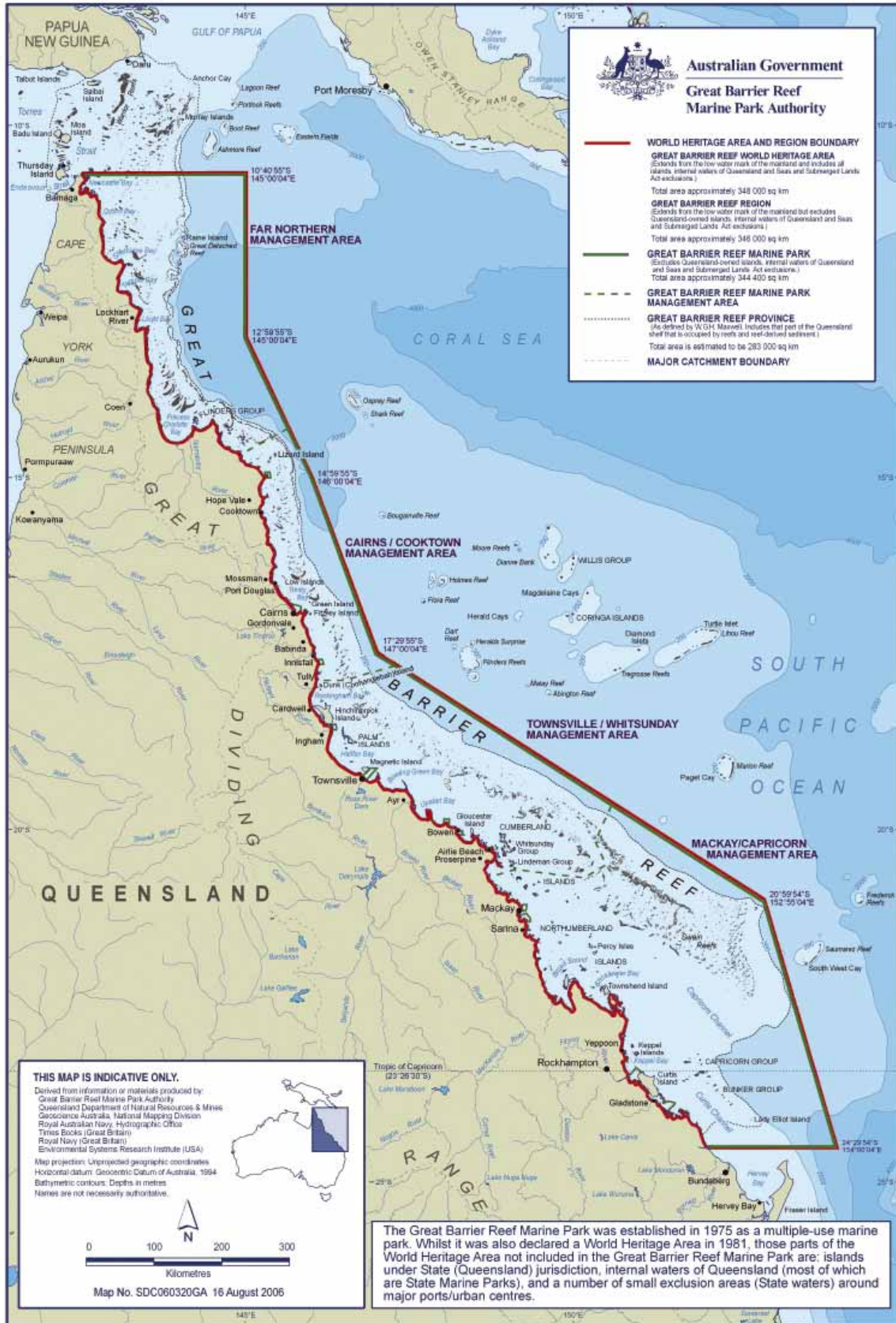
The Great Barrier Reef has significant environmental, social, economic and cultural values. In introducing the *Great Barrier Reef Marine Park Act 1975* into Parliament, the Australian Government stated that ‘...protection of our unique Barrier Reef is of paramount importance to Australia and the world’ and ‘conservation and protection of the Great Barrier Reef will be the paramount aim of the Authority in all zones of the Marine Park’.⁶ The *Great Barrier Reef Marine Park Act 1975*, in providing for ‘reasonable use’ to co-exist with conservation, established a multiple use approach to management with an overarching conservation objective. This concept has underpinned management of the Marine Park.

The Great Barrier Reef is one of the world’s largest and most complex ecosystems. Within Australia, the Great Barrier Reef Marine Park (Map 1) is by far the largest of any Commonwealth or State Marine Protected Area (Map 2). The Marine Park extends over 2 300 kilometres along the Queensland coastline and covers approximately 344 400 square kilometres.

The Great Barrier Reef is a broken maze of coral reefs rather than a continuous barrier. It includes some 2 900 individual reefs, of which 760 are fringing reefs along the mainland or around islands. The reefs range in size from less than one hectare to more than 100 000 hectares. Their shape varies from flat platform reefs to elongated ribbon reefs. There are 900 islands and cays within the boundaries of the Park. Around 70 of the islands are Commonwealth owned and consequently a part of the Marine Park. The remainder belong to Queensland.

⁶ Hansard, House of Representatives, 22 May 1975, pp. 2679–2680

Map 1: The Great Barrier Reef Marine Park and World Heritage Area



Map 2: Australia's marine parks

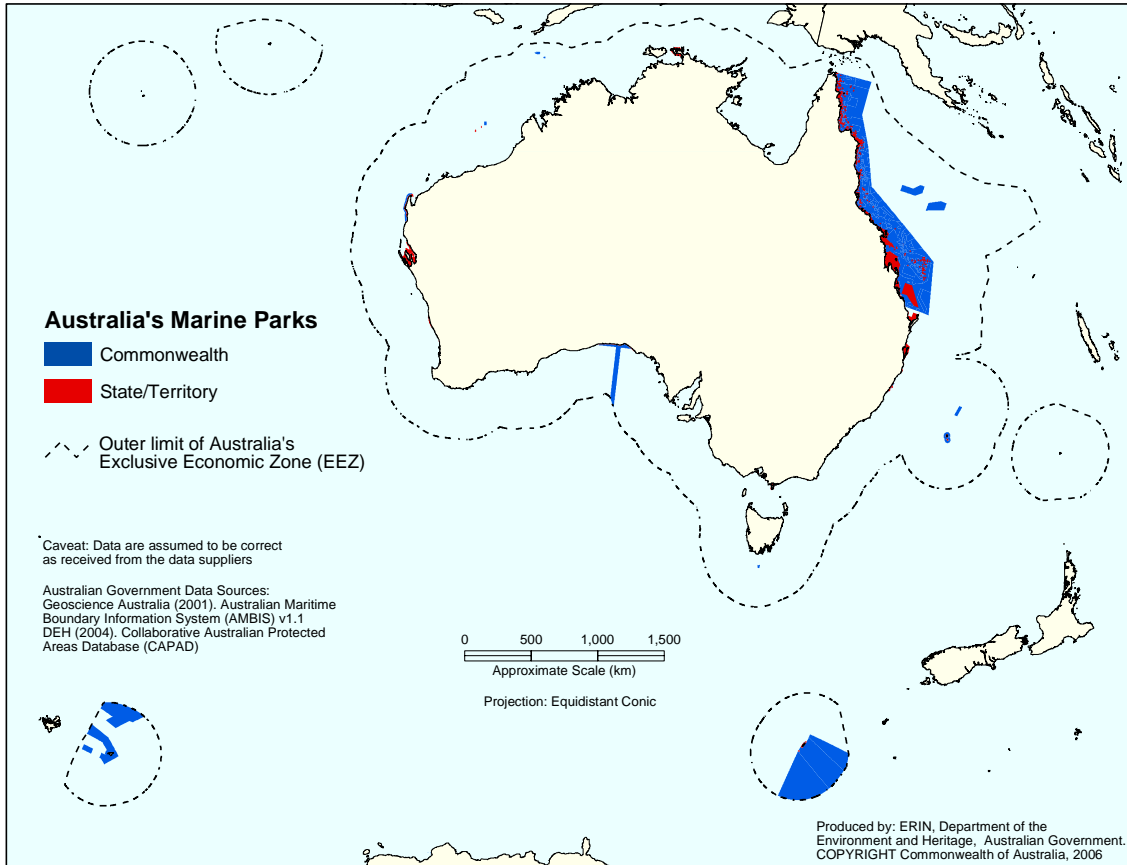


Table 1: Main ecological communities/habitat types in the Great Barrier Reef Marine Park

Ecological community/habitat type	Percentage of the Marine Park
Coral reefs	<6%
Inter-reefal areas	~13%
Sandy or muddy seabed communities (<i>some of which support extensive seagrass beds</i>)	~ 30%
Continental shelf/slopes	~ 23%
Deep oceanic waters	~ 19%
Others (<i>e.g. shallow inshore/coastal areas, algal and sponge 'gardens', deep shoals</i>)	~ 8%
Commonwealth islands	<1%

There is a wide range of habitats and great diversity of species in the Great Barrier Reef comprising 70 bioregions⁷ (Maps 3 and 4). In fact, while coral reefs and islands are the most well known habitats in the Marine Park and initially made the area famous, they comprise only around 6 per cent of the Marine Park ecosystem (Table 1).

A diverse range of species live within the various habitats of the Great Barrier Reef. It is this extraordinary biodiversity that makes the Great Barrier Reef and the surrounding areas one of the richest and most complex natural systems on earth (Table 2). As the world's largest coral reef ecosystem, the Great Barrier Reef is a critically important global resource. It is also iconic to Australians and internationally.

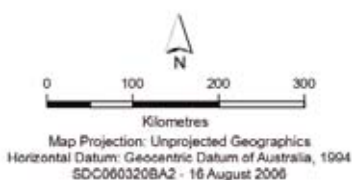
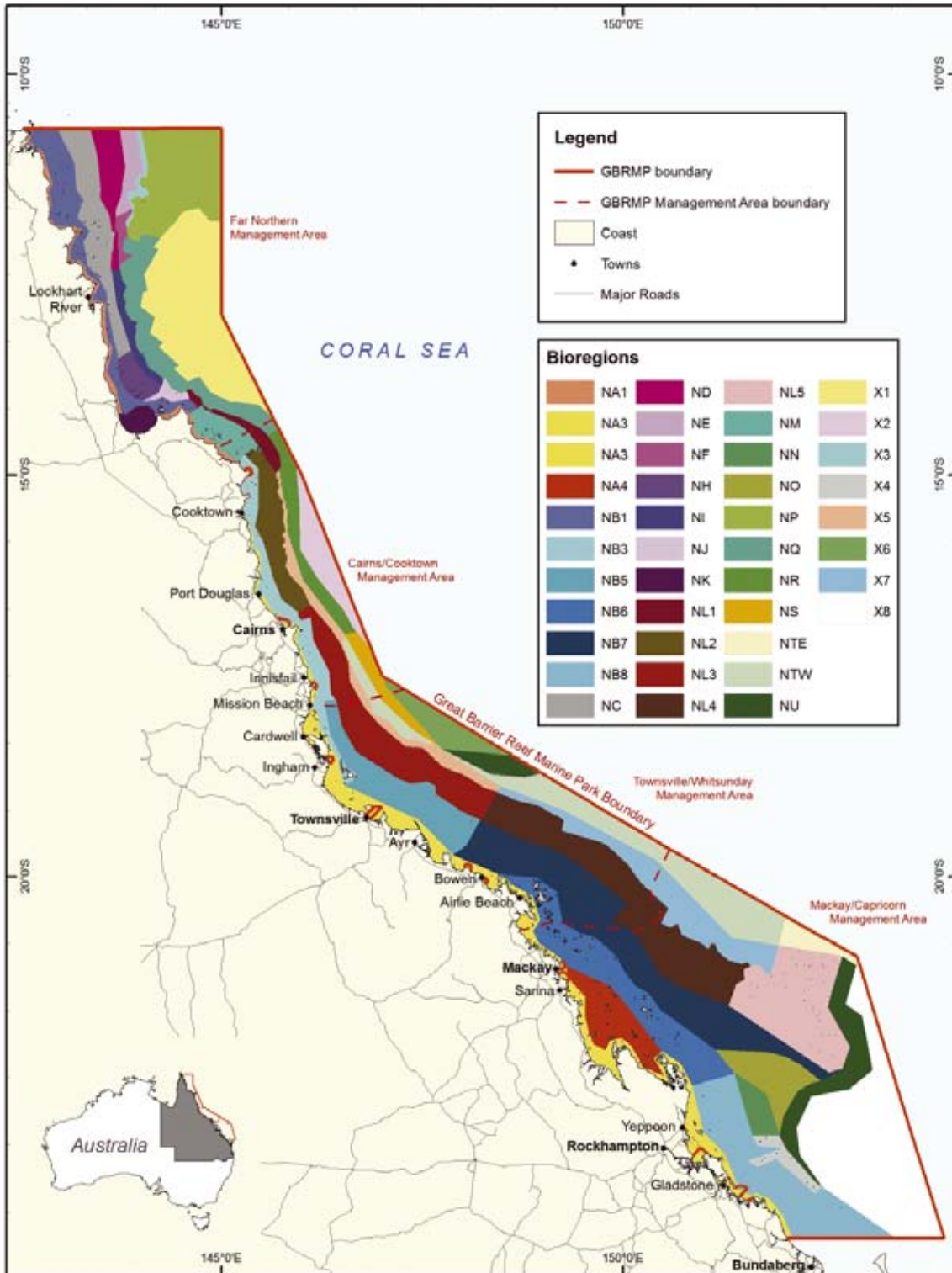
Table 2: Significant features of the Great Barrier Reef World Heritage Area

<ul style="list-style-type: none"> • Six of the world's seven species of marine turtle • The largest green turtle breeding area in the world • One of the world's most important dugong populations (around 1 400) • Over 43 000 square kilometres of seagrass meadows • A breeding area for humpback whales and other whale species • Over 2 900 coral reefs built from over 360 species of hard coral • Over one-third of all the world's soft coral and sea pen species (80 species) • 1 500 species of sponges equalling 30% of Australia's diversity in sponges • Over 5 000 species of molluscs • 800 species of echinoderms, equal to 13% of the world's total species • Approximately 500 species of seaweeds • More than 1 500 species of fish • Spectacular seascapes and landscapes e.g. Hinchinbrook Island, the Whitsundays • Over 175 species of birds
--

⁷ Bioregions are areas which share similar environmental, physical and climatic conditions and contain characteristic ecosystems of plants and animals.

Map 3: Non-reef bioregions in the Great Barrier Reef Marine Park

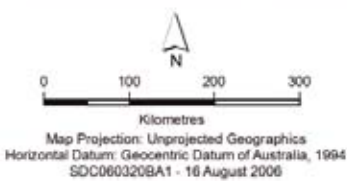
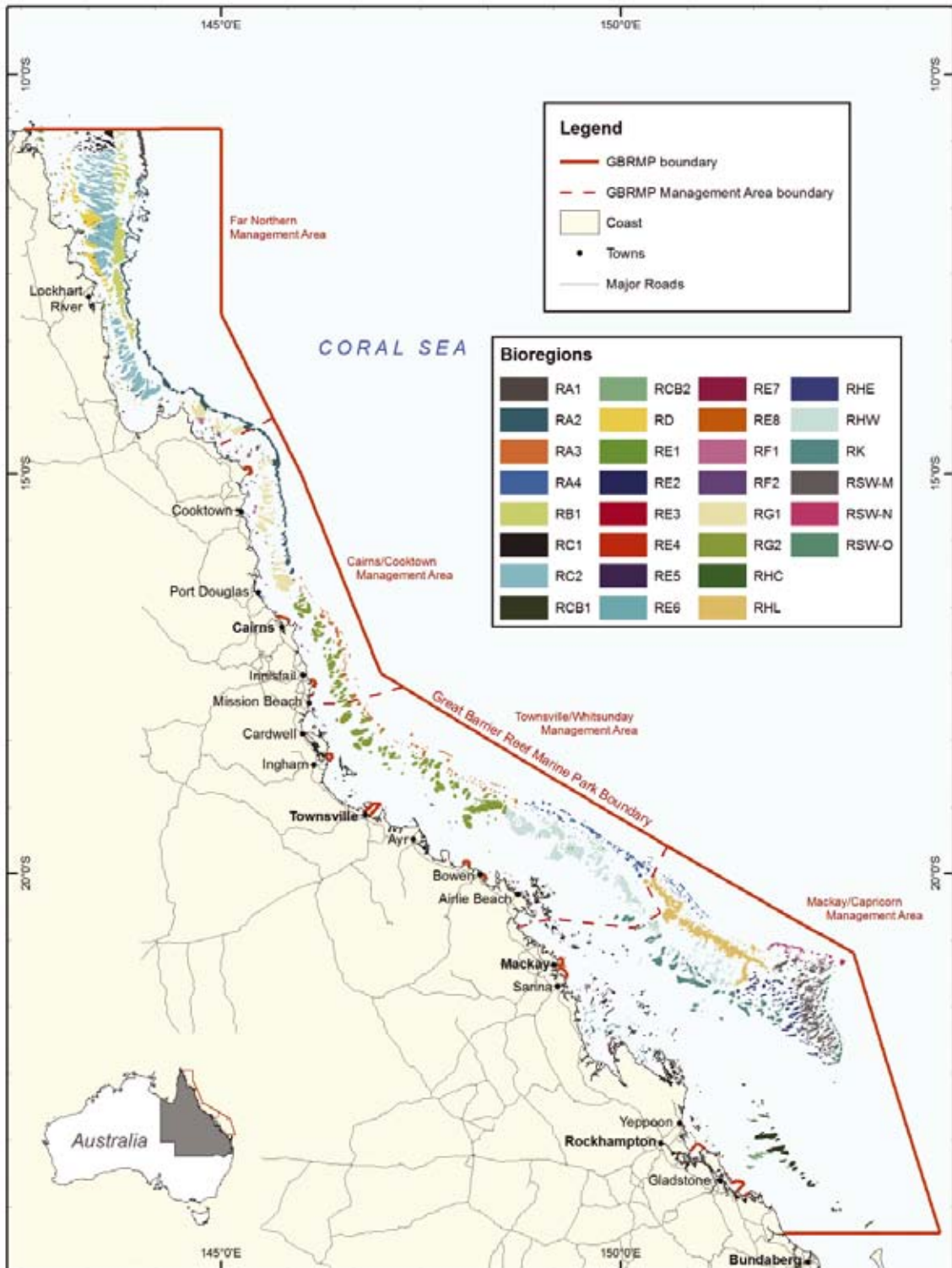
(as identified for the purposes of the Representative Areas Programme)



This map shows the 40 non-reef bioregions which were the foundation for biodiversity protection in the new Zoning Plan. Each bioregion represents an area where the known animal and plant assemblages, and the physical features, are sufficiently distinct from the rest of the Great Barrier Reef.

Map 4: Reef bioregions in the Great Barrier Reef Marine Park

(as identified for the purposes of the Representative Areas Programme)



This map shows the 30 reef bioregions which were the foundation for biodiversity protection in the new Zoning Plan. Each bioregion represents an area where the known animal and plant assemblages, and the physical features, are sufficiently distinct from the rest of the Great Barrier Reef.

In 1981, the Great Barrier Reef was inscribed on the World Heritage List under the Convention Concerning the Protection of the World Cultural and Natural Heritage 1972. In adopting the World Heritage Convention, the parties noted that cultural and natural heritage are increasingly threatened and considered it essential to establish an effective system of collective protection, organised on a permanent basis and in accordance with modern scientific methods. As a party to the Convention, Australia recognises its 'duty of ensuring the identification, protection, conservation and transmission to future generations of the cultural and natural heritage [and undertakes to]... do all it can to this end, to the utmost of its resources...'.⁸

To be included on the World Heritage List, an area must meet at least one universal value selection criterion, of which there are ten, four natural and six cultural. The Great Barrier Reef is recognised as meeting all four natural values criteria as:

- an outstanding example representing the major stages of the earth's evolutionary history
- a significant example of an ongoing ecological and biological process
- a superlative natural phenomenon
- a source of important and significant habitats for in situ conservation of biological diversity.

The Great Barrier Reef is the world's largest World Heritage Area. The Australian Government's obligation under the World Heritage Convention to protect and conserve the World Heritage Area provides for use of the area unless it threatens the natural and cultural values.

The *Great Barrier Reef Marine Park Act 1975* was an early example of applying the park concept to oceans. Over the last two decades there has been international momentum to increase the level of protection of the coast and marine environment (see also Chapter 5). This began with the World Conservation Union (IUCN) General Assembly (Costa Rica 1988) and has continued with the World Parks Congresses in 1992 and 2003 and the World Summit on Sustainable Development (Johannesburg 2002). Coral reefs, in particular, are considered to be at risk and, although the Great Barrier Reef is in relatively good condition, globally some 27 per cent of coral reefs have already been lost due to human impacts and coral bleaching (Global Coral Reef Monitoring Network 2000) and around 58 per cent are threatened (World Resources Institute et al. 1998).

3.2 Economic, social and cultural values

The Great Barrier Reef and the surrounding coastal and catchment areas support substantial economic activity. The catchment area adjacent to the Great Barrier Reef comprises 22 per cent of Queensland's land area and 20 per cent of its population. Around 80 per cent of land in this area supports agricultural production. There are 21 local government areas adjacent to the Great Barrier Reef, each with a population of around 25 000. The major urban centres are Cairns, Townsville, Mackay, Rockhampton and Gladstone. Each is a key port and has a population of between 26 000 and 140 000. The population along the Great Barrier Reef coast is currently around 850 000 and expected to grow to one million by 2026.

There is significant economic activity in the Great Barrier Reef and the surrounding coastal and catchment areas. Some of these activities occur solely or partly within the Marine Park itself, such as tourism and fishing. However, these two activities in particular also have strong links to many land-based businesses such as equipment suppliers and seafood processing. Many industries that contribute to Australia's overall economic prosperity, such as coal and sugar, rely on access to, or passage through, the Marine Park. An efficient and cost-effective port system is essential to such industries.

⁸ Convention Concerning the Protection of the World Cultural and Natural Heritage 1972, Article 4

The economic activity in the region has been reviewed in some depth by the Productivity Commission (2003) and by PDP Australia (2003). The nature of the industries and businesses in the region, as well as the methodologies for measuring economic activity and data collection, make the distinction between the value of onshore and offshore activity difficult to disaggregate.

Mining and tourism are the largest industries in catchment areas adjacent to the Great Barrier Reef. The gross value of minerals produced in the 2000–01 financial year has been estimated at \$7 billion, with coal being the largest commodity at \$6 billion. The gross value of tourism in the region in 1999 has been estimated at \$4.2 billion. The gross value of agriculture in the 1999–2000 financial year has been estimated at \$3.2 billion (sugar cane \$0.8 billion), recreational fishing at \$240 million and commercial fishing at \$119 million (Productivity Commission 2003).

Shipping activity within the Great Barrier Reef Region and Torres Strait facilitates substantial economic activity in Australia. The value of commodity exports shipped through Queensland seaports in 2001–02 exceeded \$17 billion, representing 14 per cent of the total value of exports from Australia (Great Barrier Reef and Torres Strait Shipping Management Group 2003). The port of Brisbane handles only around 12 per cent of all Queensland shipping cargo, the majority being handled by the 10 major ports on the coast adjacent to the Marine Park. In 2004–05, these ports handled a total of nine billion mass tonnes of cargo (AAPMA 2005). One of the largest exports from the region is black coal, around 115 million tonnes (98 per cent) of which is exported through the ports of Gladstone, Hay Point, and Abbott Point.

There are approximately 6 000 ship movements of large vessels exceeding 50 metres length in the Great Barrier Reef each year, plus some 1 500 tourism vessels and 25 000 commercial and recreational fishing vessels. Bulk carriers comprise around 42 per cent of ships using the Great Barrier Reef, 10 per cent are oil tankers, 24 per cent container vessels and 22 per cent general cargo.

There are two main shipping routes through the Great Barrier Reef. The Inner Route traverses north-south from the Torres Strait to Gladstone between the coast and inner reef. The Outer Route passes through the Coral Sea. About 75 per cent of cargo ships follow the Inner Route. It has been estimated that, should this route be closed to transport ships, it would cost around \$11 billion per annum in additional transport costs (Great Barrier Reef and Torres Strait Shipping Management Group 2003).

As noted above, the total contribution of tourism to the regional economy is estimated to be \$4.2 billion, with some 9.3 million visitors to the region in 2003 (Bureau of Tourism Research 2003). This is projected to increase to \$6.5 billion by 2020. Around 19 per cent of international visitors to Australia visit the Great Barrier Reef catchment area. In 2004 there were over 1.9 million visits to the Great Barrier Reef.⁹ Around 75 per cent of overnight visitors to the Great Barrier Reef are domestic with about half of these coming from interstate (Access Economics 2005). Total expenditure on Marine Park tourism, including land-based accommodation, is estimated at \$589 million per annum (PDP Australia 2003). The tourism industry is the largest employer of all industries in the coastal and catchment areas of the Great Barrier Reef, providing approximately 40 000 jobs in the region. There are 840 commercial tourism operators in the Marine Park.

Commercial and recreational fishing, including charter and spearfishing, are another major and long-standing use of the Great Barrier Reef. Major commercial fishing began in the mid-1950s. Currently, there are 17 commercial fisheries operating solely or predominantly in the Marine Park. The main commercial fisheries are the East Coast Otter Trawl Fishery, the East Coast Coral Reef Line Fishery, the East Coast Inshore Fin Fish Fishery, the Spanner Crab Fishery and the East Coast Dive-Based Fisheries. In 2004, around 26 000 tonnes of seafood valued at around \$218 million in Gross Value of Production terms was harvested by the commercial sector in Queensland.¹⁰ Around 70 per cent of this, or \$130 million per annum in Gross Value of Production terms, is derived from within the Marine Park (PDP Australia 2003).

9 Great Barrier Reef Marine Park Authority figures based on Environmental Management Charge data, taken from http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/gbr_visitation, accessed on 30 March 2006.

10 Queensland Government Department of Primary Industries and Fisheries figures taken from <http://www2.dpi.qld.gov.au/fishweb/12540.html>, accessed on 30 March 2006.

It is estimated that there are around 198 000 recreational fishers using the Great Barrier Reef (including catchment areas adjacent to the Great Barrier Reef) (National Recreational and Indigenous Fishing Survey 2003). The annual catch of these fishers is estimated to be around 8 500 tonnes.¹¹ For some species, the recreational catch is larger than the commercial catch (for example, coral trout). In addition to fishing in the Marine Park itself, a significant proportion of recreational fishing occurs in rivers, estuaries, bays, beaches and inlets that are not part of the Marine Park. Some 45 000 interstate and international tourists participate in recreational fishing, many through charter fishing. There are around 120 fishing charter vessels operating in the Marine Park. The annual Gross Value of Production of charter and game fishers that operate in the Marine Park is estimated at \$50 million (PDP 2003).

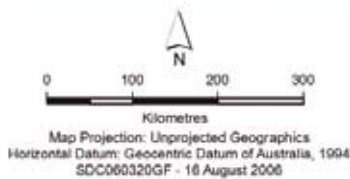
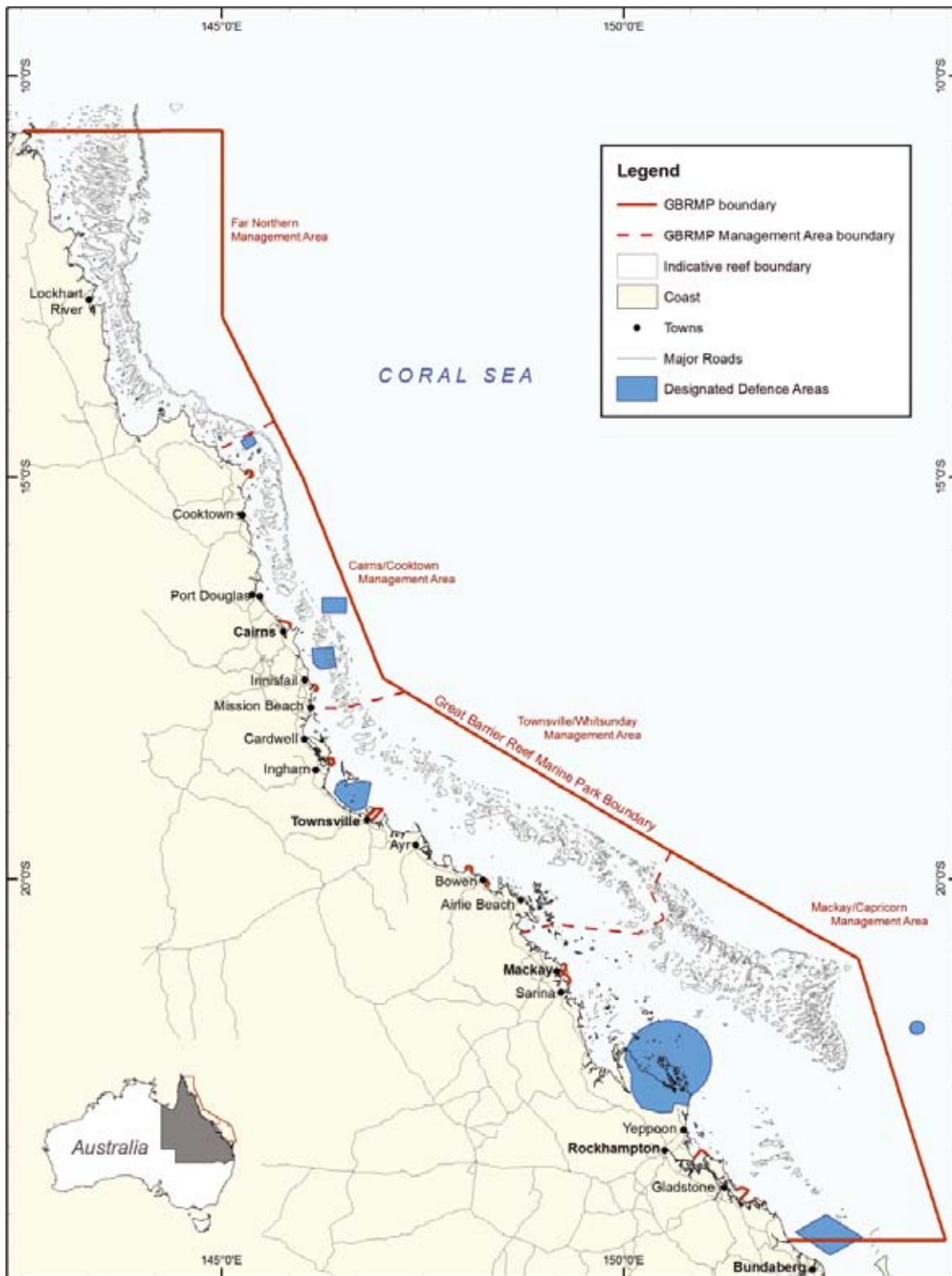
Recreational fishers are estimated to have spent between \$80 million and \$201 million in relation to fishing activities in 2003 (Hunt 2005a and 2005b, Henry & Lysle 2003, Blamey & Hundloe 2003). Expenditure on recreational boat fishing in the Marine Park has been estimated by the Queensland Department of Primary Industries and Fisheries to be around \$100 million for 2004 (Access Economics 2005). The value of the recreational fishing sector associated with the Great Barrier Reef is estimated to be \$240 million per annum on a Gross Value Added basis (Productivity Commission 2003).

Uniquely for a Marine Park and World Heritage Area, the Great Barrier Reef Marine Park abuts and overlays some of Australia's most important military training areas and facilities (Map 5). Military sites in or adjacent to the Marine Park include training areas at Cowley Beach, Halifax Bay and Shoalwater Bay, bases in Townsville and Cairns and training areas at Tully, Mount Stuart and Townsville. Additionally, there is an air weapons range for aerial combat training that overlays part of the Marine Park and extends into the Coral Sea. Since 1965, military training has occurred in the Shoalwater Bay area, which is considered to be one of the premier military training areas in the world. A number of the islands in the Marine Park are owned and managed by Defence for training purposes.

In regard to cultural values, there are around 470 shipwrecks in the Marine Park, approximately 30 of which have been identified as historic (Map 6). Various islands have operating lighthouses, ruins and other sites that are of cultural and historical significance. Two such sites are listed on the Commonwealth Heritage List established under the *Environment Protection and Biodiversity Conservation Act 1999*. The sites comprise cast iron and timber light stations constructed in the 1870s that were important navigational aids in the development of regular coastal shipping in the difficult waters of the Inner Route of the Great Barrier Reef. The sites are located on Commonwealth-owned islands and are subject to management plans and impact assessment requirements under the Act.

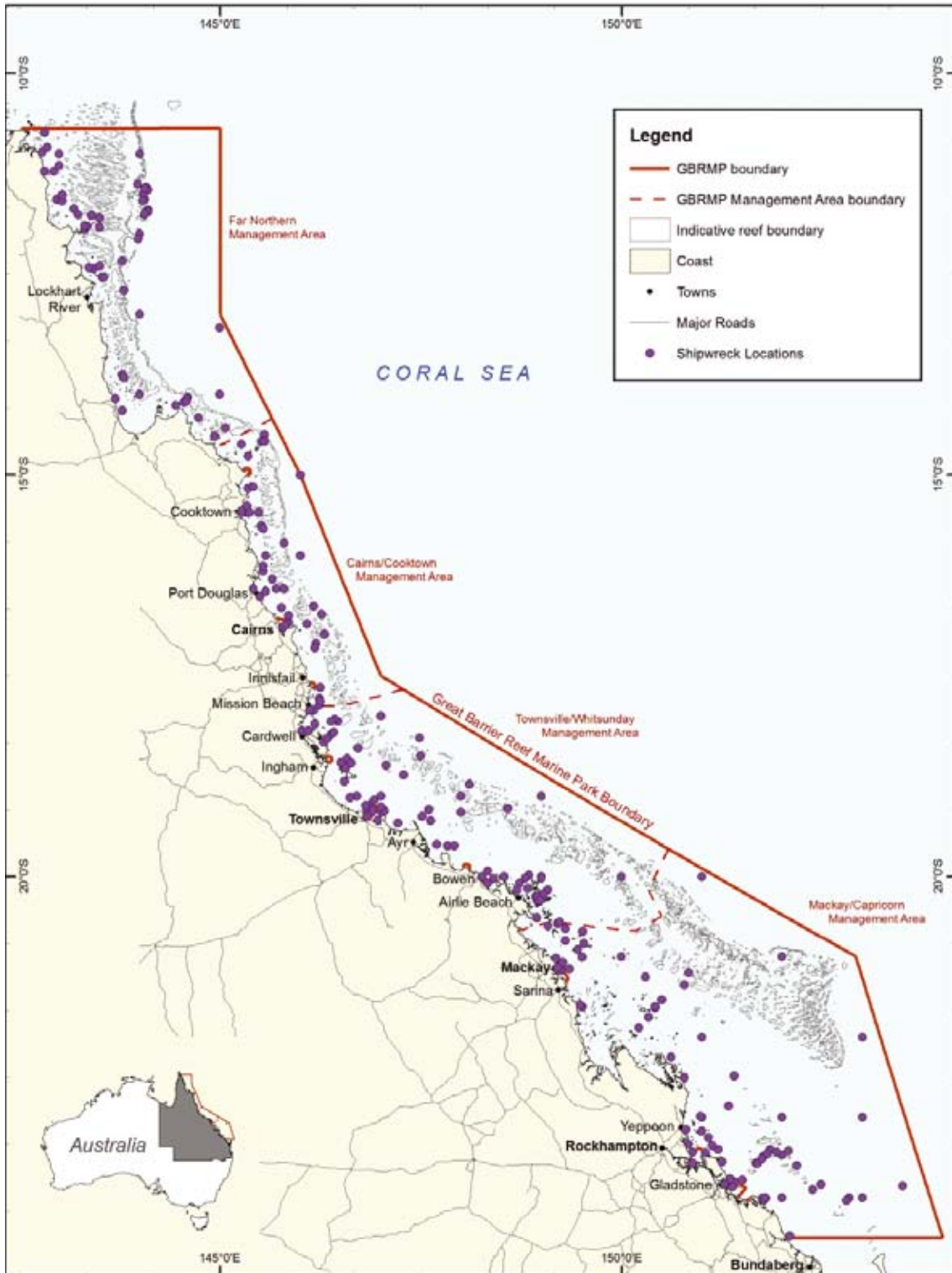
¹¹ Queensland Government Department of Primary Industries and Fisheries figures taken from http://www.dpi.qld.gov.au/cps/rde/xchg/dpi/hs.xml/28_139_ENA_HTML.htm, accessed on 30 March 2006.

Map 5: Defence areas within the Great Barrier Reef Marine Park



The Department of Defence is an important user, and defence activities occur throughout much of the Great Barrier Reef Marine Park. There are also six defence practice areas designated within the Marine Park. The Great Barrier Reef Marine Park Authority works with the Department of Defence to ensure activities are conducted in a manner that minimises any environmental impacts.

Map 6: Shipwrecks in the Great Barrier Reef Marine Park



Over 470 shipwrecks have been identified within the Great Barrier Reef Marine Park. Some of these are listed as historic shipwrecks (a vessel that has been sunk for 75 years or more) under the *Historic Shipwrecks Act 1976*, and may require specific management actions.

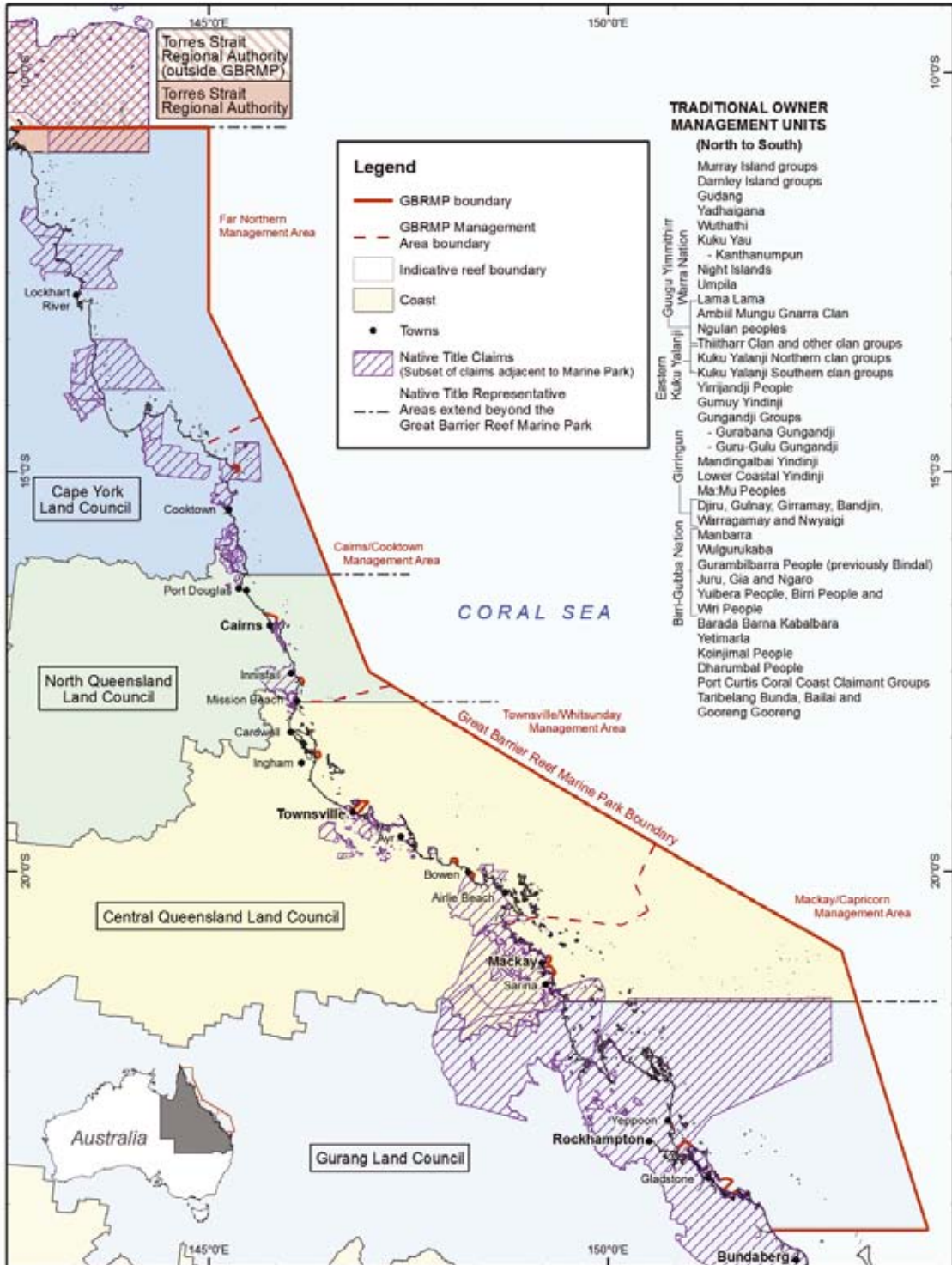
Aboriginal and Torres Strait Islander people have a long and continuing relationship with the Great Barrier Reef and its natural resources. There are more than 70 Traditional Owner groups along the coast from Bundaberg to the eastern Torres Strait Islands. Their traditional customs, spiritual lore and beliefs continue to be practised today. Their values and interests for islands, reefs and waters within the Great Barrier Reef and Torres Strait include physical places, story places and a range of other cultural and historical values. There are many sites of Aboriginal or Torres Strait Islander origin. Notable sites on or adjacent to various islands include fish traps, middens, rock quarries, story sites and rock art.

A high number of Indigenous people participate in fishing. Fishing is not only important for food and nutrition but also for ceremonial occasions, exchange, trade and barter. Fishing is an essential component of Indigenous cultural lifestyle and is connected to the traditional responsibilities of land management and kinship. The sense of custodianship extends to all marine resources, and the sea and islands are collectively considered to be an integral part of traditional country, known as 'sea country'.

Hunting of marine turtles and dugongs by Traditional Owners is an important part of their culture, but there is a recognised need to ensure that any hunting is at sustainable levels. In December 2005, the Authority and the Queensland Parks and Wildlife Service accredited the first Traditional Use of Marine Resources Agreement, in the Hinchinbrook Region. Under the Agreement, the Giringun Traditional Owners agreed to limit their take of marine turtles and to not take any dugong. The Agreement also provides a framework for monitoring and recording the take of marine turtles and fosters partnership arrangements for resources that are both culturally and ecologically significant.

Native Title is the recognition in Australian law that Indigenous people had a system of law and ownership of their lands before European settlement. The *Native Title Act 1993* provides a way for dealing with Indigenous peoples' rights and interests in land and sea areas. The Act recognises, amongst other things, the right of a Native Title holder to hunt, fish or gather for the purpose of personal, domestic or non-commercial communal use.

Map 7: Native Title claims and Indigenous groups in the Great Barrier Reef and adjacent land areas



0 100 200 300
Kilometres

Map Projection: Unprojected Geographics
Horizontal Datum: Geocentric Datum of Australia, 1994
SDC060320GB - 16 August 2006

This map shows the Queensland-based native title representative bodies and the existing native title claims over the Great Barrier Reef Marine Park and adjacent coastal areas. Some 70 clan groups from 50 larger tribes in sea country alone are adjacent to the Great Barrier Reef Marine Park. To facilitate working with these groups, the Great Barrier Reef Marine Park Authority has identified 27 management areas or groupings along the GBR coast (listed in the above table), based on the way Traditional Owners work administratively within their groups and tribal lands.

4. Overview of the Great Barrier Reef Marine Park and the Authority

4 Overview of the Great Barrier Reef Marine Park and the Authority

4.1 Establishment and development of the Great Barrier Reef Marine Park

During the 1960s and 1970s attention came to be focused on threats to the Great Barrier Reef, particularly from the crown-of-thorns starfish, petroleum and mineral exploration and the risk of a major oil spill.

From 1965 to 1974 (Lawrence, Kenchington & Woodley 2002) there were large-scale outbreaks of crown of thorns starfish in the Cairns and Central Sections of the Great Barrier Reef. Wide areas of damage were apparent, with up to 95 per cent of coral destroyed on affected reefs. Concerns centred on human impacts as a possible cause. These concerns resulted in a number of inquiries and substantial funding of scientific research.

In 1967 the Queensland Department of Mines received an application to mine limestone on Ellison Reef. At about the same time, a regulatory regime for granting offshore oil exploration permits was established by the *Petroleum and Submerged Lands Act 1967*. In 1969, a company was granted a permit covering the whole of the Great Barrier Reef. Repulse Bay, near the Whitsundays, was identified as a potential drilling site.

This push for petroleum exploration within the Great Barrier Reef came at a time of emerging and widespread global concern over pollution damage from oil spills resulting from a series of oil pollution incidents including the 1967 *Torrey Canyon* oil tanker accident in the United Kingdom, the 1970 grounding in the Torres Strait of the *Oceanic Grandeur* oil tanker and the 1979 fire on the IXTOC oil rig in the Gulf of Mexico. This latter incident, in particular, caused an oil slick that threatened major fisheries.

In response to such concerns, a Royal Commission into Exploratory and Production Drilling for Petroleum in the Area of the Great Barrier Reef was held from 1970 to 1974. Following the Royal Commission, both the Australian and Queensland governments prohibited petroleum drilling on the Great Barrier Reef.

A key recommendation of the Royal Commission was that 'a special statutory authority should be established responsible to the appropriate Parliament for ecological protection and the control of research and development within the Great Barrier Reef province'. This approach was also supported by the Report of the Committee of Inquiry into the National Estate (1974), which noted: 'The Committee considers the Great Barrier Reef to be of World Heritage standard... The Australian Government and... the Queensland Government, have an over-riding responsibility for the preservation, management and presentation of the reef, possibly by setting up a statutory authority or commission for the purpose'. These recommendations received bipartisan support.

In light of these recommendations, the *Great Barrier Reef Marine Park Act 1975* was enacted. This Act established the Great Barrier Reef Marine Park Authority to advise and act on behalf of the Australian Government in relation to the establishment, control, care and development of a marine park in the Great Barrier Reef Region. The Act establishes the boundaries of the 'Great Barrier Reef Region' and empowers the Governor-General to proclaim areas within this region to be part of the Great Barrier Reef Marine Park (ss. 30 and 31).

Over the period 1975 to 2001, sections were progressively proclaimed to be part of the Marine Park (Table 3). In 2004, all sections were consolidated into a single section and integrated zoning introduced throughout the Marine Park through the *Great Barrier Reef Marine Park Zoning Plan 2003*.

The consolidation of the multiple sections and development of the 2003 Zoning Plan can be viewed as the last stage in establishing an integrated Marine Park. The Zoning Plan also implemented the Representative Areas Programme, which increased ecosystem protection while allowing for commercial, recreational and cultural use. Table 4 sets out zoning before and after the 2003 Zoning Plan.

Table 3: Establishment of the Marine Park

1979 – Capricornia Section proclaimed covering 12 000 square kilometres
1981 – Cormorant Pass and Cairns Sections proclaimed
1983 – Far Northern, Southern and Townsville Inshore Sections proclaimed
1984 – Central Section proclaimed
1987 – Mackay/Capricorn Section proclaimed. Subsumed previously proclaimed Capricornia Section
1998 – Gumoo Wojobuddee Section proclaimed
1989 – Cormorant Pass Section revoked and a new Cairns Section proclaimed
2000 – 18 coastal areas proclaimed
2001 – 10 coastal areas proclaimed
2004 – All sections consolidated into the Amalgamated Great Barrier Reef Section

Table 4: Marine Park zones before and after implementation of the Great Barrier Reef Marine Park Zoning Plan 2003

Zone	Colour	IUCN category	Pre-July 2004 (%)	Post-July 2004 (%)	Sq km	IUCN definition
Preservation	Pink	IA	0.1	0.2	710	Science or wilderness protection
Marine National Park	Green	II	4.6	33.3	114 530	Ecosystem protection and recreation
Scientific Research	Orange	IA	0.01	0.05	155	Science or wilderness protection
Buffer	Olive Green	IV	0.1	2.9	9 880	Conservation through management intervention
Conservation Park	Yellow	IV	0.6	1.5	5 160	Conservation through management intervention
Habitat Protection	Dark Blue	VI	15.2	28.2	97 250	Sustainable use of natural resources
General Use	Light Blue	VI	77.94	33.8	116 530	Sustainable use of natural resources
Unzoned	n/a	n/a	1.4	n/a	n/a	n/a
Commonwealth islands	various	0.05	0.05	0.05	185	n/a

In November 2004, the Queensland Government established the Great Barrier Reef Coast Marine Park in relation to areas within Queensland waters with zoning largely complementary to that in the Commonwealth Marine Park.

Key developments in Park management

In 1981, the Great Barrier Reef was recognised as a significant part of the world's heritage under the Convention Concerning the Protection of the World Cultural and Natural Heritage. The Marine Park now covers around 98 per cent of the World Heritage Area and an additional 1 per cent is covered by Queensland national parks established in relation to Queensland islands and by the Great Barrier Reef Coast Marine Park established in relation to some areas Queensland considers to be 'internal waters'.

In 1990, the International Maritime Organization declared the Great Barrier Reef as the world's first Particularly Sensitive Sea Area (PSSA). This PSSA covers the Queensland coast between the northernmost extremity of Cape York and a point just north of Bundaberg. It allows the potential impacts of shipping activities to be managed through detailed measures such as compulsory pilotage, traffic separation schemes, discharge restrictions and a vessel traffic management system.

In 1993, an Environmental Management Charge (EMC) was introduced through amendments to the *Great Barrier Reef Marine Park Act 1975* and the *Great Barrier Reef Marine Park (Environment Management Charge) Act 1993*. The EMC is a levy payable by most commercial operators that require a permit to undertake activities in the Marine Park. The charge is primarily paid by commercial tourism operators, but also by non-tourism commercial charters and persons operating facilities within the Marine Park. The exact amount of the charge varies. For tourism operators, the current charge is \$4.50 per day per visitor. In 2004–05, approximately \$7.2 million was raised through the EMC. This money was appropriated to the Authority to manage the Marine Park.

A Memorandum of Understanding aimed at halting the decline in water quality flowing from catchments discharging into the Great Barrier Reef lagoon was signed in August 2002 by the Prime Minister and the Premier of Queensland. This led to the development of the *Reef Water Quality Protection Plan*, which was jointly released by the Australian and Queensland governments in December 2003. The Plan provides a framework for action to improve water quality by multiple Australian and Queensland government agencies, local governments and industry.

4.2 Functions, governance, and accountability

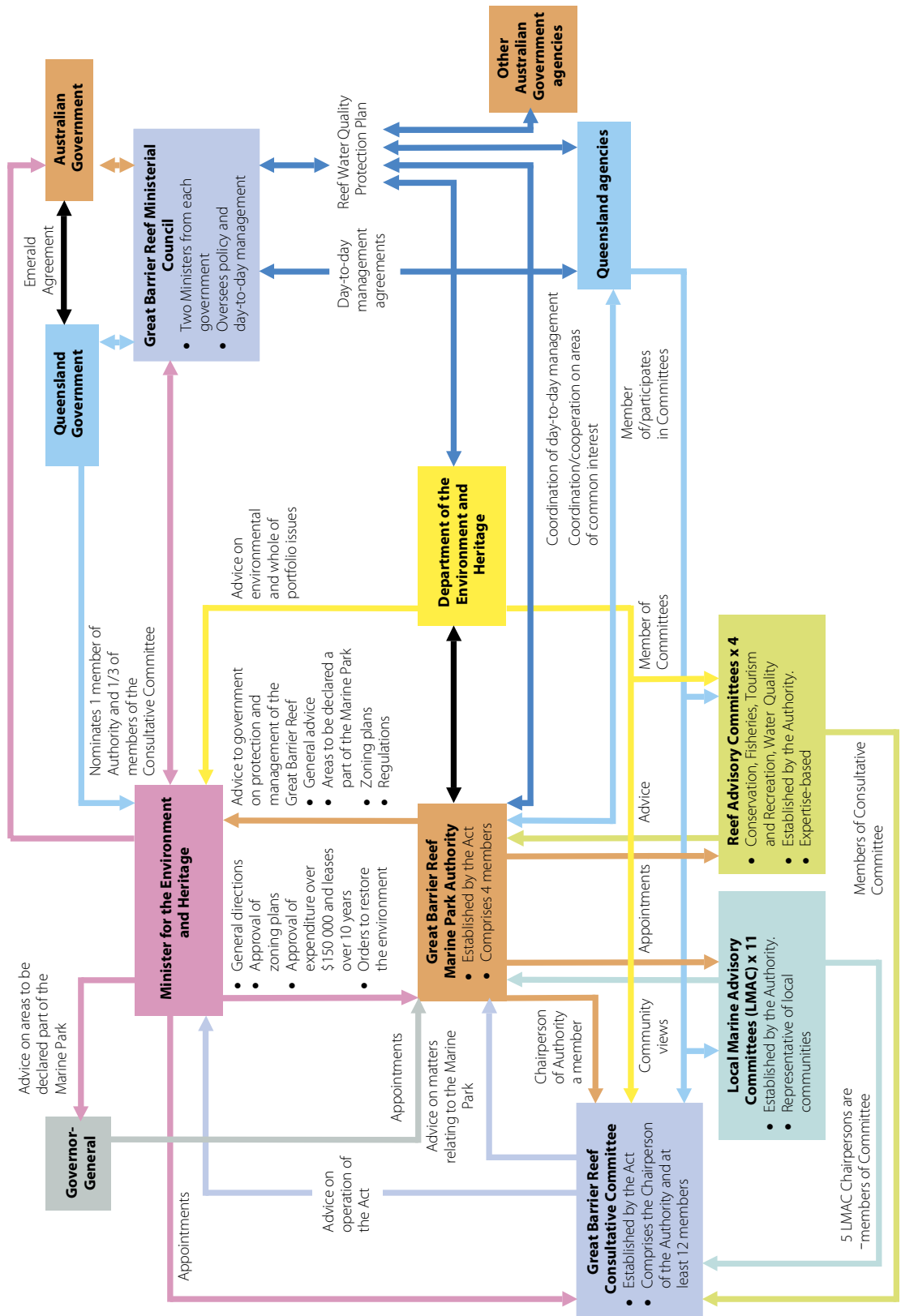
The governance and accountability frameworks of the Authority arise from the overlay of the *Great Barrier Reef Marine Park Act 1975*, the Emerald Agreement between the Queensland and Australian governments and a range of Memoranda of Understanding including with individual State agencies. These are presented in Figure 1 and are detailed below.

Overview of the Authority

The Great Barrier Reef Marine Park Authority is established by the *Great Barrier Reef Marine Park Act 1975* (s. 6). It comprises a Chairperson and three part-time members (s.10). Members of the Authority are appointed by the Governor-General on the advice of the Minister. One part-time member must be appointed to represent the interests of Indigenous communities adjacent to the Great Barrier Reef. Another part-time member may be nominated by the Queensland Government. No requirements apply to the other part-time member, although at present this person is selected for their involvement in local community issues.

The Authority is supported by staff employed under the *Public Service Act 1999*. In 2004–05, the Authority employed the equivalent of 184 full-time staff. The staff, together with the Chairperson of the Authority, constitute a statutory agency under the *Public Service Act 1999*. The Chairperson is the Chief Executive Officer of the agency.

Figure 1: Current governance and accountability framework



The agency is a part of the Environment and Heritage portfolio. Its headquarters are in Townsville and it has small regional offices in Cairns, Mackay and Rockhampton to facilitate community engagement.

The Authority has a Consultative Committee established under the Act (s. 20, s. 22, and s. 25). It comprises a member of the Authority (currently the Chairperson) and a minimum of 12 others. The Queensland Government may nominate at least one-third of the Committee's members. The Committee's role is to advise the Minister, either on request or on its own initiative, on matters relating to the operation of the Act and to advise the Authority, on request, on matters relating to the Marine Park (s. 20, s. 21, s. 22, s. 25).

Between 1999 and 2005, the Authority established 11 Local Marine Advisory Committees (LMACs) in coastal centres from Bundaberg to Cooktown as a means of involving the local communities in the management, ecologically sustainable development and conservation of the Marine Park. In 2000, the Authority established four Reef Advisory Committees (RACs) to provide advice in relation to four critical issues as follows: Tourism and Recreation; Fisheries; Water Quality and Coastal Development; and Conservation, Heritage and Indigenous Partnerships.

The Authority's governance framework has evolved during the period 1975 to 2004. Among other things, the Emerald Agreement was signed, the Great Barrier Reef Ministerial Council was established and agreements for the delivery of day-to-day management developed. In 1997, with the introduction of the *Commonwealth Authorities and Companies Act 1997*, a new financial management framework was applied to the Authority. From the point of view of regulatory governance, the integrated national approach introduced by the *Environment Protection and Biodiversity Conservation Act 1999* has also impacted on the Authority.

Functions of the Authority

The *Great Barrier Reef Marine Park Act 1975* provides the framework for the establishment, planning and management of the Marine Park. The functions of the Authority are set out in ss. 7 and 8 of the Act and include:

- advising and making recommendations to the Minister in relation to the care and development of the Marine Park, including the areas that should be declared to be a part of the Park
- developing zoning plans and plans of management
- managing the Marine Park cooperatively with the Queensland Government. This includes performing permitting and approval functions and enforcing the Act, Regulations and 2003 Zoning Plan
- carrying out or arranging research relevant to the Marine Park
- providing or arranging for the provision of education, advisory and informational services relating to the Marine Park.

Performing these functions requires the Authority to have a role, through zoning and associated permit requirements (s. 32), in the regulation of fishing, tourism, construction development, farming facilities and shipping. Regulations may be made under the Act in relation to activities undertaken outside the Marine Park that pollute water in a manner harmful to animals and plants in the Park.

The Authority interacts extensively with the fishing and tourism industries. Environmental impact assessment, the issuing of permits, and monitoring, compliance and enforcement are core activities. Species conservation, water quality protection and the monitoring of emerging threats such as coastal development and climate change also fall within the Park management role. The Authority relies predominantly on networks and partnerships with research providers to deliver scientific research and monitoring relevant to the Great Barrier Reef. The education, information and advisory role includes the management of the Reef HQ Aquarium in Townsville, as well as the provision of information services and programmes.

Role of the Minister for the Environment and Heritage

The Authority is part of the Environment and Heritage Portfolio. As such, the Federal Minister for the Environment and Heritage has overall responsibility for the Authority. However, as a statutory authority established by legislation, the Authority has a degree of independence from the Minister. More specifically, the Minister's powers in relation to the Authority are set out in the *Great Barrier Reef Marine Park Act 1975* and are as follows:

- giving general directions to the Authority. The Authority must comply with these directions (s. 7(2))
- advising the Governor-General on the appointment, resignation and termination of Authority members (s. 10(2), s. 11, ss. 4–16)
- appointment and termination of members of the Consultative Committee (s. 22(1) and s. 27)
- advising the Governor-General on the proclamation of areas of the Marine Park (s. 31)
- approval and tabling of zoning plans (s. 33)
- ordering restoration of the environment where damage has been caused by an offence under the Act (s. 61B)
- advising the Governor-General on the making of Regulations, including in relation to activities in areas external to the Marine Park, where the activity impacts upon the Park (s. 66)
- approval of any expenditure exceeding \$150 000 and the entering into of leases by the Authority of more than 10 years duration (s. 56 and r. 207).

Role and jurisdiction of Queensland

The role of Queensland in the operation, management and regulation of the Great Barrier Reef flows from several key sources: the *Great Barrier Reef Marine Park Act 1975*; the 1979 Emerald Agreement; the 1979 and 1995 Offshore Constitutional Settlements and the associated *Seas and Submerged Lands Act 1973*, *Coastal Waters (State Title) Act 1980*, *Coastal Waters (State Powers) Act 1980* and *Fisheries Management Act 1991*.

The *Great Barrier Reef Marine Park Act 1975* provides clear references to the role and functions of Queensland in relation to the role of the Authority, the management of the Marine Park and jurisdictional complexities. The Act, for example, provides the Authority with the power to perform any of its functions in cooperation with the Queensland Government or any of the Queensland Government's agencies (s. 8 (3)). The Act also provides for the Authority to make arrangements for other Australian Government officers and/or Queensland Government officers or employees to act on its behalf (s. 42).

Under the 1979 Offshore Constitutional Settlement and related coastal waters legislation, title to Australia's territorial sea to a distance of three nautical miles from the shoreline (more specifically, the 'baseline') was provided to the States. Consequently, the Marine Park lies within both Commonwealth and Queensland waters. Under the *Coastal Waters (State Powers) Act 1980* (s. 4(3)), however, Queensland's rights over its coastal waters are subject to the operation of the *Great Barrier Reef Marine Park Act 1975*. As a result, the Commonwealth has jurisdiction to regulate, through the *Great Barrier Reef Marine Park Act 1975*, in relation to all waters within the Great Barrier Reef Region, which extends to the low water mark.

A later Offshore Constitutional Settlement entered into in 1995 provides for fisheries adjacent to the Queensland coast to be managed by a single set of laws under the provisions of Division 3 of the *Fisheries Management Act 1991* (Qld). Under these arrangements, Queensland is responsible for the management of fisheries in the waters adjacent to the Queensland coast, except for the area of the Coral Sea Fishery, which is managed by the Australian Government. Consequently, Queensland has management responsibility for fisheries within the Marine Park.

A Queensland State Marine Park (the Great Barrier Reef Coast Marine Park), created under the *Marine Parks Act 1982* (Qld), covers the area in between the low and high water marks, as well as many areas within bays and inlets. Queensland has also declared many of its islands in the Great Barrier Reef to be national parks. These complex boundary and responsibility issues are discussed further in Chapter 5.

Queensland's role in day-to-day management, as established by the 1979 Emerald Agreement, was delineated in agreements signed in 1980 and 1988. These agreements include provisions that:

- The Queensland Government will determine which of its instrumentalities will undertake day-to-day management.
- The Queensland Government will develop operational procedures for day-to-day management and these procedures will be approved by the Authority.
- A Three-year Rolling Programme will be jointly developed and approved annually by the Authority and endorsed by the Ministerial Council.
- An Annual Programme of expenditure will be developed by the Queensland Government on the basis of the Three-Year Rolling Programme, approved by the Authority and submitted to each government in the context of their budgets.

The Annual Programme provides the basis of funding the day-to-day management activities. The Australian and Queensland governments fund day-to-day management on a 50/50 basis.

The Ministerial Council

The 1979 Emerald Agreement (Appendix E) makes provision for a Great Barrier Reef Ministerial Council. The Council comprises four Ministers, two from the Australian Government and two from the State government. Ministers must represent environment, tourism, marine parks or science and may not be responsible for mining.

The role of the Council, as detailed in the Emerald Agreement, includes agreeing arrangements for day-to-day management, approving recommendations for the proclamation of areas as part of the Marine Park and endorsing and overseeing implementation of a programme of scientific research.

The Ministerial Council held 32 meetings between 1979 and 2005. The Council met more frequently during the first 10 years when there were many operational policy issues to be resolved in declaring the first sections of the Park. The frequency of meetings has thus varied considerably over the 26-year period, with one year when there were four meetings and four years in which there were no meetings.

The Ministerial Council's prime focus over the years has been agreeing on the declaration of the various sections of the Marine Park, agreeing arrangements for day-to-day management, approving the Annual Business Plan and Three-Year Rolling Programme for day-to-day management. The Council has also considered policy issues associated with land management, marine park zoning, offshore developments, crown-of-thorns starfish and oil spills. Water quality and fisheries management (East Coast Otter Trawl Fishery and dugong protection) emerged as issues for the Council from around 1993.

A separate Memorandum of Understanding was signed by the Prime Minister and the Queensland Premier in 2002 for the development of a *Reef Water Quality Protection Plan*. The Plan was released in 2003. The Great Barrier Reef Ministerial Council is responsible for oversight of the joint implementation of the 65 actions agreed under the Plan.

Planning and reporting framework

The Authority's planning and reporting framework for key accountability documents is presented in the following table.

Table 5: Great Barrier Reef Marine Park Authority planning and reporting framework

Document	Authority	Approval
World Heritage Periodic Reporting	World Heritage Convention	Australian Government, UNESCO
25 Year Strategic Plan for the Great Barrier Reef World Heritage Area		Australian and Queensland governments
Corporate Plan	<i>Commonwealth Authorities and Companies Act 1997</i>	Board
Annual Strategic Work Programme	Corporate Plan	Board
Three-Year Rolling Programme for Day-to-Day Management	Basis of agreement between the Australian and Queensland governments for day-to-day management	Board Ministerial Council
Annual Business Plan for Day-to-Day Management	Basis of agreement between the Australian and Queensland governments for day-to-day management	Board Ministers
Annual Report	<i>Commonwealth Authorities and Companies Act 1997</i>	Chairperson

Reviews

A number of reviews of various aspects of the Authority's business have been conducted over the years:

- Whitehouse J.F. 1993, *Managing Multiple Use in the Coastal Zone: A Review of the Great Barrier Reef Marine Park Authority*, Australian Government Publishing Service, Canberra.
- Owen S. and Hansen G. 1994, *Review of the Environmental Management Charge*, Great Barrier Reef Marine Park Authority, Townsville.
- Brown R. 1997, *Independent Review of the Great Barrier Reef Marine Park Authority: Report Submitted to the Hon. Senator Robert Hill, Minister for the Environment*, R. Brown and Associates, Brisbane.
- Tourism Review Steering Committee 1997, *Review of the Marine Tourism Industry in the Great Barrier Reef World Heritage Area*, Great Barrier Reef Marine Park Authority, Townsville.
- Australian National Audit Office 1988, *Commonwealth Management of the Great Barrier Reef*, The Auditor-General Audit Report No. 33 1998, Australian National Audit Office, Canberra.
- Sturgess G.L. 1999, *The Great Barrier Reef Partnership: Cooperation in the Management of a World Heritage Area; A Report into the Review of the Relationships of the Commonwealth and Queensland Governments in Respect of the Great Barrier Reef*, Queensland Government, Brisbane.
- Productivity Commission 2003, *Industries, Land Use and Water Quality in the Great Barrier Reef Catchment*, Canberra.
- Dalton V. 2003, *Day-to-Day Management Review*, Great Barrier Reef Marine Park Authority, Townsville.
- Australian National Audit Office (ANAO) 2003, *Commonwealth Management of the Great Barrier Reef Follow-up Audit*, The Auditor-General Audit Report No. 8 2003–04, Australian National Audit Office, Canberra.
- Futureye Pty Ltd, Teh-White K., Houston S., Baxter C., Levine J. and White P. 2005, *Great Barrier Reef Marine Park Authority: Enhanced Community Partnerships*, Futureye Pty Ltd, Melbourne.

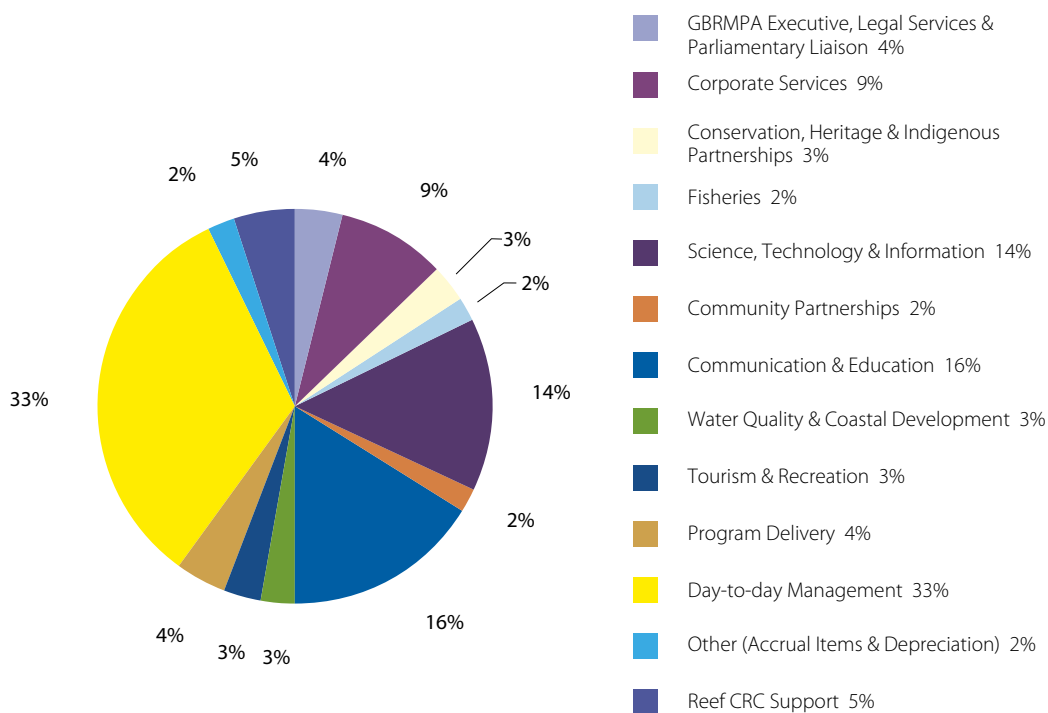
4.3 The Authority's budget

The Authority's budget for the 2005–06 financial year is \$38.1 million. This comprises a departmental appropriation of \$15.4 million and a special appropriation of \$7.4 million reflecting anticipated revenue from the Environmental Management Charge (see section 4.1). Of the total, \$4.8 million is provided by Queensland as their 50 per cent contribution to day-to-day management. Revenue from the Reef HQ Aquarium is \$2.6 million, equivalent to 85 per cent cost recovery. In 2005–06, there also is \$8 million in grant funding from the Natural Heritage Trust for education and enforcement of the *Great Barrier Reef Marine Park Zoning Plan 2003*, monitoring of the *Reef Water Quality Protection Plan* and control of the crown-of-thorns starfish. This Natural Heritage Trust funding is part of a total of \$21.4 million over three years, with the last year of funding being 2006–07. In addition there is \$0.4 million in 2005–06 from a climate change programme funding of \$1.3 million over four years with the last year of funding being 2007–08.

Figure 2 provides an overview of the Authority's expenditure by administrative function for 2005–06.

In addition to expenditure by the Authority, funding for research relevant to the Great Barrier Reef is available through the Commonwealth Marine and Tropical Sciences Research Facility. This facility will make \$40 million available over a five-year period from 2005 to support environmental public policy research related to the Great Barrier Reef and its catchments, tropical rainforests including the Wet Tropics World Heritage Area and the Torres Strait.

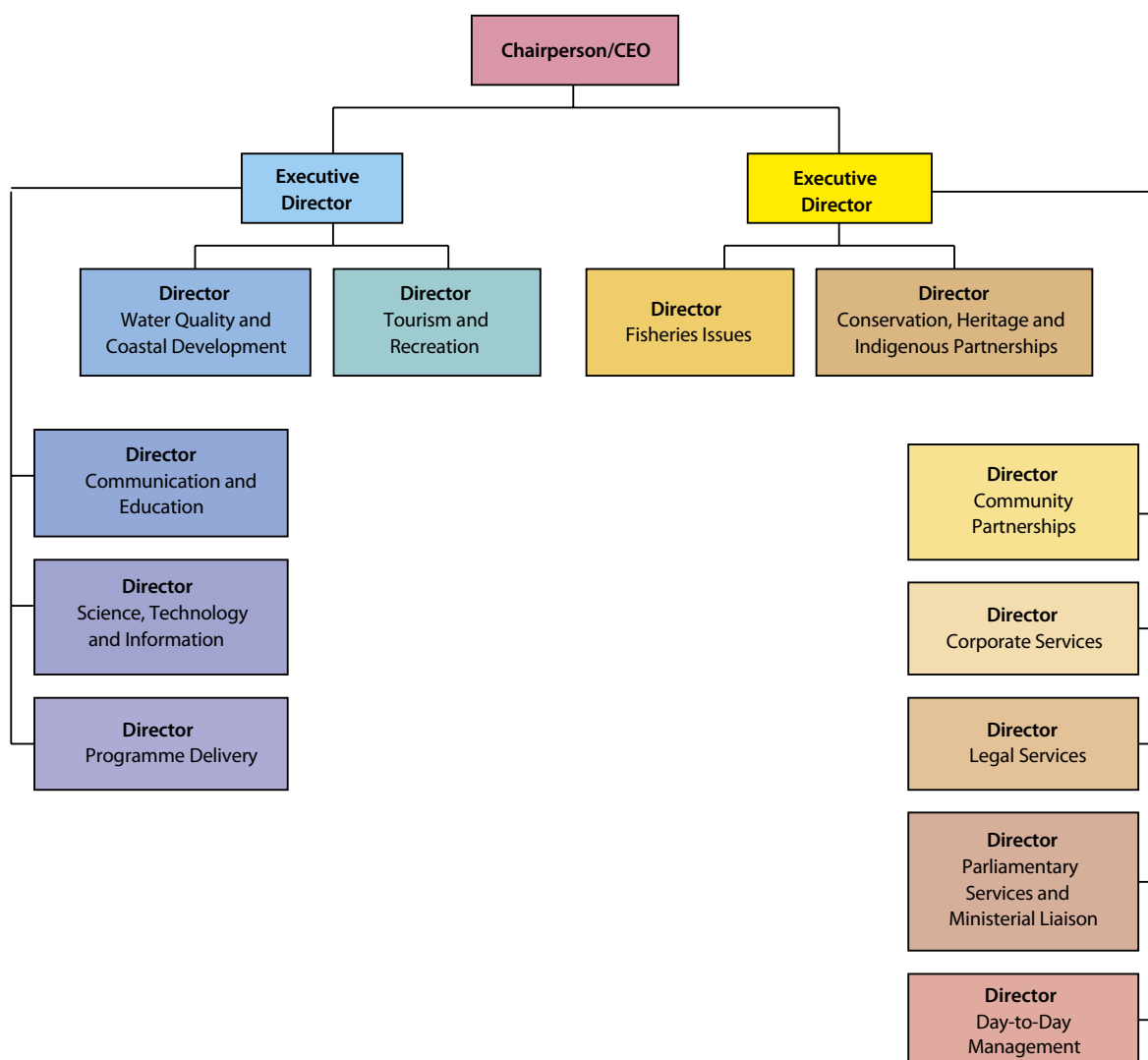
Figure 2: Great Barrier Reef Marine Park Authority expenditure by administrative section (Budget 2005–06)



4.4 The structure of the Authority

The Authority's structure, in part, reflects the organisation's response to the recommendations of the performance audit by the Australian National Audit Office (1998). Additional changes occurred following the commencement in mid-2004 of the *Great Barrier Reef Marine Park Zoning Plan 2003*. The Executive, comprising the Chairperson/Chief Executive Officer and two Executive Directors, manages an organisational structure focused on four critical issue groups (Water Quality and Coastal Development; Conservation, Heritage and Indigenous Partnerships; Fisheries; and Tourism and Recreation), with support services provided by science/information, education, programme delivery, community partnerships, corporate services, day-to-day management and executive functions (Figure 3). In addition to the main office in Townsville, the Authority has regional offices in Cairns, Mackay and Rockhampton, as well as two staff located in Canberra. An outline of these areas and activities is given below.

Figure 3: Great Barrier Reef Marine Park Authority organisational structure



Executive Group

(13 staff;¹² budget \$1.7 million)

The Executive Group comprises the executive management of the Authority, namely the Chairperson/Chief Executive Officer, the two Executive Directors, and the Legal Services and Parliamentary Services and Ministerial Liaison units. The staff of this group support the executive management of the Authority through strategic planning, agency coordination and resource allocation, as well as legal and parliamentary services. Litigation cases and legislative amendments range from 10 to 20 per annum and the group handles between 250 and 600 ministerial matters (letters, briefings and submissions) each year.

Water Quality and Coastal Development Group

(10 staff; budget \$1 million)

The Water Quality and Coastal Development Group works in partnership with all levels of government, industry and the community to address the problem of declining water quality affecting the Great Barrier Reef. The Group defines the approaches and standards for the management of activities affecting water quality in the Marine Park. The Group also seeks to influence actions affecting water quality taken outside the Marine Park. The Group is involved in the implementation and monitoring of actions under the *Reef Water Quality Protection Plan*. The Group's recent work has included new load-based and boat-based licensing arrangements for sewage discharges. The Group coordinates the Authority's response for *Environment Protection and Biodiversity Conservation Act 1999* assessments and activities referred under Queensland's *Integrated Planning Act 1997*. It is also responsible for shipping incident response processes and is involved in developing the Reef Guardian Councils programme to enhance community stewardship of the Great Barrier Reef.

Tourism and Recreation Group

(8 staff; budget \$1 million, includes \$0.3 million from the Natural Heritage Trust)

The Tourism and Recreation Group's role is to ensure the sustainability of tourism and recreation occurring in the Marine Park. Activities include developing, monitoring and evaluating effective management arrangements and systems to promote strong partnerships between the tourism industry, recreational bodies and government. Responsibilities include the High Standard Tourism and Responsible Reef Practices programmes, and development of an allocation process for high use areas within the Marine Park. The Group has recently streamlined processing arrangements through a voluntary Vessel Identification Number system, a standard permit system for cruise ships and 26 designated anchorages for cruise ships.

Fisheries Issues Group

(6 staff; budget \$0.6 million)

The Group works with Queensland fisheries managers, the Australian Government Department of the Environment and Heritage and other stakeholders in achieving both the protection of the Marine Park and ecologically sustainable fisheries within the Marine Park that minimise the environmental impacts of fishing.

This work arises from the role of the Authority as ecosystem manager in a multiple use Marine Park. Under the Act, the Authority is required to develop zoning plans, and in the preparation of such plans is required to have regard to objectives including 'regulation to protect the Great Barrier Reef whilst allowing

¹² 2005–06 full-time equivalent

reasonable use' and 'regulation of activities that exploit the resources of the Great Barrier Reef Region so as to minimise the effect of those activities on the Great Barrier Reef' (s. 32 (7)(b) &(c)). Commercial and recreational fishing are activities that fall within this requirement. Fishing impacts on the Marine Park are monitored at the ecosystem level, from a biodiversity and habitat perspective and in relation to impacts on target, non-target and threatened species. Consideration of these impacts also intersects with issues associated with the ecological sustainability of individual fisheries and requires close interaction with fisheries managers and commercial and recreational fishers.

The Group, in conjunction with Queensland fisheries managers, the Australian Government Department of the Environment and Heritage and other stakeholders, undertakes and facilitates:

- consultation and negotiation, at many levels, through advisory committees to improve fisheries management arrangements
- identification, quantification and mitigation of the ecological impacts of fishing
- research into environmentally friendly fishing practices
- stock assessments of target and by-product species and risk assessments for by-catch species.

Conservation, Heritage and Indigenous Partnerships Group (9 staff; budget \$1 million)

The Conservation, Heritage and Indigenous Partnerships Group develops and implements initiatives for the protection of threatened species and the Great Barrier Reef World Heritage Area. Activities include the identification of species that are 'at risk' and the implementation of appropriate management responses. The Group is also responsible for heritage matters, as well as meeting the requirements of the World Heritage Convention and other international conventions. The first Periodic Report for the Asia-Pacific Region, including the Great Barrier Reef World Heritage Area, was completed and approved by the World Heritage Committee in June 2003. The Group also fosters the Authority's partnership arrangements with Aboriginal and Torres Strait Islander groups. For example, the first Traditional Use of Marine Resources Agreement, which is a cooperative approach developed in conjunction with Traditional Owners for sea country management, was signed in 2005. Relationships are also being progressed through Traditional Owner involvement in tourism and its management, and sea country research and education.

Communication and Education Group

(39 staff, 21 for Reef HQ Aquarium; budget \$6 million, includes \$2 million from the Natural Heritage Trust)

The Communication and Education Group services the wider communication needs of the Authority, including communications, media relations and education needs, and is responsible for the Reef HQ Aquarium. The Group produces all communication tools for the Authority and develops and implements educational campaigns and resources to raise awareness of the values of the World Heritage Area. The Group operates a readily accessible onshore reef experience and interpretive centre through the Reef HQ Aquarium. This involves 21 of the 39 staff of the Group. Income from the Reef HQ Aquarium raises around \$2.6 million per annum. The Group provided support to the Marine Park rezoning and communication on the *Reef Water Quality Protection Plan* and Monitoring Programme. The Group also developed the Reef Guardian Schools programme.

Science, Technology and Information Group

(32 staff; budget \$7.1 million includes \$2.4 million from the Natural Heritage Trust, \$0.4 million climate change funds and \$1.9 million payment to the CRC Reef)

The Science, Technology and Information Group's function is the application of science, technology and information to policies, decisions and education programmes. The Group coordinates cross-agency and inter-agency interaction on monitoring programmes, coordinates research, information and technological needs of the Authority, ensures the integration of research findings into Marine Park management and reports on the condition of the Marine Park. The Group works closely with 18 key research partners. The Group has established the Marine Monitoring Programme to monitor the effectiveness of the *Reef Water Quality Protection Plan* and has established a collaborative project with the Australian Greenhouse Office to prepare a Climate Change Action Plan for the Great Barrier Reef. The Group has an expert Spatial Data Centre that provides analytical and information systems, including global information systems, research, compliance and Environmental Management Charge databases. The Group also produced a wide range of mapping products to communicate the *Great Barrier Reef Marine Park Zoning Plan 2003* to users (maps, boat ramp signs, and electronic products for global positioning systems).

Programme Delivery Group

(24 staff; budget \$1.7 million)

The Programme Delivery Group undertakes all environmental impact management matters, including permits and notifications required by the 2003 Zoning Plan, as well as the development of plans of management and other site management arrangements. The environmental impact management tasks include major developments that involve works or structures in the Marine Park as well as a range of lower risk activities. The Group is responsible for the management of the 21 Commonwealth islands within the Marine Park and associated Commonwealth property. The Group has developed statutory plans of management for the Whitsundays, Cairns, Hinchinbrook and Shoalwater Bay areas. The Group manages the joint permit arrangements for the Marine Park and adjacent Queensland marine park, and is responsible for relevant activities under the *Environment Protection (Sea Dumping) Act 1981* and the *Sea Installations Act 1987*.

Community Partnerships Group

(11 staff; budget \$0.8 million)

The Community Partnerships Group is responsible for assisting the Authority to engage with communities along the Great Barrier Reef coast through the development and coordination of strategies, systems and programmes for best practice community engagement. The group was established to further develop the level of stakeholder engagement associated with the Marine Park rezoning. The Group facilitates a range of stakeholder engagement activities including hundreds of formal meetings each year, manages the Local Marine Advisory Committees and works with schools on the Reef Guardian Schools programme. The group has eight liaison officers based in Cairns, Townsville, Mackay and Rockhampton who work in the Cape York, Far Northern, Northern, Central and Southern Regions.

Day-To-Day Management Programme

(88 staff, 80 from Queensland Parks and Wildlife Service; budget \$13 million, includes \$3.3 million from the Natural Heritage Trust)

The Day-To-Day Management Programme is jointly funded by the Australian and Queensland governments. The programme provides field management for the Great Barrier Reef Marine Park, Queensland's Great Barrier Reef Coast Marine Park and Queensland island national parks.

The programme currently funds 78 Queensland Parks and Wildlife Service field-based staff and 10 staff (eight Authority and two Queensland Parks and Wildlife Service) within the Day-To-Day Management Programme Coordination Unit. This Unit coordinates the multi-agency compliance programme. This entails managing vessel patrol services provided by the Queensland Boating and Fisheries Patrol and Queensland Water Police, as well as activities of Coastwatch, the Customs National Marine Unit and the Australian Federal Police. Reports of compliance offences have varied in level, with peaks of 420 in 2000–01 and 499 in 2004–05. Three-year Natural Heritage Trust funding has provided a further 10 compliance staff on contract until mid-2007.

The priority activities of the Day-to-Day Management Programme are:

- ensuring compliance with the *Great Barrier Reef Marine Park Act 1975*, the *Queensland Marine Parks Act 1982* and *Nature Conservation Act 1992*, and subordinate Regulations related to line and trawl fisheries, dugong protection, the 2003 Zoning Plan, and especially the highly protected zones and emerging compliance issues to prevent serious environmental harm
- undertaking protection works and activities directly related to vulnerable species and their habitat
- providing visitor facilities, natural and cultural resource protection
- providing information services and permit management
- undertaking priority island and marine natural and cultural resource monitoring and management projects
- implementing Indigenous co-management programmes.

Corporate Services Group

(24 staff; budget \$4.2 million, includes \$0.9 million for accrual items and depreciation)

The Corporate Services Group provides support services for the Authority, including finance, human resource, secretariat and office services. The Group administers the collection of the Environmental Management Charge and ensures that the Authority meets its requirements under the *Commonwealth Authorities and Companies Act 1997*, the *Public Service Act 1999* and other relevant financial and human resource management legislation.

5. Operating environment

5 Operating environment

5.1 Overview of the operating environment

Management of the Great Barrier Reef takes place within a complex regulatory and policy environment, involving a range of national and State legislation and policy measures, formal and informal inter- and intra-governmental agreements and international conventions. This section examines these complex arrangements and their implications for management of the Great Barrier Reef.

The management of the Great Barrier Reef Marine Park is governed directly by the *Great Barrier Reef Marine Park Act 1975*. Additionally, there are around 20 key pieces of Commonwealth and State legislation and eight international conventions applicable (see Appendix F). Management of the Marine Park requires the Authority to interact with around 20 other Australian and Queensland government agencies (see Appendix G).

The maritime boundaries applied in Commonwealth and State legislation are defined under the United Nations Convention on the Law of the Sea 1982 and agreed with the States and Territories under the 1979 Offshore Constitutional Settlement. The application of these boundaries for different purposes in various Acts results in a range of overlaps, gaps and inconsistencies in the legislative framework. For example, construction of a tourist facility and marina on a Queensland island may require development approval from the Queensland Government, a permit from the Authority and an approval under the *Environment Protection and Biodiversity Conservation Act 1999* if the development is likely to have a significant impact on the World Heritage Area.

A further layer to the Marine Park operating environment is imposed by a broad range of national and international policy issues and programmes that intersect with regulation and management of the Marine Park. The key policy areas relevant to the Marine Park are those that relate to the major pressures facing the Great Barrier Reef. These include environment protection, biodiversity conservation, Australia's Oceans Policy, fisheries management, natural resource management (including the Natural Heritage Trust, the *National Action Plan for Salinity and Water Quality* and the *Reef Water Quality Protection Plan*), coastal development (including the *Framework for a National Cooperative Approach to Integrated Coastal Zone Management* (NRMCC 2003)) and climate change. Other policy areas of relevance include customs, maritime safety, Indigenous affairs, resources and energy. To ensure consistency of approach in the application at both a national and Marine Park management level, it is important that jurisdictional and agency responsibilities remain clear.

As noted above, management of the Marine Park is also subject to the jurisdiction of the Great Barrier Reef Ministerial Council. The Council has its basis in the Emerald Agreement of 1979 and is designed to facilitate cooperative management of the Great Barrier Reef.

5.2 Policy environment

International policy environment for the protection of the coastal and marine environments

In the 30 years since the initial establishment of the *Great Barrier Reef Marine Park Act 1975* there has been much international debate on the level of protection of the coastal and marine environment. Australia has participated in this debate and has become a party to a range of international agreements and conventions during this period.

The 1988 IUCN (World Conservation Union) General Assembly in Costa Rica recommended establishing a representative system of Marine Protected Areas to provide for the protection, restoration, wise use, understanding and enjoyment of the marine heritage of the world in perpetuity. This approach was supported by the World Parks Congress in 1992 and 2003. In 1998, there was a 'call to action' by some 1 600 scientists for an increase in the number and effectiveness of Marine Protected Areas with an aspirational goal of 20 per cent of Exclusive Economic Zones and the high seas being protected by 2020. The United Nations Year of the Ocean in 1998 provided an international focus for the issue.

The 2002 World Summit on Sustainable Development emphasised the need to maintain productivity and biodiversity of important marine and coastal areas and proposed dates of:

- 2010 for the application of an ecosystem approach to ocean and fisheries management
- 2012 for the establishment of representative Marine Protected Area networks based on scientific information and consistent with international law
- 2015 for the restoration of depleted fish stocks.

National oceans and fisheries policy

The Australian Government released Australia's Oceans Policy in 1998. Its broad vision is 'Healthy oceans: cared for, understood and used wisely for the benefit of all, now and in the future'. The Policy provides for the ecologically sustainable development of the resources of Australia's oceans and the encouragement of internationally competitive marine industries, while ensuring the protection of marine biological diversity. The Policy sets in place a framework for ecosystem-based management of Australia's marine areas, and in particular, commits the Australian Government to the establishment of a national representative system of Marine Protected Areas.

At the 2002 World Summit on Sustainable Development in Johannesburg the Australian Government gave a commitment to establish a national representative system of Marine Protected Areas by 2012. Implementation of this commitment is being progressed in consultation with the States and Territories. A key objective of this process is to provide for the continuation of activities that are compatible with Marine Protected Area objectives.

Commonwealth fisheries are managed under the *Fisheries Management Act 1991* and the *Fisheries Administration Act 1991*. The objectives of these Acts are to manage fisheries on an ecologically sustainable basis and maximise the net economic returns to the Australian community from the management of those fisheries. Over the last decade, however, many Australian fisheries have been in decline. A Bureau of Rural Sciences (2004) report on the status of fish stocks managed by the Australian Government showed that 23 per cent of fish stocks are now over-fished and 54 per cent have uncertain status due to insufficient data availability.

In December 2005 the Australian Government released proposals for an extensive network of Marine Protected Areas covering 171 000 square kilometres of Commonwealth waters in the south-east of Australia off Tasmania, Victoria, eastern South Australia and far southern New South Wales. These proposals have been integrated with the government's \$220 million package, *Securing Our Fishing Future* (Australian Government 2005), to address over-fishing in Commonwealth managed fisheries. This package will provide financial assistance to deliver structural adjustment through reduction in fishing effort and the implementation of the Marine Protected Areas. The boundaries of the Marine Protected Areas in the South-East Marine Region are expected to be finalised in 2006, following public consultation.

Among Commonwealth Marine Protected Areas, the Great Barrier Reef Marine Park is the oldest, largest, most visited and most actively managed. Its management is ecosystem-based and provides for multiple use. It lies in both Commonwealth and State waters, but responsibility for the management of the 17 commercial fisheries within the Park rests with Queensland. As policy on Regional Marine Planning and Marine Protected Areas evolves, the implications for the Marine Park will need to be considered, especially in regard to Australian Government and State policy on fisheries management and structural adjustment.

Natural resource management

The Natural Heritage Trust and the *National Action Plan for Salinity and Water Quality* are the Australian Government's major programmes for natural resource management. Delivery of the Natural Heritage Trust and the *National Action Plan* is integrated and occurs on a regional basis in partnership with all levels of government and the community.

The Natural Resource Management Ministerial Council coordinates national approaches to natural resource management. It is supported by a Standing Committee and a number of advisory boards. A Marine and Coastal Committee advises the Standing Committee on issues of national significance relating to the conservation and ecologically sustainable development of marine and coastal ecosystems and resources.

Natural resource management in catchment areas adjacent to the Great Barrier Reef can have significant impacts on the Marine Park. The major issues are water quality and habitat protection, in particular, estuarine breeding grounds and wetlands. Pollutant discharges and run-off into the waters of the Great Barrier Reef pose a significant threat to biodiversity and can impact on the resilience of coral colonies and the health of marine ecosystems such as sea grasses, which are the main food source for dugong.

Recently, a major step to address natural resource management issues in catchments adjacent to the Great Barrier Reef was taken with the development of the *Reef Water Quality Protection Plan* in 2003. This Plan seeks to halt and reverse the serious decline in water quality entering the Great Barrier Reef over the next decade. The Plan contains over 60 agreed actions. Implementation is supported by the Natural Heritage Trust and *National Action Plan for Salinity and Water Quality* initiatives. The Prime Minister and the Queensland Premier oversee the implementation of the *Reef Water Quality Protection Plan* through the Great Barrier Reef Ministerial Council.

Coastal development

The 'sea change' phenomenon is a growing pressure on the coastal environment around Australia, including the coast adjacent to the Great Barrier Reef. In October 2003, Australian and State and Territory governments endorsed the *Framework for a National Cooperative Approach to Integrated Coastal Zone Management* (NRMCC 2003) in response to this increasing pressure. Priorities for the framework are:

- integration across the catchment-coast-sea continuum
- land- and marine-based sources of pollution
- impacts and opportunities of climate change and sea level rise
- pest plants and animals
- planning for population change
- knowledge, capacity building and access to information.

Climate change

Climate change presents one of the biggest future threats to the Great Barrier Reef ecosystem (IPCC 2001) and consequently to the social and economic welfare of the region. The Australian Government announced a comprehensive climate change strategy in 2004 (DEH 2005), supported by funding of \$1.8 billion, through which it is working to both reduce Australia's greenhouse gas emissions and build an effective global response to climate change.

The extent and effectiveness of the international response to climate change will be a major factor in the long-term survival of the Great Barrier Reef ecosystem. The World Parks Congress held in Durban in 2003, in its recommendations on a global system of Marine Protected Area networks (IUCN 2003), recognised that climate-related global threats cannot be addressed by conventional management measures alone.

Understanding the environmental, social and economic impacts of climate change, and how to improve the resilience of the Great Barrier Reef to such impacts, will be of critical importance in shaping both the management of the Marine Park and the whole-of-government approach to adaptation across the coast and catchment area. Chapter 7 provides further details on the pressure on the Great Barrier Reef presented by climate change.

5.3 Regulatory framework

A wide range of Australian and Queensland government regulatory and policy measures apply to activities affecting the Great Barrier Reef, both within and external to the Marine Park. In broad terms, these measures fall into the following categories:

- marine parks management
- environment protection and biodiversity conservation
- heritage management
- pollution and water quality controls
- fisheries management.

The application of these measures in particular geographical areas is complicated by the somewhat unusual jurisdictional boundaries and division of responsibilities applying to the Great Barrier Reef. These arrangements are summarised below and illustrated in Map 8 and Figure 4.

Marine parks management

The establishment of the Great Barrier Reef Marine Park, under the *Great Barrier Reef Marine Park Act 1975*, is the primary mechanism for achieving the protection and wise use of the Great Barrier Reef. The Marine Park lies within both Commonwealth and Queensland waters (see Chapter 4.2) up to the low water mark. A Queensland marine park, the Great Barrier Reef Coast Marine Park, covers the area in between the low and high water marks, as well as many areas within bays and inlets. Queensland has also established national parks in relation to many Queensland islands within the Great Barrier Reef. The Commonwealth and State parks are regulated and managed cooperatively.

Marine parks legislation provides an administrative and legal structure for managing sensitive areas of the marine environment. The two main instruments provided under the *Great Barrier Reef Marine Park Act 1975* are Zoning Plans (s. 32) and Plans of Management (Part VB s. 39).

Zoning Plans establish the management objectives and activities permitted in particular areas of the Park. The Act requires that 'as soon as practicable after an area has been declared to be part of the Marine Park, the Authority shall prepare a zoning plan in respect of the area'.

Map 8: Great Barrier Reef regulatory and management environment

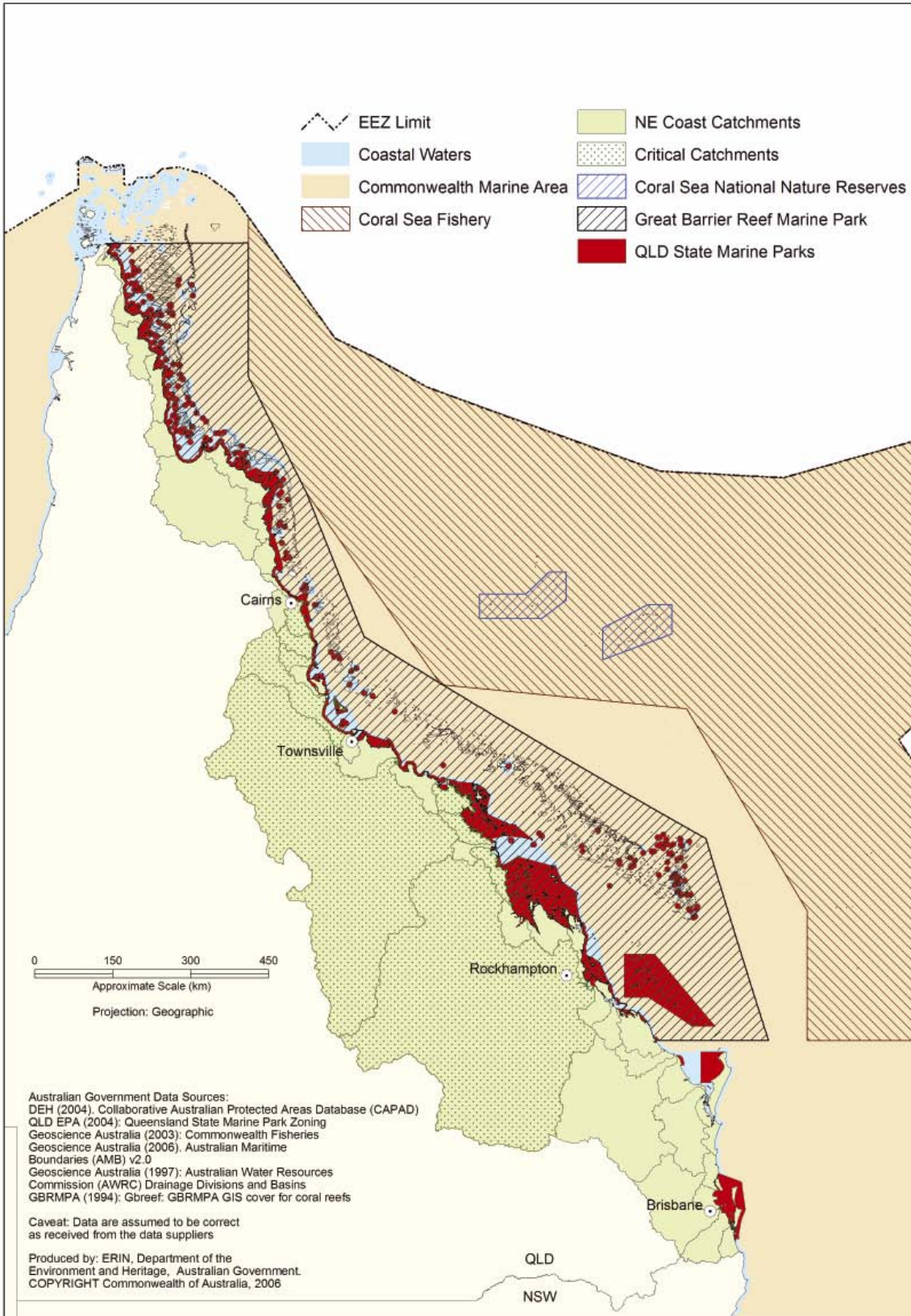
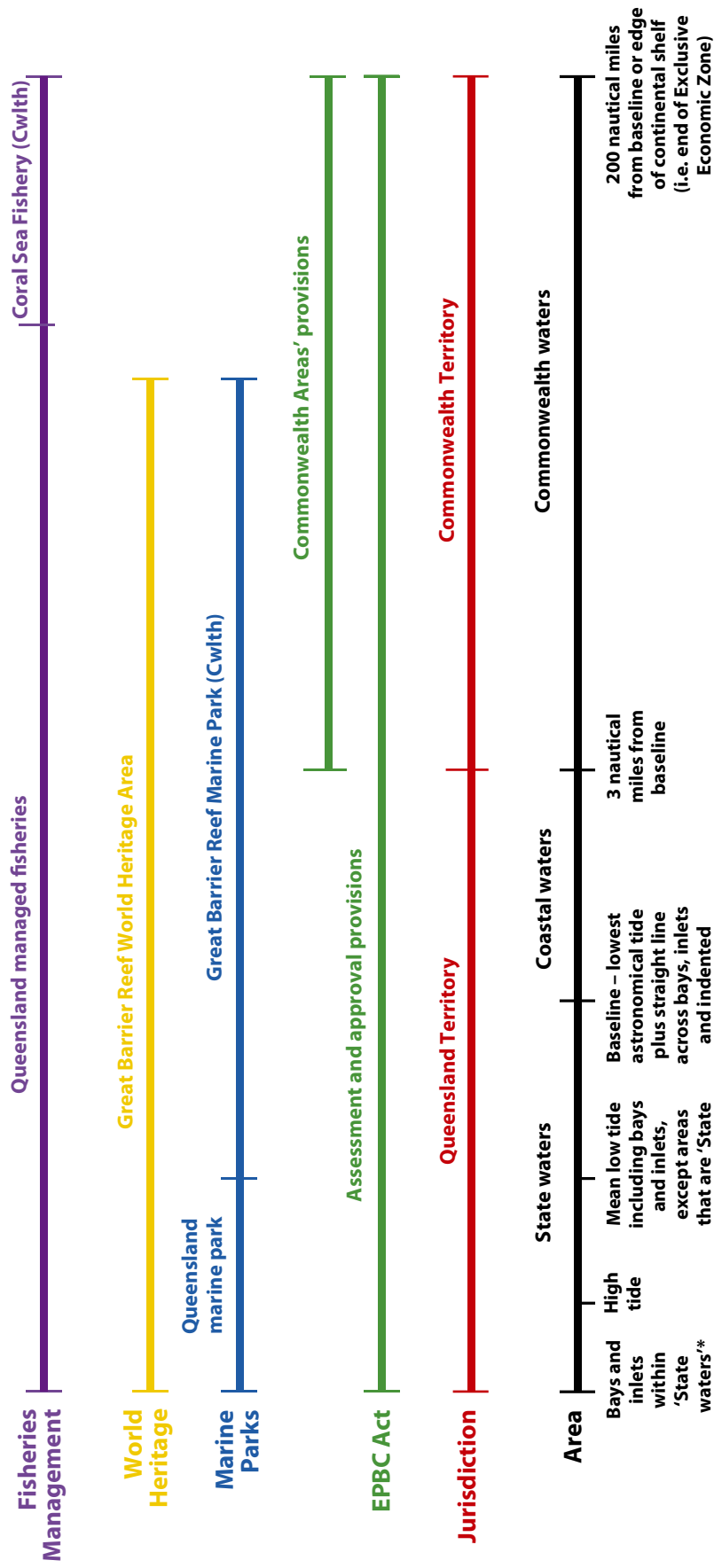


Figure 4: Great Barrier Reef jurisdictional boundaries and regulatory responsibilities



* 'State waters' refers to areas asserted to be waters within state limits for the purposes of s. 14 of the *Seas and Submerged Lands Act 1973*.

In preparing zoning plans, the Authority must have regard to the objects specified in s. 32(7)(a)–(e), which include conservation, allowing reasonable use, minimising the effect of activities that exploit resources, reserving areas for appreciation and enjoyment and preservation of areas in a natural undisturbed state. The 2003 Zoning Plan, which implemented the Representative Areas Programme, came into effect on 1 July 2004. Chapter 6 discusses the Representative Areas Programme in greater detail.

Plans of Management are directed at reducing threats to the Marine Park, facilitating the recovery of threatened species, managing areas of high use and/or value and other similar outcomes. Their objectives are given in s. 39(Y)(a)–(f) and are to ensure:

- that where the nature conservation values, cultural and heritage values and scientific values of a particular area are, or may be, threatened proposals are developed to reduce or eliminate the threats
- that there is adequate management for the recovery, protection and conservation of species and ecological communities that are vulnerable, endangered or may become extinct
- that activities within the Marine Park are managed on the basis of ecologically sustainable use
- that there is appropriate management of use of a particular area where that use may conflict with other uses of the values of the area
- that there is cooperative management of areas of special interest to particular community groups
- that people are able to use the Marine Park to participate in a range of recreational activities.

There are currently four detailed Plans of Management in place within the Marine Park. These Plans relate to the Cairns, Hinchinbrook, Shoalwater Bay and Whitsunday areas.

There are also 10 Site Management arrangements in place: two in the Far Northern Management Area, two in the Cairns/Cooktown Management Area, three in the Townsville/Whitsunday Management Area and three in the Mackay/Capricorn Management Area. These Site Management plans are localised plans for use of particular sites. They identify significant values of the specific site and describe the management arrangements applying.

The *Great Barrier Reef Marine Park Act 1975* and the 2003 Zoning Plan specify permit requirements, charges and offences. Certain activities within the Marine Park require approval in order to manage their impacts, for example waste discharges, the installation and operation of structures and most commercial activities.

Environment protection and biodiversity conservation

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's primary legislation for environment and heritage management and protection. It reflects the outcomes of an agreement between Federal, State and local governments on roles and responsibilities for the environment. The Act replaced a number of Acts related to environmental impact assessment, endangered species protection, protected areas and heritage management.

The application of the EPBC Act to areas of the Great Barrier Reef is somewhat complicated as some of its provisions apply only to areas that fall within the jurisdiction of the Australian Government (Commonwealth Areas), whereas other provisions regulate issues regardless of where, geographically, they occur. The EPBC Act can thus apply to activities that occur within the Marine Park or to those that transcend Park boundaries. The *Great Barrier Reef Marine Park Act 1975* predates the EPBC Act and there are both gaps and overlaps in their approach and coverage, particularly due to boundary definitions. This has resulted in some inconsistencies, duplicate processes and a lack of clarity of responsibilities in some areas (Figure 4, above).

EPBC Act provisions applying within Commonwealth Areas include offences and permit requirements related to protected species. In addition there are assessment and approval requirements for activities with significant environmental impacts undertaken within Commonwealth land or waters. These

EPBC Act provisions apply to Commonwealth islands and those parts of the Marine Park that are beyond Queensland coastal waters (Map 8 and Figure 4, above), that is, beyond three nautical miles of the low water mark (or more accurately, the 'baseline'). The *Great Barrier Reef Marine Park Act 1975* on the other hand, which has similar provisions, applies up to the low water mark by virtue of the *Coastal Waters (State Rights) Act 1980*. This means that differing regulatory requirements can apply to the same species, depending on whether the species and actions affecting it are within or outside the Marine Park. This creates regulatory complexity and duplication in some areas, which has only partially been addressed since the entry into force of the EPBC Act.

Under the *Great Barrier Reef Marine Park Act 1975*, most activities that may have an impact within the Marine Park require permission from the Authority. The Authority is required to assess the likely impacts of the activity before granting such a permission. Under the EPBC Act, activities (within or outside the Marine Park) having a significant impact on a 'matter of national environmental significance' may require assessment and approval by the Australian Government Minister for the Environment and Heritage. Such matters include the world heritage values of World Heritage List properties, listed threatened species and communities, listed migratory species, the marine environment within Commonwealth waters and the environment generally where the activity is undertaken within, or impacts on, Commonwealth land. The assessment and approval requirements of both the *Great Barrier Reef Marine Park Act 1975* and the EPBC Act can therefore apply to the same activity.

Under the Queensland *Environmental Protection Act 1994*, activities within Queensland territory having a significant impact on the environment require assessment and approval by the Queensland Environmental Protection Agency. This would apply to activities within the State marine park adjoining the Great Barrier Reef Marine Park and adjacent coast and catchment areas. In addition, the Queensland *Integrated Planning Act 1997* has implications for coastal development regulation. The *Integrated Planning Act 1997* forms the foundation of Queensland planning and development assessment legislation. Its purpose is to balance community well-being, economic development and the protection of the natural environment.

To address this duplication, the *Great Barrier Reef Marine Park Act 1975* assessment and approval requirements have largely been aligned with those of the EPBC Act and provision made for the streamlining of assessment and approval requirements, for example, through use of a single assessment process where multiple assessment and approval requirements arise.

Heritage management

The Great Barrier Reef is a World Heritage Area. The World Heritage Area covers the Commonwealth and parts of the State marine park, as well as islands that are Queensland national parks. Only 1 per cent of the World Heritage Area is not covered by a park. The requirements associated with listing as a World Heritage Area are covered in Chapter 3.

In addition, the Australian Government has established a Commonwealth Heritage List under the *Environment Protection and Biodiversity Conservation Act 1999* to protect natural, Indigenous and historic heritage places on Commonwealth lands and waters under Australian Government control. There are currently two sites within the Marine Park that are so listed: two 1870s light-stations located on Commonwealth-owned islands within the Marine Park. Listing on the Commonwealth Heritage List provides for the management of the sites through means such as management plans and environmental impact assessment and approval requirements.

The day-to-day management of the World Heritage Area and Commonwealth Heritage List sites, and in some cases administration of environmental assessment and approval requirements, is undertaken by the Authority. However, the *Great Barrier Reef Marine Park Act 1975* provides little recognition or guidance in relation to this role.

Pollution and water quality controls

Pollution prevention is another area where the requirements of a number of pieces of legislation may apply. Requirements under the *Great Barrier Reef Marine Park Act 1975* and 2003 Zoning Plan restrict polluting and potentially polluting activities within the Marine Park. Such activities generally require a permit and environmental impact assessment by the Authority. Polluting activities outside the marine parks are regulated through environment licensing by the Queensland Environmental Protection Agency. In both cases, regulation is guided by water quality objectives established by the Australian and New Zealand Environment and Conservation Council *Guidelines for Fresh and Marine Water Quality 2000*. Polluting activities may also trigger the assessment and approval requirements of the *Environment Protection and Biodiversity Conservation Act 1999*. Diffuse source pollution in the catchments adjacent to the Great Barrier Reef is regulated by Queensland through means such as land-use planning and vegetation management regulations, as well as through voluntary measures such as those stipulated under the *Reef Water Quality Protection Plan*.

Protection against pollution from ships is provided by Commonwealth and Queensland legislation prohibiting the discharge of pollutants and waste. Special protection is also provided to the Great Barrier Reef through recognition as a Particularly Sensitive Sea Area under the International Maritime Organization's International Convention for the Prevention of Pollution of the Sea by Ships (known as MARPOL). The Great Barrier Reef's status as a Particularly Sensitive Sea Area allows more stringent management of shipping in the area, for example through measures such as compulsory pilotage, traffic separation schemes, discharge restrictions and a vessel traffic management system. The Authority works closely with the Australian Maritime Safety Authority to monitor pollution from ships and where necessary, to pursue legal action.

Other Commonwealth legislation

In addition to the EPBC Act, a variety of Commonwealth legislation applies within and in the areas surrounding the Marine Park, including the:

- *Environment Protection (Sea Dumping) Act 1981* – which regulates the dumping of wastes at sea
- *Sea Installations Act 1987* – which regulates the construction of installations at sea, such as pontoons, platforms and floating hotels
- *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* – which regulates the discharge of pollution such as oil, toxic chemicals and waste from ships
- *Historic Shipwrecks Act 1976* – which protects the heritage and historical value of shipwrecks.

Measures have been put in place in relation to the above legislation to minimise duplication with the *Great Barrier Reef Marine Park Act 1975* and streamline regulatory requirements, for example, through delegation of approval responsibility to the Authority.

Fisheries management

Fisheries management arrangements affecting the Great Barrier Reef Marine Park are set out in a range of Commonwealth and State legislative measures and encompass fisheries management, environment protection and biodiversity conservation. There is also specific Commonwealth and State coastal and marine park legislation. Commercial fisheries are managed individually on a fishery-by-fishery basis from both an economic and a target/non-target species perspective. Marine parks and protected areas on the other hand, are broadly managed on an ecosystem and area basis. Commercial fishing effort can be quite mobile as fishers often hold a variety of licences and fish across a range of fisheries and thus across a range of ecosystems.

The areas of management and regulation that impact on fisheries are as follows:

- State, Commonwealth or joint management of the commercial fishery to be economically sustainable through input controls including effort caps, gear restrictions, seasonal and spatial closures
- Commonwealth assessment under the *Environment Protection and Biodiversity Conservation Act 1999* as to whether a fishery can be managed in a sustainable manner (Part 13A s. 303FN). Assessment and approval is required if there is an export component and/or the fishery is in Commonwealth waters and impacts on cetaceans, listed threatened species and communities, listed migratory species and listed marine species (Part 13 ss. 208A, 222A, 245, and 265)
- protection of the ecosystem and conservation of biodiversity under Commonwealth and/or State marine park legislation, including the *Great Barrier Reef Marine Park Act 1975*.

Queensland manages all fisheries within the Great Barrier Reef Marine Park, as agreed under a 1995 Offshore Constitutional Settlement and provided for by the *Fisheries Management Act 1991*. The Coral Sea Fishery to the east of the Marine Park is managed by the Australian Government through the Australian Fisheries Management Authority. The Torres Strait Fishery to the north of the Marine Park is managed by a joint authority comprising the Australian and Queensland governments and the Torres Strait Regional Authority.

Fisheries under Queensland control are managed under the *Fisheries Act 1994* (Qld). This Act provides for the management of fisheries resources across the broad range of users from commercial to recreational, charter and Aboriginal and Torres Strait Islander. The Act has as its object the sustainable use of fisheries resources. This is pursued through the development of Fisheries Management Plans and input controls such as licensing requirements, equipment limits, size limits and closed seasons.

There are 17 commercial fisheries that operate within the Great Barrier Reef Marine Park. By the end of 2005 Queensland had introduced Fisheries Management Plans for three of the five major fisheries—the *Fisheries (East Coast Trawl) Management Plan 1999*, the *Fisheries (Coral Reef Fin Fish) Management Plan 2003* and the *Fisheries (Spanner Crab) Management Plan 1999*. Management Plans are under development for the two other major commercial fisheries, the East Coast Inshore Finfish Fishery and East Coast Dive-Based Fisheries.

All the commercial fisheries that operate in the Marine Park are subject to the assessment and approval requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Approvals are for a specific period, generally three years. Assessment of the management arrangements for the East Coast Otter Trawl and Coral Reef Fin Fish Fishery under the EPBC Act has been completed. Fishing activities within the State coast marine park (the Great Barrier Reef Coast Marine Park) are also subject to the zoning, management and other requirements under the *Queensland Marine Parks Act 1982*. This area primarily includes the inshore net, pot, crab and beam trawl fisheries.

As manager of the Marine Park, the Authority under the *Great Barrier Reef Marine Park Act 1975* has a responsibility to protect the environmental and cultural values of the Marine Park and to provide opportunities for ecologically sustainable use. The Authority meets these responsibilities primarily through the development of Zoning Plans (s. 32) and Plans of Management (s. 39(Y) (a)–(f)). In particular, in the development of a Zoning Plan the Authority is required to minimise the effect of activities that exploit the resources of the Park (s. 32 (7)(b)). Thus, in the development and implementation of Zoning Plans the Authority considers the impacts of fishing activities in the Marine Park from an ecosystem, biodiversity and habitat perspective, taking into account both target and non-target species, threatened species and scientific values, as well as activities that present a conflicting use of the resource. Activities permitted in the various zones are commensurate with realising the objectives of the zone and, in conjunction with the whole of the Zoning Plan, sustainable management of the whole of the Great Barrier Reef ecosystem. The current Zoning Plan applying to the Marine Park is the *Great Barrier Reef Marine Park Zoning Plan 2003*.

Under the 2003 Zoning Plan, a permit is required to undertake fishing in a zone where it is not normally allowed, as well as for dive-based fisheries activities. Before granting a permit, the Authority must undertake an assessment of the impacts of the activity.

In 2000, provision was made in Section 4.3.2 of the *Far Northern Zoning Plan* for trawling in the General Use (Light Blue) Zone to have a Management Plan made under the *Fisheries Management Act 1994* (Qld) accredited by the Authority. This requirement was removed with the implementation of the *Great Barrier Reef Marine Park Zoning Plan 2003*.

Recreational fishing activities within the Marine Park and Queensland coast marine park generally do not require a permit. One circumstance where a permit is required is where the activity is part of a tourist activity, for example a charter boat. In that circumstance the tourist activity, as distinct from the fishing, may require a permit.

The involvement of the Authority in regulation and management that impacts on fisheries activities is a point of contention for many stakeholders. A number of submissions to the Review, particularly those associated with fishing activities and the marine services industry, put forward the view that the Authority's role in fisheries management duplicates management actions by the Department of the Environment and Heritage under the EPBC Act and by the Queensland Government.

Over the period 1996 to 2004 fishing activities within the Marine Park have been subject to regulation under at least six separate legal instruments, namely:

- *Great Barrier Reef Marine Park Zoning Plan 2003* (Representative Areas Programme)
- *Great Barrier Reef Coast Marine Park Zoning Plan 2004* (Qld)
- *Fisheries (East Coast Trawl) Management Plan 1999*
- *Fisheries (Coral Reef Fin Fish) Management Plan 2003*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Fisheries Management Act 1994* (Qld).

These regulatory instruments can have both similar and conflicting objectives for ecosystem protection, fisheries management and environment protection with responsibility being separated across agencies and jurisdictions. In particular, it is atypical that the Australian Government has responsibility for the management and protection of the Marine Park, while Queensland has separate responsibility for fisheries management in the same area. This issue is considered in more detail in Chapter 9 of this report, in the context of the functions of the Authority.

6. The Representative Areas Programme

6 The Representative Areas Programme

6.1 Introduction

The *Great Barrier Reef Marine Park Zoning Plan 2003* came into effect on 1 July 2004 as the primary planning instrument for the conservation and management of the Great Barrier Reef Marine Park. This completed the establishment of the Marine Park by integrating all 33 sections of the Park within a single comprehensive zoning plan and provided zoning for the 28 new coastal areas incorporated during 2000 and 2001. The 2003 Zoning Plan also implemented the Representative Areas Programme, an initiative which aimed 'to protect and conserve the biodiversity of the Great Barrier Reef ecosystem within a network of highly protected zones'.¹³

The development of the Representative Areas Programme and the 2003 Zoning Plan that gave it effect took place over the period 1998 to 2003. It increased the area of highly protected zones in the Marine Park from 4.5 per cent to 33 per cent (Figures 5, 6 and 7). Given that the Marine Park covers 344 400 square kilometres, extends along 2 300 kilometres of coastline, and has many alternative and competing uses and many different stakeholders, the development and implementation of the Representative Areas Programme was an undertaking of significant scale.

The outcome of the Programme has been acknowledged, both nationally and internationally, as an important achievement in the implementation of an ecosystem-based approach to conserving marine biodiversity. Awards it has received include the UNESCO (United Nations Educational, Scientific and Cultural Organisation) Man and the Biosphere Environmental Prize 2005, the WWF (World Wildlife Fund) Gift to the Earth Award 2005, the Planning Institute of Australia Ministerial Prize 2005 and an award in 2004 from the Banksia Environmental Foundation. Not everyone, however, was satisfied with the outcome of the Representative Areas Programme. Some stakeholders perceived that the rezoning had no basis in science, that the process had lacked transparency and that the Authority had actively worked against their interests.

This chapter looks in detail at the Representative Areas Programme and the way in which it was conducted. It examines the science and policy basis, the planning process, public consultation and communication, and stakeholder views. The way in which user interests were considered in the rezoning process is illustrated through a series of maps showing outcomes for the Park as a whole. The chapter concludes with a case study that shows at a local level how zoning proposals were developed for one area of the Marine Park.

6.2 Submissions to the Review about the Representative Areas Programme

The Representative Areas Programme and the associated development of the 2003 Zoning Plan drew a great deal of comment from stakeholders making submissions to the Review. Broadly, there were two countervailing perspectives. On the one hand, many stakeholders considered the Representative Areas Programme to be a globally significant conservation achievement, an example of environmental leadership and an initiative with robust scientific underpinning. This group considered the Authority had handled the rezoning process well, particularly given the size of the undertaking, and that the Authority had engaged constructively with different stakeholders to achieve workable arrangements that accommodated both economic and conservation needs. The stakeholder groups that were, on balance, satisfied with the process and its outcome included the tourism industry, shipping and maritime safety interests, the scientific community, conservation groups, the diving industry, sailboat operators and some local community groups.

¹³ *Great Barrier Reef Marine Park Zoning Plan 2003* Preface A3

Figure 5: Great Barrier Reef Marine Park zoning before implementation of the *Great Barrier Reef Marine Park Zoning Plan 2003*

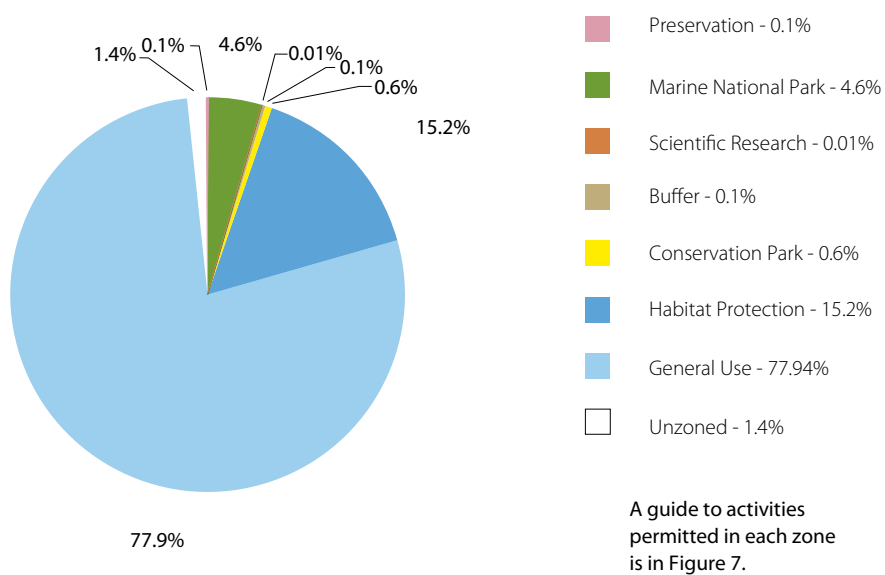


Figure 6: Great Barrier Reef Marine Park zoning after implementation of the *Great Barrier Reef Marine Park Zoning Plan 2003*

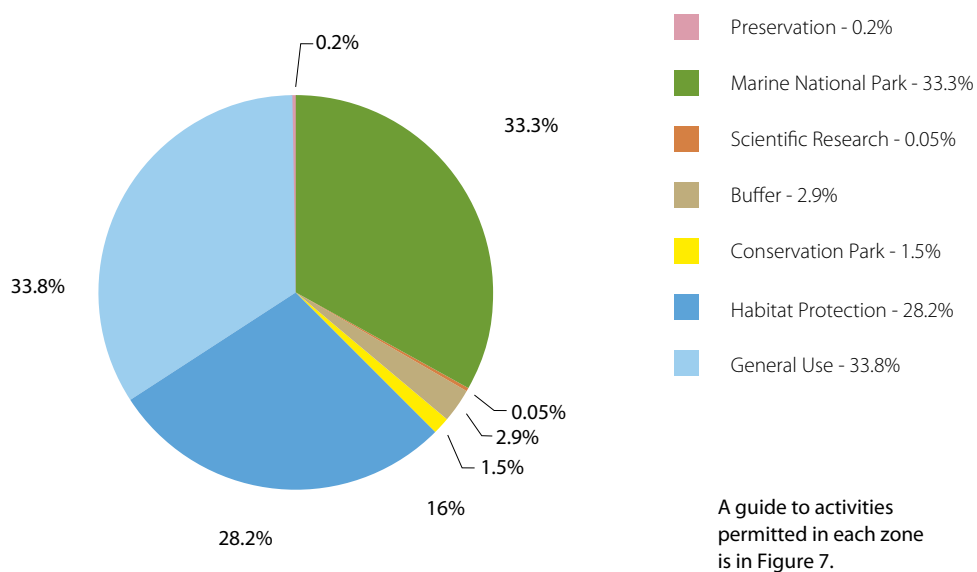


Figure 7: Great Barrier Reef Marine Park zoning – guide to activities permitted or prohibited within zones

ACTIVITIES GUIDE (see relevant Zoning Plans and Regulations for details)	Zoning Plans and Regulations						
	General Use Zone	Habitat Protection Zone	Conservation Park Zone	Buffer Zone	Scientific Research Zone 2	Marine National Park Zone	Preservation Zone
Aquaculture	Permit	Permit	Permit ¹	X	X	X	X
Bait netting	✓	✓	✓	X	X	X	X
Boating, diving, photography	✓	✓	✓	✓	✓ ²	✓	X
Crabbing (trapping)	✓	✓	✓ ³	X	X	X	X
Harvest fishing for aquarium fish, coral and beachworm	Permit	Permit	Permit ¹	X	X	X	X
Harvest fishing for sea cucumber, trochus, tropical rock lobster	Permit	Permit	X	X	X	X	X
Limited collecting	✓ ⁴	✓ ⁴	✓ ⁴	X	X	X	X
Limited spearfishing (snorkel only)	✓	✓	✓ ¹	X	X	X	X
Line fishing	✓ ⁵	✓ ⁵	✓ ⁶	X	X	X	X
Netting (other than bait netting)	✓	✓	X	X	X	X	X
Research (other than limited impact research)	Permit	Permit	Permit	Permit	Permit	Permit	Permit
Shipping (other than in a designated shipping area)	✓	Permit	Permit	Permit	Permit	Permit	X
Tourism programme	Permit	Permit	Permit	Permit	Permit	Permit	X
Traditional use of marine resources	✓ ⁷	✓ ⁷	✓ ⁷	✓ ⁷	✓ ⁷	✓ ⁷	X
Trawling	✓	X	X	X	X	X	X
Trolling	✓ ⁵	✓ ⁵	✓ ⁵	✓ ^{5,8}	X	X	X

PLEASE NOTE: This guide provides an introduction to Zoning in the Great Barrier Reef Marine Park. Relevant Queensland Marine Park Zoning Plans or the Queensland Environmental Protection Agency should be consulted for confirmation of use or entry requirements.

- Restrictions apply to aquaculture, spearfishing and harvest fishing for aquarium fish, beachworm and coral in the Conservation Park Zone.
- Except for One Tree Island Reef (SR-23-2010) and Australian Institute of Marine Science (SR-19-2008) which are closed to public access and shown as orange, all other Scientific Research Zones are shown as green with an orange outline.
- Limited to 4 catch devices (eg. crab pots, dillies and inverted dillies) per person.
- By hand or hand-held implement and generally no more than 5 of a species.
- Maximum of 3 lines/rods per person with a combined total of 6 hooks per person.
- Limited to 1 line/rod per person and 1 hook per line. Only 1 dory detached from a commercial fishing vessel.
- Apart from traditional use of marine resources in accordance with s.211 of the *Native Title Act 1993*, an accredited Traditional Use of Marine Resources Agreement or permit is required.
- Pelagic species only. Seasonal Closures apply to some Buffer Zones.

Detailed information is contained in the Great Barrier Reef Marine Park Zoning Plan and Regulations.

- Permits are required for most other activities not listed above.
- Commonwealth owned islands in the Great Barrier Reef Marine Park are zoned "Commonwealth Islands Zone" - shown as cream.
- All Commonwealth Islands may not be shown.
- Special Management Areas may provide additional restrictions at some locations.
- The Zoning Plan does not affect the operation of s.211 of the *Native Title Act 1993*.

ACCESS TO ALL ZONES IS PERMITTED IN AN EMERGENCY.

On the other hand, a group of stakeholders with strongly held views expressed great dissatisfaction with the rezoning process and questioned the science behind it. This group considered that the Authority lacked accountability and was not only biased but had actively worked against them. The stakeholders expressing such considerable dissatisfaction did so largely in relation to the treatment of recreational and commercial fishing interests and the impacts on associated land-based businesses such as boatyards, bait and tackle suppliers and land-based fish processing and marketing enterprises.

The Review Panel heard a range of stakeholder representations in this regard, of which key elements were:

- perceptions that the objectives and intent of the Representative Areas Programme were not clearly communicated
- unmanaged expectations about the process and achievable outcomes
- inadequate consideration of socio-economic factors
- lack of transparency about the weighting of factors used in decision making
- lack of scientific basis, or 'poor science', for the Representative Areas Programme and for specific zoning decisions
- inadequate arrangements for consultation in some cases and timelines too short for making submissions
- perceptions that the Authority failed to provide adequate explanatory feedback in cases where specific zoning suggestions were not able to be accommodated
- perceptions that there had been inconsistent application of ground rules, lack of natural justice, and in some cases, political interference
- perceptions that the information provided to the Authority by stakeholders was used to close favourite fishing areas.

6.3 Science and policy underpinning the Representative Areas Programme

Two fundamental approaches to marine environment protection underpin the Representative Areas Programme. The first is that of establishing a representative system of Marine Protected Areas to contribute to long-term ecological viability of marine and estuarine systems, maintain ecological processes and protect biological diversity (ANZECC 1999). The second is that a proportion of all Marine Protected Areas should be set aside as 'highly protected' marine sanctuaries, often referred to as 'no-take' zones, which humans can continue to access, but where extractive activities such as fishing and marine collecting are prohibited.

Both these approaches are part of an ecosystem-based approach to marine management that seeks to manage human activities by identifying and addressing their direct and indirect effects on ecosystem components and by integrating planning and management activities across sectors within a defined ecosystem (ANZECC 1999).

Marine Protected Areas and environmental management

The overarching goal of the Representative Areas Programme was to ensure the adequate protection of representative examples of all the areas in the Great Barrier Reef with similar environmental, physical and climatic conditions and characteristic ecosystems of plants and animals. By protecting these 'bioregions', as they are commonly known, biological communities can be better maintained, ecological processes supported and habitats of key species preserved. This helps to ensure that the health and integrity of the

ecosystem as a whole, as well as its component parts, is enhanced and maintained. A healthy ecosystem is more resilient to and can more readily recover from external impacts such as climate change, poor water quality, cyclones, crown-of-thorns starfish and oil spills.

In addition to environmental benefits, a representative system of protected areas can deliver social, cultural and economic benefits. Tourism to the Great Barrier Reef, for example, is highly reliant on healthy ecosystems and pristine environments. Fish stocks can also potentially benefit, as 'no-take' areas can protect fish breeding and nursery areas and allow unhindered development of young fish. Adult fish and their offspring are not confined to the 'no-take' areas and can move into adjoining areas, creating a 'spill-over' effect that can help replenish fish stocks in areas where fishing is permitted. Studies have shown that in highly protected coral reef areas population densities of animals, including fish, can significantly increase over a period of around two to four years (Clark 1989; Polunin & Roberts 1993, 1994; Williamson 2000).

Marine Protected Areas and sustainable fisheries

Ecosystem-based management is not, as discussed above, primarily aimed at managing fish stocks, but is nonetheless closely interlinked with fisheries management measures. Ecosystem-based fisheries management is a recognised approach that looks at the impact of fishing on all aspects of the marine environment, including the impact on the target species, by-catch species, protected species, habitats and communities.

Management of the Queensland East Coast Otter Trawl Fishery provides an example of ecosystem-based management. This fishery has been accredited under the *Environment Protection and Biodiversity Conservation Act 1999*, which requires ecologically sustainable use of natural resources—in this case the fishery. The assessment report for this fishery (DEH 2004), in considering whether it meets the criterion of being 'conducted in a manner that minimises the impact of fishing operations on the ecosystem generally' (DEH 2001), notes that 'the location of a large proportion of the fishery within the Marine Park, which has significant closures implemented to protect ecological values, aids the fishery in meeting this guideline'. Furthermore, the assessment report recommends that there be an investigation of whether the current Marine Park closures are enough to protect the ecosystem generally from the fishery and whether additional closures outside the Marine Park are required.

A representative system of protected areas can therefore be seen to complement and complete fisheries management measures, which in turn complement the sustainable management of the ecosystem as a whole.

Science and policy developments

The principles behind Marine Protected Areas have been debated at length by scientists and policy makers over the past two decades (see Chapter 5), with one of the drivers being a steady deterioration of reefs and associated ocean ecosystems in many parts of the world (Australian Marine Sciences Association 2002, GCRMN 2000, 2004). In 1988, the IUCN (World Conservation Union) recommended establishing a worldwide representative system of Marine Protected Areas to provide for the protection, restoration, wise use, understanding and enjoyment of the marine heritage of the world in perpetuity. This was supported by the World Parks Congress in 1992 and 2003. In 1995, a joint report by the Great Barrier Reef Marine Park Authority, the World Bank and the World Conservation Union (1995) identified priority areas for the establishment and management of a global representative system of Marine Protected Areas across 18 marine regions of the world, including the Great Barrier Reef.

The protection of representative samples of all bioregions within the Great Barrier Reef was foreshadowed in 1994 in the *25 Year Strategic Plan for the Great Barrier Reef World Heritage Area* (GBRMPA 1994). This Strategic Plan was developed by the Australian Government, State and local governments in conjunction

with tourism, commercial and recreational fishing representatives, conservationists and scientists in a joint process with an independent Chairperson. The Plan was developed in consultation with some 60 stakeholders in total.

In 1998 the Government announced Australia's Oceans Policy, in which it committed to an ecosystem-based approach to marine protection and to a national representative system of Marine Protected Areas in Australian territorial waters. In 1999, the Australian and New Zealand Environment and Conservation Council (ANZECC) released its *Strategic Plan of Action for the National Representative System of Marine Protected Areas: A Guide for Action by Australian Governments*, which included the Great Barrier Reef. This was followed by the Australian Government's commitment at the 2002 World Summit on Sustainable Development to establish a representative system of Marine Protected Areas within its jurisdiction by 2012.

A substantial body of scientific opinion has also supported this approach. In 1998, some 1 600 international marine scientists called for an increase in the number and effectiveness of Marine Protected Areas to 20 per cent of Exclusive Economic Zones and the high seas by 2020.¹⁴ In 2001, a statement by 161 leading marine scientists and experts on marine reserves in the United States of America declared marine reserves to be a highly effective tool to help alleviate the 'declining state of the oceans and the collapse of many fisheries' (American Association for the Advancement of the Sciences 2001).

In October 2002, the Centre for Coral Reef Biodiversity at James Cook University in Queensland, with funding from the Queensland Government, invited 15 scientists from the USA, Europe and Australia to participate in a Forum entitled *Managing Coral Reefs in the Face of Global Change*. This Forum brought together for the first time fields such as ecology, geology, palaeontology, oceanography, climatology and economics, and these scientists collectively concluded:

*... over-harvesting and pollution have had major negative impacts on coral reefs over the past two centuries. If these trends continue, coral reefs will decline further, leading to accelerating losses of biodiversity and economic value... We need to better protect food webs and key groups... as insurance for sustainability. 30–50 per cent of reefs should be set aside as no-take zones, for long-term protection, not just of fish, but of entire reef ecosystems.*¹⁵

Extent of protection

At the time the Representative Areas Programme was under development, a number of scientific publications on the establishment of 'no-take' zones sought to estimate the level of protection required relative to the conservation or management objective. A reference list of some 20 such publications is provided at Appendix I. The estimates were developed both through modelling and field studies. The objectives assessed included the management of risk in fisheries, maximisation of fisheries yield, minimisation of by-catch, biodiversity representation, maintenance of genetic variation and connectivity among reserves. The publications covered a broad range of management objectives ranging from fisheries management to ecosystem protection and a high proportion found that to achieve these objectives a range from 20 to 50 per cent of the area needed to be protected as 'no-take'.

In the field, the introduction of zoning to implement 20 per cent 'no-take' areas was announced for the Galapagos Marine Reserve off the coast of Ecuador in March 2000. In late 2004, following the implementation of the Great Barrier Reef Representative Areas Programme, the Western Australian Government announced an increase in the 'no-take' zones in the Ningaloo Coral Reef Marine Park (State waters), from 10 to 34 per cent protection.

¹⁴ *Troubled Waters: A Call for Action*, statement of 6 January 1998, United Nations International Year of the Ocean

¹⁵ International Forum on Threats to Coral Reef Biodiversity, Townsville 14–19 October 2002

6.4 Development and implementation of the Representative Areas Programme

Legislative requirements for Great Barrier Reef zoning plans

The *Great Barrier Reef Marine Park Act 1975* (Part V ss. 32 and 33) sets out the minimum statutory obligations for developing zoning plans for the Marine Park. As soon as practicable after an area has been declared as part of the Marine Park, the Authority must prepare a zoning plan for that area. Zoning plans must have regard to the following objectives:

- conservation of the Great Barrier Reef
- regulation to protect the Marine Park but allow reasonable use of the Great Barrier Reef Region
- regulation of activities that exploit resources in the Great Barrier Reef Region so as to minimise their effect on the Great Barrier Reef
- reservation of some areas of the Great Barrier Reef for appreciation and enjoyment by the public
- preservation of some areas of the Great Barrier Reef in their natural state undisturbed by man except for the purposes of scientific research.

Before preparing a zoning plan the Authority must publicly state its intention to do so through a public notice and must invite representations within a period of not less than one month. Public notice inviting representations is also required in relation to a draft zoning plan. Representations made before the due date must be given due consideration by the Authority. The Authority, after consideration of the representations can, if it thinks fit, alter the plan accordingly and submit it to the Minister to accept it or refer it for further consideration by the Authority. The Minister is required to accept the plan as soon as practicable after receipt, or after alterations to the plan. If the Minister makes alterations to the plan before it goes to Parliament, he or she must also table a report on the amendments.

Zoning plans are disallowable instruments. They must be laid before both Houses of Parliament within 15 days of the Minister's acceptance of the plan. The plan is 'passed' if there is no motion to disallow passed within 15 days of tabling. The plan comes into force on the date specified in the plan. Section 37 of the *Great Barrier Reef Marine Park Act 1975* provides for the Authority to amend or revoke a zoning plan at any time through the same process as specified in ss. 32 and 33.

Objectives and operational principles

The underlying objectives of the Representative Areas Programme were first made public by the Authority in 1999.¹⁶ In accordance with the key principles behind representative Marine Protected Areas, these were stated as

- maintaining biological diversity of the ecosystem, habitat, species, population and genes
- allowing species to evolve and function undisturbed
- providing an ecological safety margin against human-induced disasters
- providing a solid ecological base from which threatened species or habitats can recover or repair themselves
- maintaining ecological processes and systems.

In 2000, the Authority established an independent Scientific Steering Committee to develop guidelines for zoning decisions in the Representative Areas Programme. The Committee had expert representation which included CSIRO (the Commonwealth Scientific and Industrial Research Organisation), James Cook

¹⁶ *An Overview of the Great Barrier Reef Marine Park Authority Representative Areas Program* Great Barrier Reef Marine Park Authority May 1999

University, the Cooperative Research Centre for the Great Barrier Reef World Heritage Area, the Australian Institute of Marine Science, the University of Western Australia, Queensland Parks and Wildlife Service and the Queensland Department of Primary Industries and Fisheries. The Committee developed a set of 11 principles, based on the best available scientific information of the time, to inform the zoning process. These *Biophysical Operational Principles* (Appendix H) sought, among other things, to protect a minimum of 20 per cent of each habitat type, to represent the diversity of plants and animals across the range of environments and to protect biophysically special or unique places.

At the same time, an independent Social, Economic and Cultural Steering Committee was established, with representation from the Queensland Department of Primary Industries and Fisheries, the Queensland Seafood Industry Association, the Australian Heritage Commission, James Cook University Department of Tourism, the Australian National University Centre for Resource and Environmental Studies, the Aboriginal Coordinating Council, the Queensland Parks and Wildlife Service and the World Wildlife Fund. This Committee defined a set of *Social, Economic, Cultural and Management Feasibility Operational Principles* (Appendix J), which included such things as maximising complementarity of no-take areas with human activities, recognising social costs and benefits and spatial equity between communities, and maximising public understanding and acceptance of 'no-take' areas.

Both sets of Operational Principles were made publicly available by the Authority and were further refined following public feedback.

Table 6: Representative Areas Programme milestones

Mid-1998–early 2002	Internal commencement in the Great Barrier Reef Marine Park Authority; informal public consultations; key stakeholder briefings; technical workshops, formal communications strategy, <i>Representative Areas Program Update</i> quarterly newsletters
15 April 2002	Declaration of last remaining section of Great Barrier Reef Marine Park, the Far Northern Section
7 May 2002	First Formal Community Participation Phase (CP1) commenced with gazettal of Public Notice to prepare a Draft Zoning Plan
7 August 2002	CP1 closed – 10 190 submissions received
2 June 2003	<i>Great Barrier Reef Marine Park Draft Zoning Plan</i> publicly released, along with <i>Basis for Zoning Decisions Report – Consultation Draft</i>
2 June 2003	Second Formal Community Participation Phase (CP2) commenced
4 Aug 2003	CP2 closed – 21 500 submissions received
October–November 2003	Additional consultation round with key stakeholders
Mid-November 2003	Government endorses the proposed 2003 Zoning Plan
3 December 2003	2003 Zoning Plan, accompanied by socio-economic analysis reports, tabled in Parliament by Minister for the Environment and Heritage, the Hon Dr David Kemp MP
25 March 2004	Announcement by Minister for the Environment and Heritage that 2003 Zoning Plan would come into force on 1 July 2004
1 July 2004	<i>Great Barrier Reef Marine Park Zoning Plan 2003</i> entered into force
November 2005	<i>Report on the Great Barrier Reef Marine Park Zoning Plan 2003</i> released on Great Barrier Reef Marine Park Authority website

The process

The rezoning of the Marine Park was a comprehensive process which stretched over a total of six years (1998–2003). There were 10 distinctive planning phases, which were publicised before and during the process: Classification, Review, Identification, Selection, Formal Input Public Phase 1, Draft Zoning Plan, Formal Input Public Phase 2, Final Zoning Plan, Ministerial and Parliamentary Approval, and Monitoring.

In the final stages the process was particularly intense, with only 18 months between the formal gazettal of intent to rezone, in May 2002, and the tabling in Parliament of the final 2003 Zoning Plan in December 2003. The First Formal Community Participation Phase (CP1) occurred over a three-month period, providing two months longer for stakeholder submissions than the statutory minimum (s. 32(2b)). During this first phase 10 190 public submissions were received. The Authority then had 12 months between the first and second formal consultation phases to prepare the Draft Zoning Plan. The time allowed for the Second Formal Community Participation Phase (CP2) was one month longer than the statutory minimum (s. 32(8)) and this second phase resulted in 21 500 public submissions. The Authority then had three months to analyse the submissions, to review and amend the Draft Zoning Plan and to submit the Plan to government. In this part of the process, some 94 changes were made to the draft plan to reflect community and stakeholder preferences (66 to accommodate fishing interests and 28 for tourism and conservation reasons).

Throughout the process, the Authority met and consulted with large numbers of stakeholders. During 2000 and 2001, the period of informal consultations prior to the first formal phase, it held over 140 meetings with more than 1 800 people. In 2002 and 2003, during the two formal consultation phases, the Authority held a further 500 meetings with over 6 000 people.

The 2003 Zoning Plan – allocation of zoning

During 1998 and 1999, the Authority began mapping the biological and physical diversity of the Great Barrier Reef Marine Park. More than 40 sets of biophysical, biological and oceanographic data were compiled and, in consultation with experts and community stakeholders, 70 biologically distinct habitat types, or 'bioregions', were identified across the Marine Park as the fundamental basis for zoning decisions.

The starting point for the process of developing the Draft Zoning Plan was to collate the information on bioregions with other available data. Computer software called MarXan, specifically developed for reserve design,¹⁷ was used to integrate the layers and sets of information, for example, on bioregions, fishing effort, minimum protection levels and special and unique sites, to produce 'optimal' networks of 'no-take' areas.

A dedicated planning team within the Authority, with both geographic and sectoral expertise, then augmented and refined these 'optimal' proposals by considering additional information including economic and social principles, views expressed in the public submissions, local knowledge and other feedback.

Each of the nearly 32 000 submissions received from the two formal consultation processes was scanned by the Authority, analysed, codified and the contents entered into a database. This information was then able to be sorted and recalled in different groupings such as geographical location, affiliations, user groups, expertise or points of view.

The Authority also gathered a wide range of additional information and data to inform the Draft Zoning Plan, including commercial fishing logbook data, recreational fishing data, logbooks and diaries, interview and questionnaire data, existing Marine Park zoning, permits, State fisheries closures within the Marine Park, State zoning of adjacent land and waters, boat ramps, moorings and anchorages, Native Title claims,

¹⁷ Used in the design of parks and reserves, this software takes into account desired outcomes (in terms of amounts of protection) and considers constraints (e.g. existing protected areas, popular fishing areas). The software then suggests an optimal network.

Aboriginal and Torres Strait Islander databases for the Register of the National Estate, historic heritage places and historic shipwrecks, tourism usage data, Cairns Area and Whitsundays Plans of Management, shell collecting areas and Coastwatch aerial surveillance data.

6.5 Public consultation on the rezoning process

Close community and stakeholder involvement in the rezoning exercise was regarded as key by the Authority and provision for wide public consultation was an integral part of the rezoning process. An internal Communication Plan was developed in 1999 and in it the Authority articulated a belief that strong community ownership of the zoning outcomes would be critical to the success of the Representative Areas Programme.

Throughout the process, the Authority maintained regular communication with key stakeholders and the general public, both before, during and after the formal consultation periods. Regular public newsletters called *Representative Areas Program Update* were issued with detailed information and progress reports on the planning process. Around 40 fact sheets covering scientific, technical and planning issues relating to the rezoning were widely distributed, and several information sheets covering Frequently Asked Questions were released.

The Authority recognised that the zoning changes would have particular impacts for commercial and recreational fishers and it began formal consideration of associated communication needs in 1999. The strategies it adopted included regular briefings to the fisheries-related Marine Advisory Committees and presentations and face-to-face contact with peak bodies such as the Queensland Seafood Industry Association and Sunfish, which represented recreational fishers. The Authority also communicated through industry newsletters, radio broadcasts, information mail-outs, briefings at industry events and representation at boat shows and fishing expos. The Queensland Fishing Industry Development Council received three-monthly formal updates on the rezoning process from senior Authority staff, as well as regular informal briefings.

The Authority held a total of 360 meetings with fishing stakeholders between June 1999 and November 2003, and 20 debriefing sessions were conducted in June and July 2004. During the final months, the Authority had numerous exchanges with peak fishing groups to try to reach solutions that would satisfy the needs of fishers as well as those of other stakeholders, as well as respecting the Biophysical Operational Principles and the rezoning objectives.

During the development of the 2003 Zoning Plan, more than 66 major changes were made to the Draft Zoning Plan to accommodate submissions and representations by the commercial and recreational fishing sectors. As the final zoning proposals neared submission to Parliament, briefings were arranged for fishing peak bodies and local Federal Members of Parliament.

Table 7: Overview of public communications and consultation

May 1999	Formal advice to the public with release of booklet <i>An Overview of the GBRMPA Representative Areas Program</i>
May 2000	<i>RAP Update 1</i> – outlined objectives, process, definitions, procedure for public input and timelines
September 2000	<i>RAP Update 2</i> – sought public comment on draft map of bioregions through formal questionnaire
October–December 2000	Over 300 people attended workshops on rezoning, including peak bodies, recreational fishers, tourism operators and Local Marine Advisory Committees (LMACs)
July 2000–July 2001	The Authority held over 140 meetings with over 1 500 stakeholders, including Sunfish, Queensland Seafood Industry Association, Australian National Sportfishing Association, Landcare, LMACs, Reef Advisory Committees, conservation groups, marine tourism industry associations, regional yachting and motor boat clubs, the Great Barrier Reef Consultative Committee, and the Queensland Government
March 2001	<i>RAP Update 3</i> – advised 9 fundamental changes occurring to bioregions on basis of public feedback. New maps available on web and in hard copy
December 2001	<i>RAP Update 4</i> – advised identification of 70 bioregions and their boundaries, outlined existing levels of protective ‘no-take’ zoning
May–August 2002 (CP1)	<ul style="list-style-type: none"> • Over 200 formal meetings with approx 6 000 people • Community information sessions in 22 regional centres • 33 000 submission brochures distributed • 4 000 calls to toll-free number, 38 000 hits on website • 60 radio spots, 10 TV spots, over 100 newspaper articles • Approx 70 newspaper ads in 20 regional papers • <i>Correcting Misinformation</i> fact sheet distributed to counter claims that the Authority had already predetermined locations of Green Zones • <i>GBR Under Pressure</i> TV campaign • Briefings for Queensland Members of Parliament and Members of the Legislative Assembly
September 2002	Release of <i>Correcting Misunderstandings and Providing Facts about RAP</i> , refuting claims that the Authority was targeting people’s favourite fishing areas for closure; refuting claims of ‘secret lines’ on the maps; confirming reef line and inshore net fisheries management were a Queensland responsibility
October 2002	<i>RAP Update 5</i> – feedback on CP1; update on process; feedback on public comment; listed available public documents
March 2003	<i>RAP Update 6</i> – summarised key themes in public submissions; listed available complementary information to the Draft Zoning Plan
June 2003	<i>Basis for Zoning Decisions Report</i> publicly released to accompany Draft Zoning Plan, giving detailed explanations of reasons for zone allocation
June–August 2003 (CP2)	<ul style="list-style-type: none"> • <i>Great Barrier Reef – Let’s Keep it Great</i> TV ad campaign • 17 RAP Information Sheets • More than 300 meetings along the Great Barrier Reef coast • 76 000 maps, 57 000 submission forms, 29 000 explanatory brochures, 2 100 CD-ROMs distributed • More than 500 media reports, 88 newspaper ads • 2 000 calls to toll-free number; 35 000 hits on website (63% from Australia)

6.6 Synopsis of the Representative Areas Programme process and key issues

The development of the Representative Areas Programme and its implementation through the *Great Barrier Reef Marine Park Zoning Plan 2003* was an extensive undertaking by any measure, for which there was no precedent in terms of scale, scope and process. The most important component, the development of the final 2003 Zoning Plan, was undertaken in the last six months of what was a six-year process.

With nearly 32 000 submissions, very large numbers of stakeholders were actively engaged in the process and there were high expectations that all suggestions could be accepted and implemented. The Review Panel considers that the Authority made extensive efforts to achieve effective engagement with stakeholders on the zoning process with the aim of delivering a balanced outcome. However, some key stakeholders perceived that the process did not provide sufficient transparency and accountability to meet their expectations.

The 2003 Zoning Plan brought about an overall increase in the level of protection across the Marine Park that went beyond the highly protected 'no-take' zones. This further increased the volume of analytical work in handling the submissions. The timeframe, process and resources however were finite and were stretched to accommodate these important additional dimensions.

The development of the Representative Areas Programme drew on well-considered scientific and policy approaches. The volume of documentation and amount of web-based information made available by the Authority was extensive, and a large number of meetings with stakeholders took place. The Authority analysed all public submissions and appointed an expert team, aided by specialist software, to integrate stakeholder views with environmental objectives, Operational Principles and other relevant data to achieve a balanced outcome.

The 2003 Zoning Plan changes for the Marine Park occurred at a time when a number of fisheries management controls were introduced by Queensland, and mirror zoning of the State coastal marine park was also introduced.

The Authority made a considerable effort to balance differing stakeholder requirements and to achieve compromise outcomes between key stakeholder groups, and many stakeholders did feel that they were heard and valued and were largely satisfied with the outcome. The Authority relied on an iterative approach of engagement with different stakeholders to develop the final, 2003 Zoning Plan. The Authority sought to achieve mutually acceptable outcomes wherever possible whilst adhering to the published Biophysical, and Social, Economic, Cultural and Management Feasibility Operational Principles. While a report, *Basis for Zoning Decisions*, (GBRMPA 2003a) was issued with the Draft Zoning Plan, the equivalent debriefing document on the outcome of the final 2003 Zoning Plan was not available until November 2005 (GBRMPA 2005a).

The perceptions of some stakeholders were that the scientific evidence for the Representative Areas Programme was either lacking or not made available in a way that was clear and compelling. Stakeholders in recreational and commercial fishing largely held strong views that their concerns were unheard and considered the engagement and outcome biased against them. A number expressed mistrust of the Authority and a concern that there was not a clear process for making individual resource allocation decisions on alternative or competing uses. Some of these stakeholders considered that the Authority had actively worked against them to close favourite fishing locations. This view was heightened because no explanation or rationale for changes between the draft and final zoning plans was publicly available at the time the final 2003 Zoning Plan was tabled in Parliament.

Commercial and recreational fishing stakeholders and those involved in the associated upstream and downstream industries also considered that the social and economic impacts of the Zoning Plan on their businesses had not been adequately taken into account. Some of these stakeholders expressed the

view that the Zoning Plan had made their businesses marginal or uneconomic and that the high-level aggregate economic analysis of the Zoning Plan changes was flawed in not making the extent of this problem apparent.

The Review Panel considered that these views on engagement with recreational and commercial fishers and socio-economic impacts of the Zoning Plan warranted more detailed examination, in particular as these impacts appeared to be locally very intense in some areas. The development of the zoning in regard to fishing activities and the nature of the socio-economic analysis undertaken is therefore considered in Chapters 10 and 11 of this report.

Section 6.7 below provides an overview of the evolution of zoning and the respective impacts at an aggregate level on commercial and recreational fishing and on shipping. Section 6.8 examines at a local level how the Representative Areas Programme integrated competing stakeholder interests with planning objectives, using the Capricorn Bunker Region as a case study.

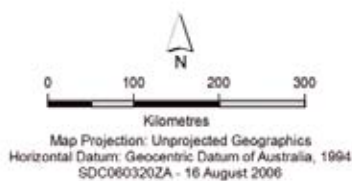
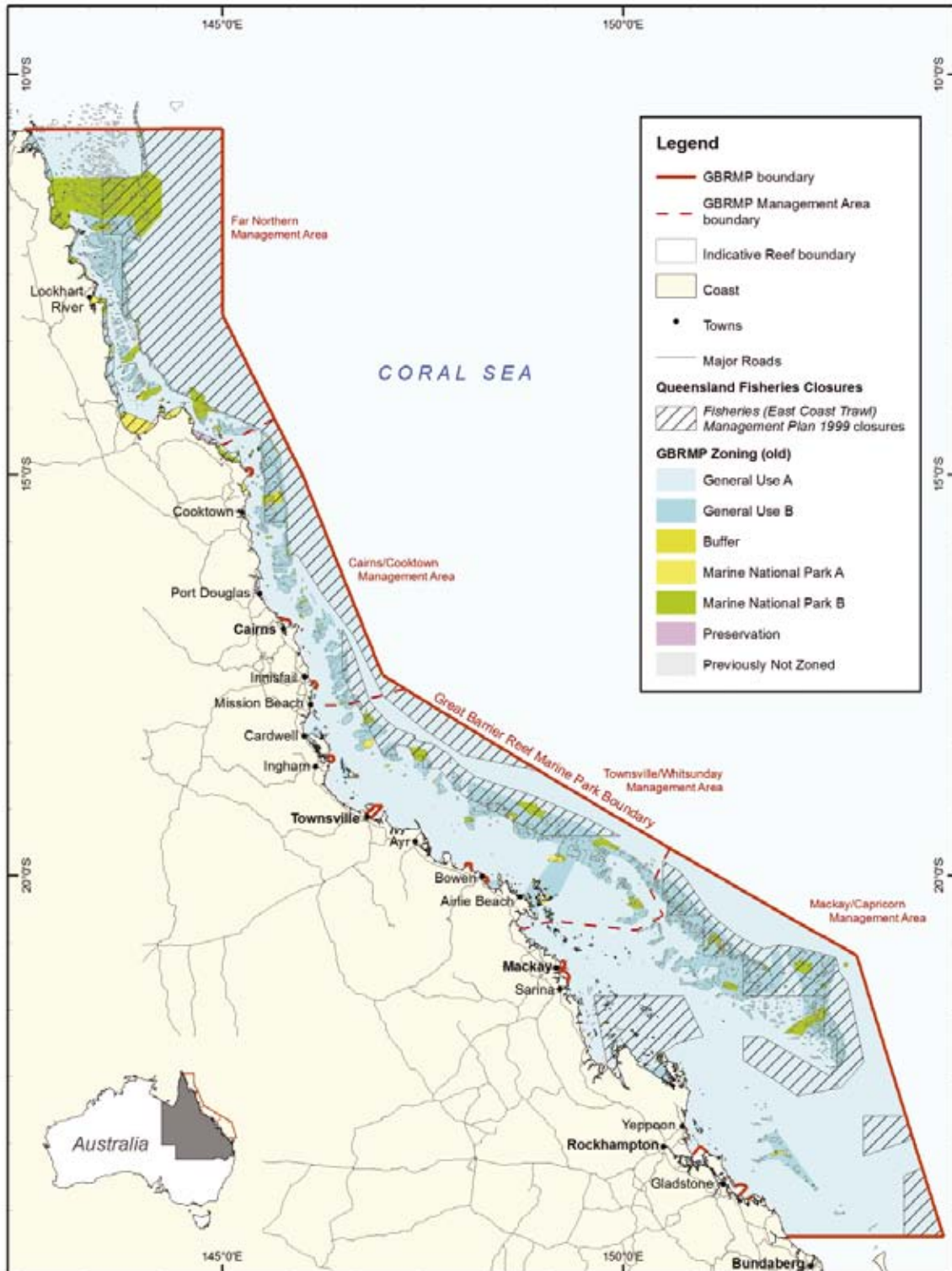
6.7 How user activities were addressed in the *Great Barrier Reef Marine Park Zoning Plan 2003*

The following section presents a series of maps that show at an aggregate level how zoning evolved in the Great Barrier Reef Marine Park during the Representative Areas Programme, and illustrate the way in which various uses of the Marine Park have been considered in reaching the final zoning proposals for the 2003 Zoning Plan.

Table 8: Summary of maps

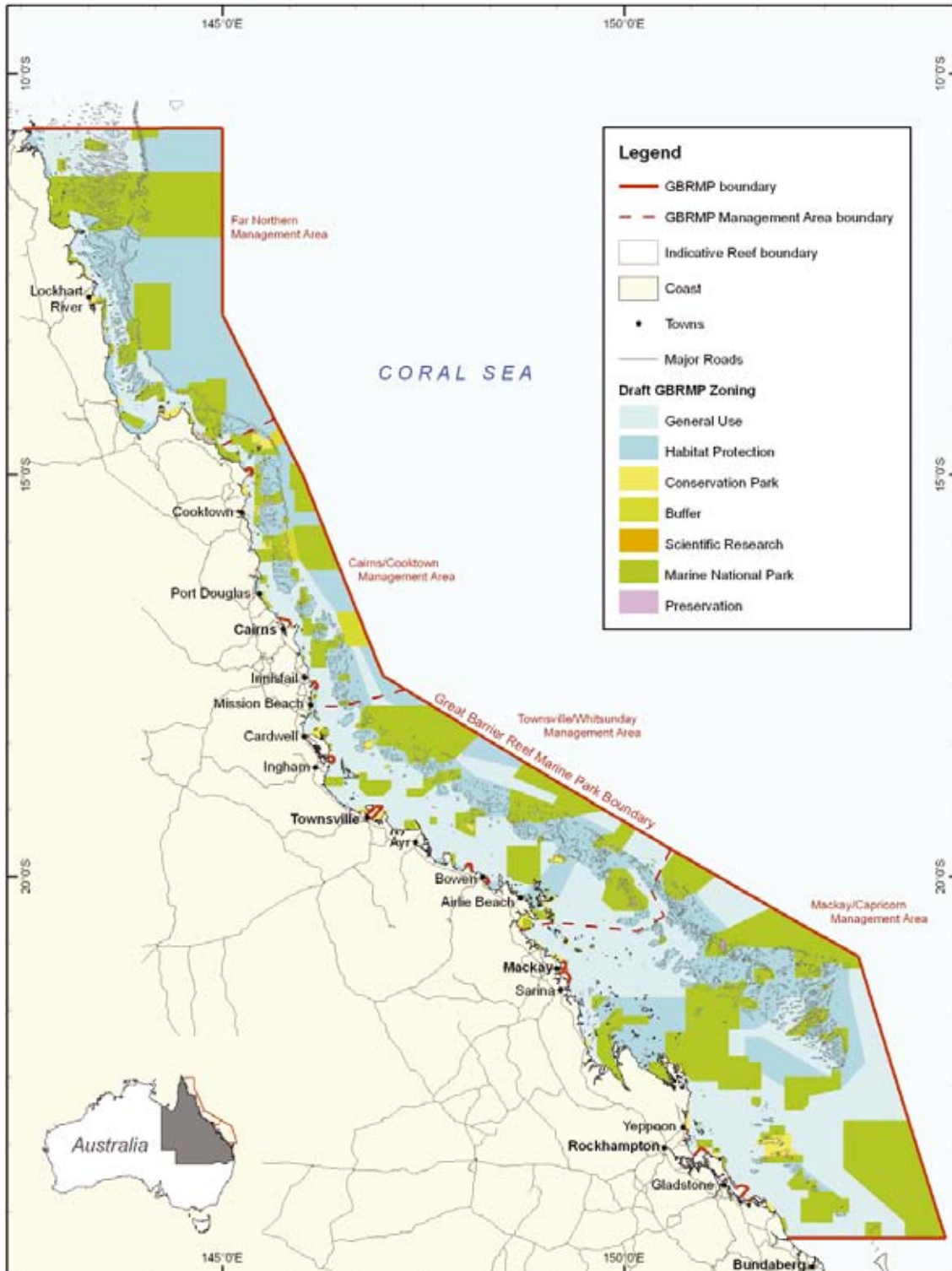
Map 9	Marine Park zoning prior to July 2004
Map 10	Draft zoning developed during the Representative Areas Programme
Map 11	Zoning under the final <i>Great Barrier Reef Marine Park Zoning Plan 2003</i>
Maps 12–15	Zoning overlaid on fishing data, showing that, at an aggregate level, the areas of highest use by and greatest value to commercial fishers remain largely outside areas closed to relevant fishing activities
Map 16	Illustrates that the 2003 Zoning Plan provides security of access for shipping, through Designated Shipping Areas
Map 17	Shows how the 2003 Zoning Plan closures relate to areas used by recreational fishers, based on recreational fishing diary data collected by the Queensland Government

Map 9: Great Barrier Reef Marine Park zoning prior to 1 July 2004



This map shows the zoning of the Great Barrier Reef Marine Park prior to the rezoning. The areas shown with hatching on this map were already closed to trawling under Queensland legislation, *Fisheries (East Coast Trawl) Management Plan 1999*.

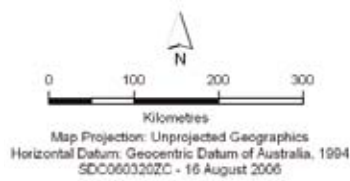
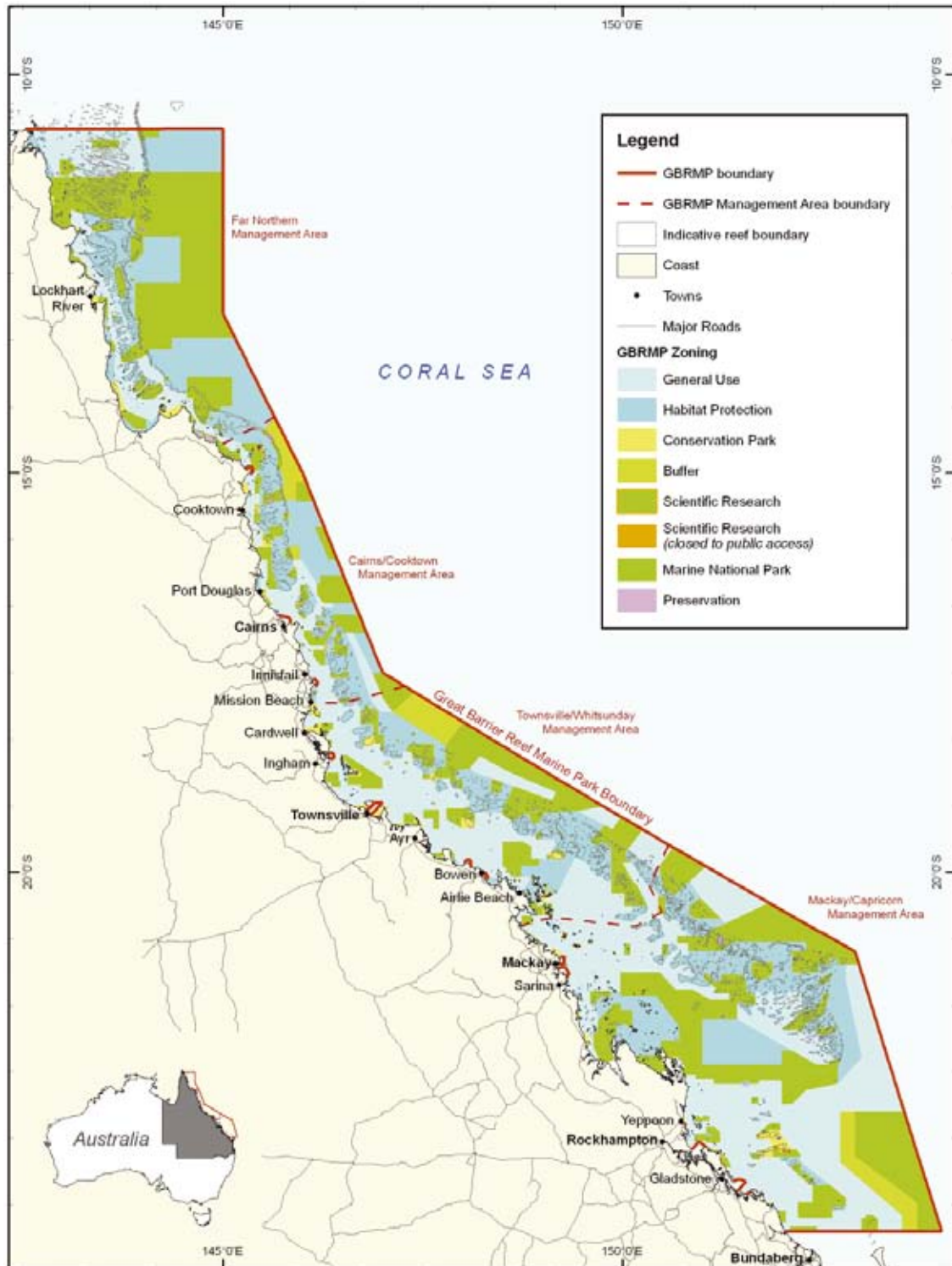
Map 10: Great Barrier Reef Marine Park Draft Zoning Plan June 2003



0 100 200 300
Kilometres
Map Projection: Unprojected Geographics
Horizontal Datum: Geocentric Datum of Australia, 1994
SDC0603202B - 16 August 2006

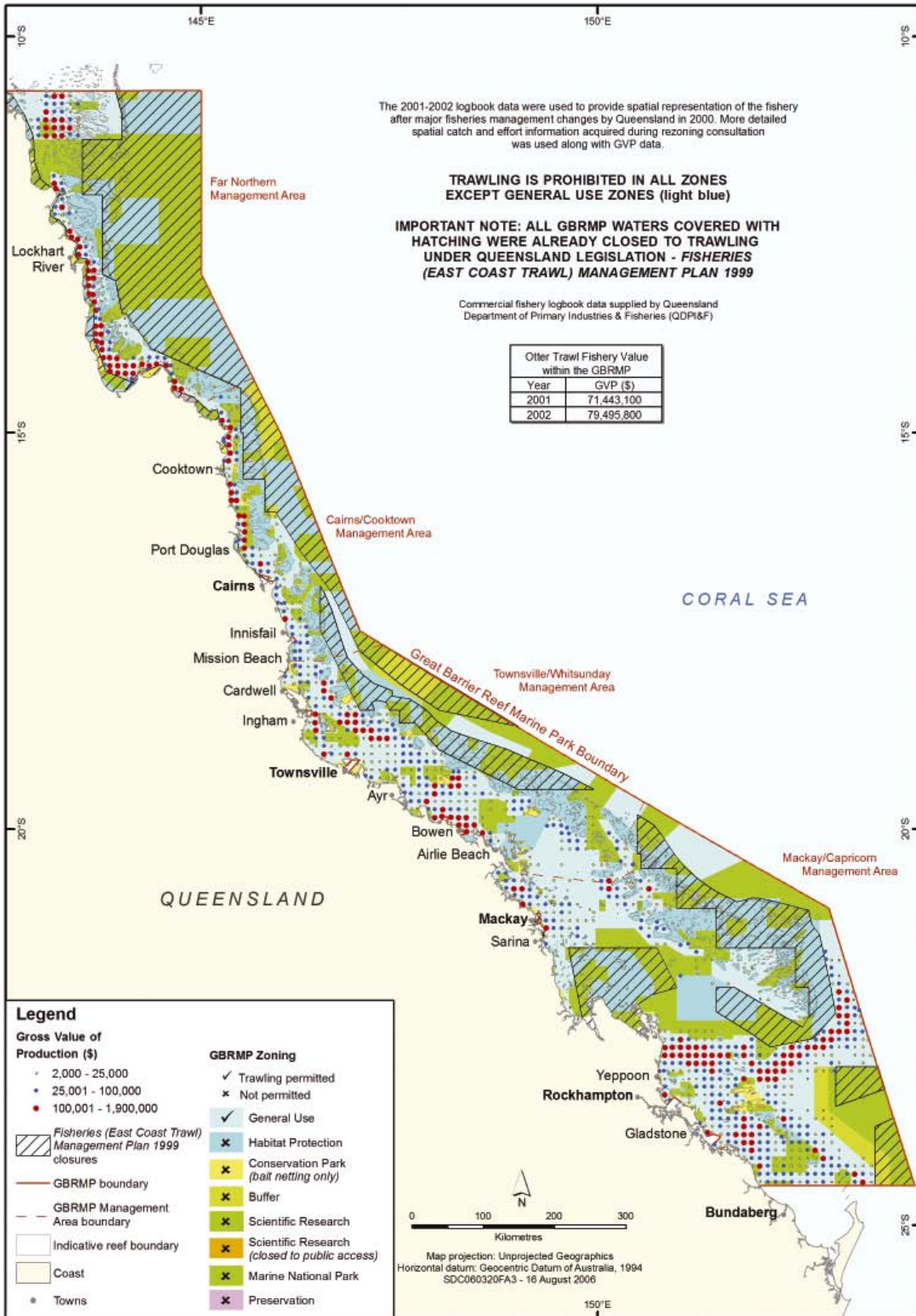
The Draft Zoning Plan was developed after consideration of available natural resource, social, economic and cultural information, as well as management issues and public input. The Draft Zoning Plan built upon the framework established by previous zoning plans, and provided for the first time, zoning of 28 new coastal areas added to the Great Barrier Reef Marine Park between 2000 and 2001.

Map 11: Zoning introduced in July 2004 by the *Great Barrier Reef Marine Park Zoning Plan 2003*

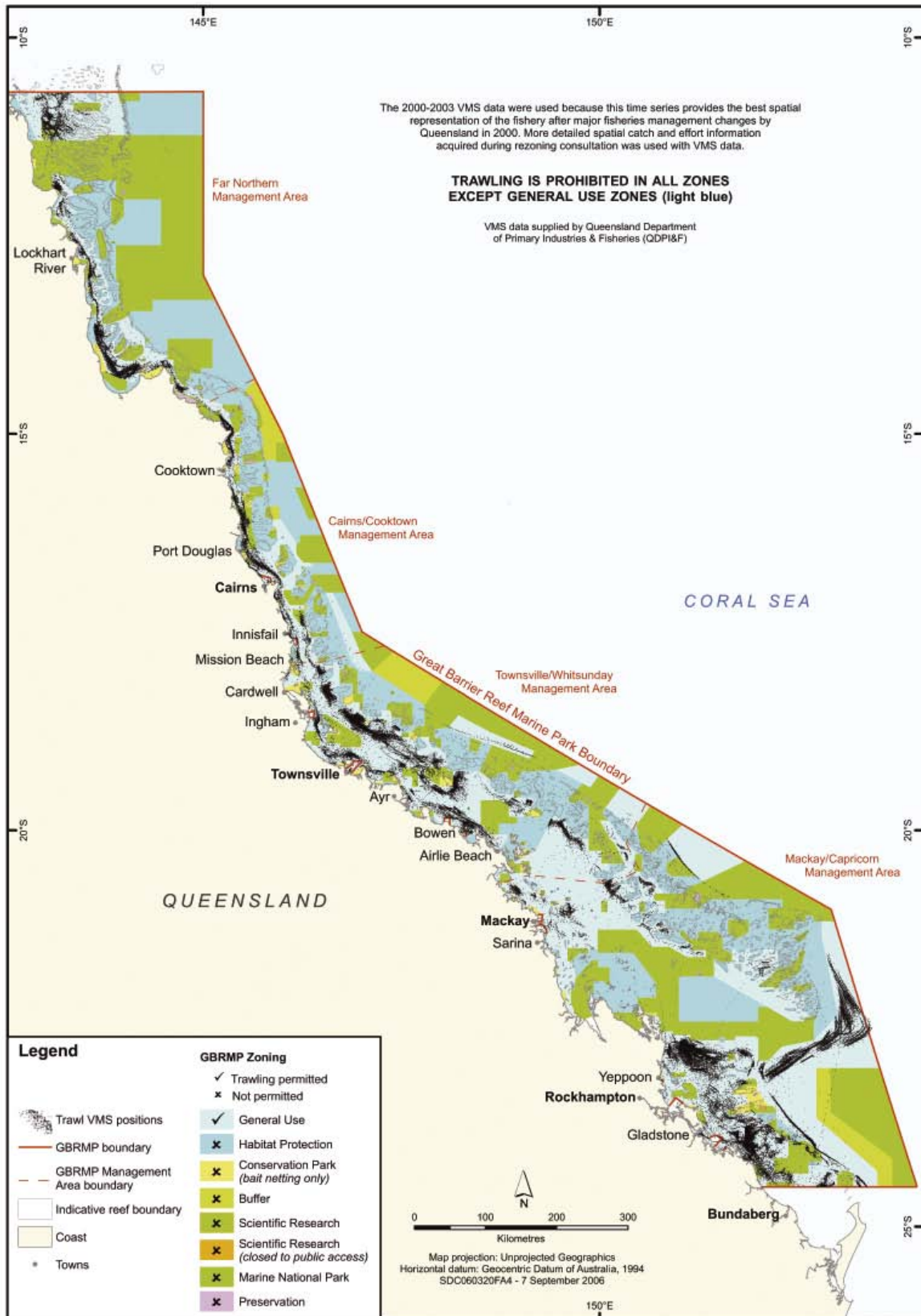


The final zoning for the Great Barrier Reef Marine Park involved consideration of all submissions received during both phases of Community Participation, together with all other available information about the known uses and values for the Marine Park, including ecological, social, cultural and economic information (e.g. commercial and recreational datasets). The final zoning was the result of a weighing up of all uses (often conflicting) and values of the area, whilst maintaining the planning principles. In some areas, the final zoning was a compromise, and no one sector or individual's requests could be totally met in the planning process.

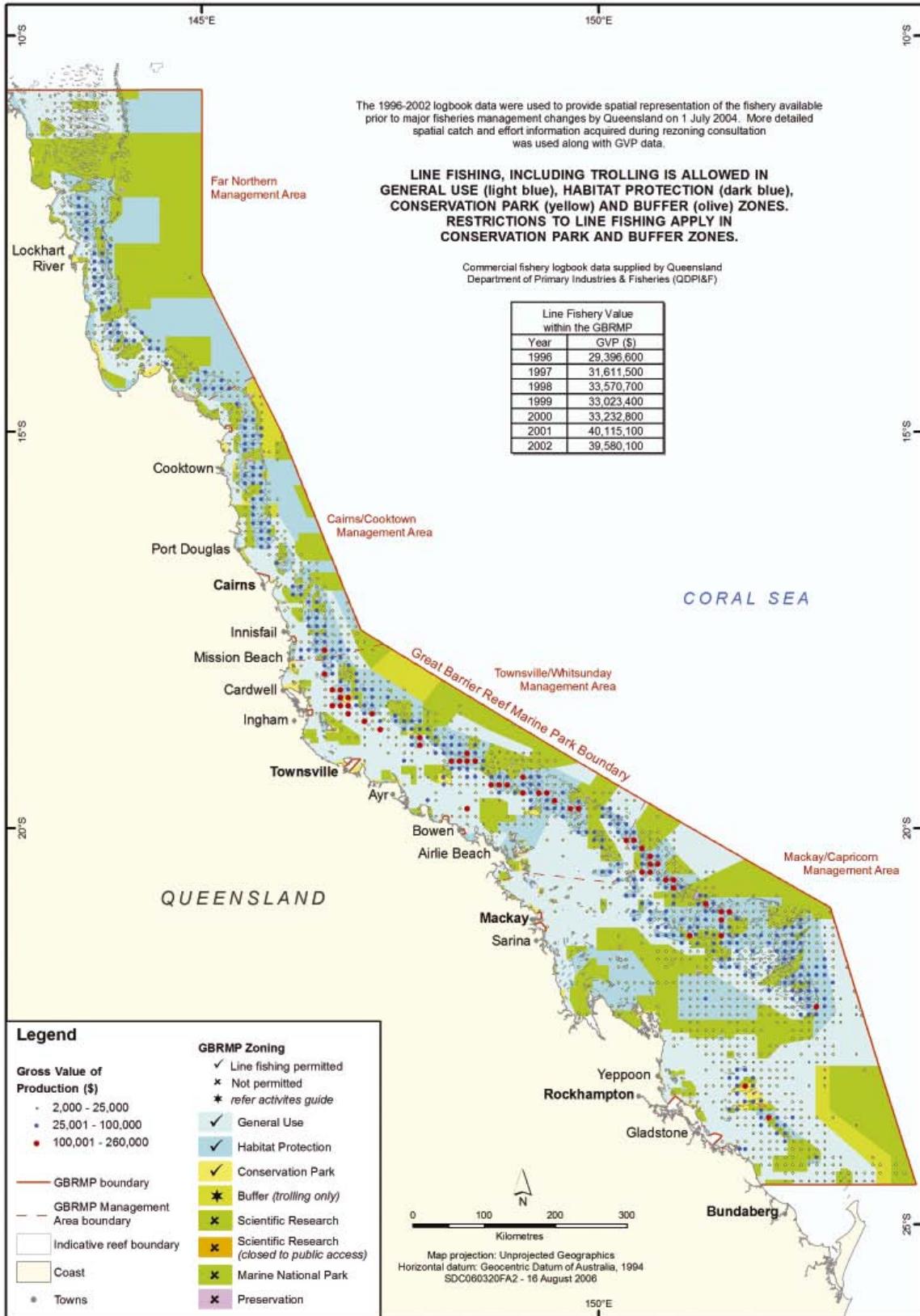
Map 12: East Coast Otter Trawl Fishery Gross Value of Production and the 2003 Zoning Plan



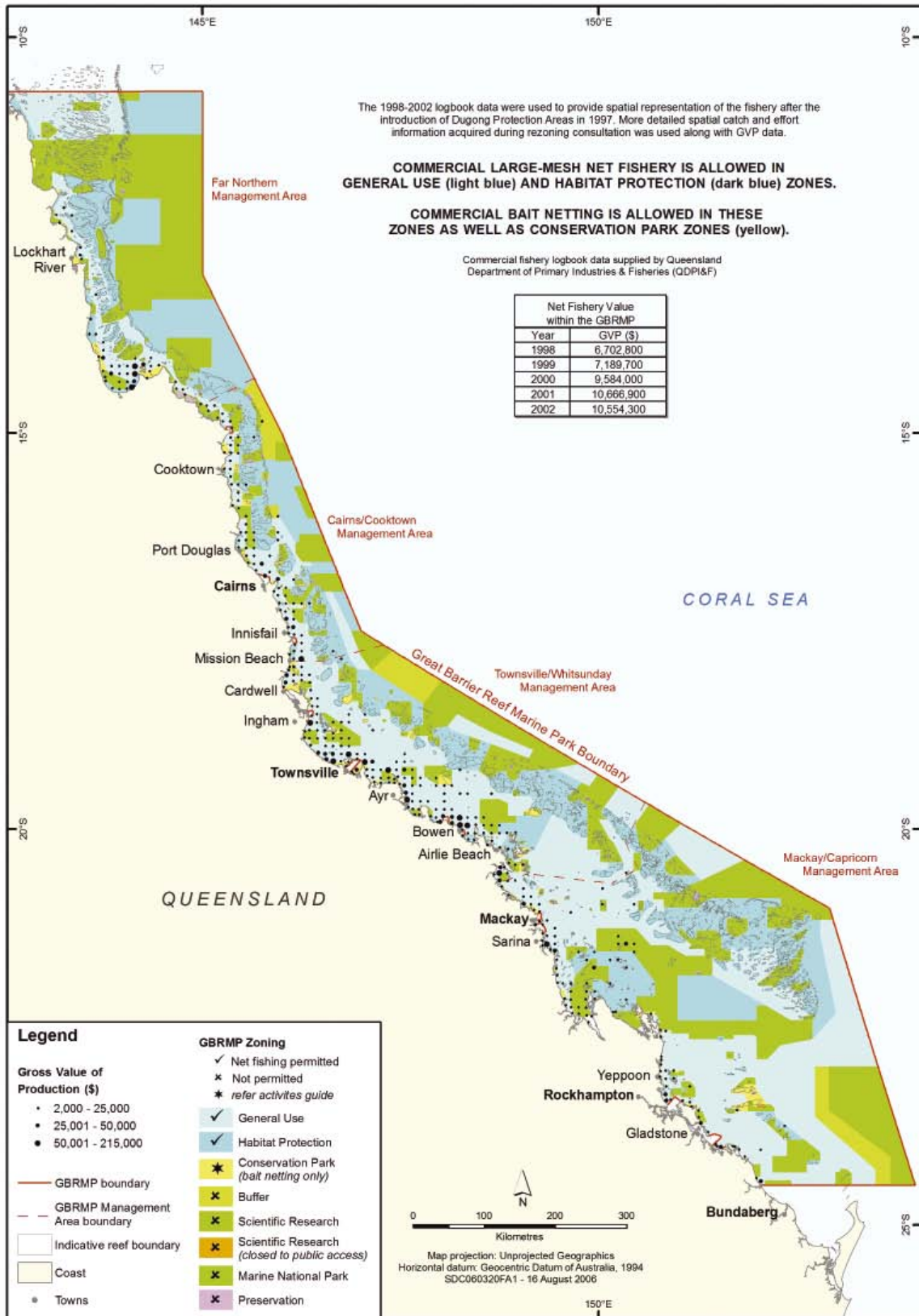
Map 13: East Coast Otter Trawl Fishery Vessel Monitoring System data and the 2003 Zoning Plan



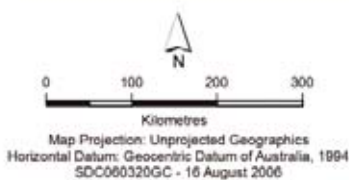
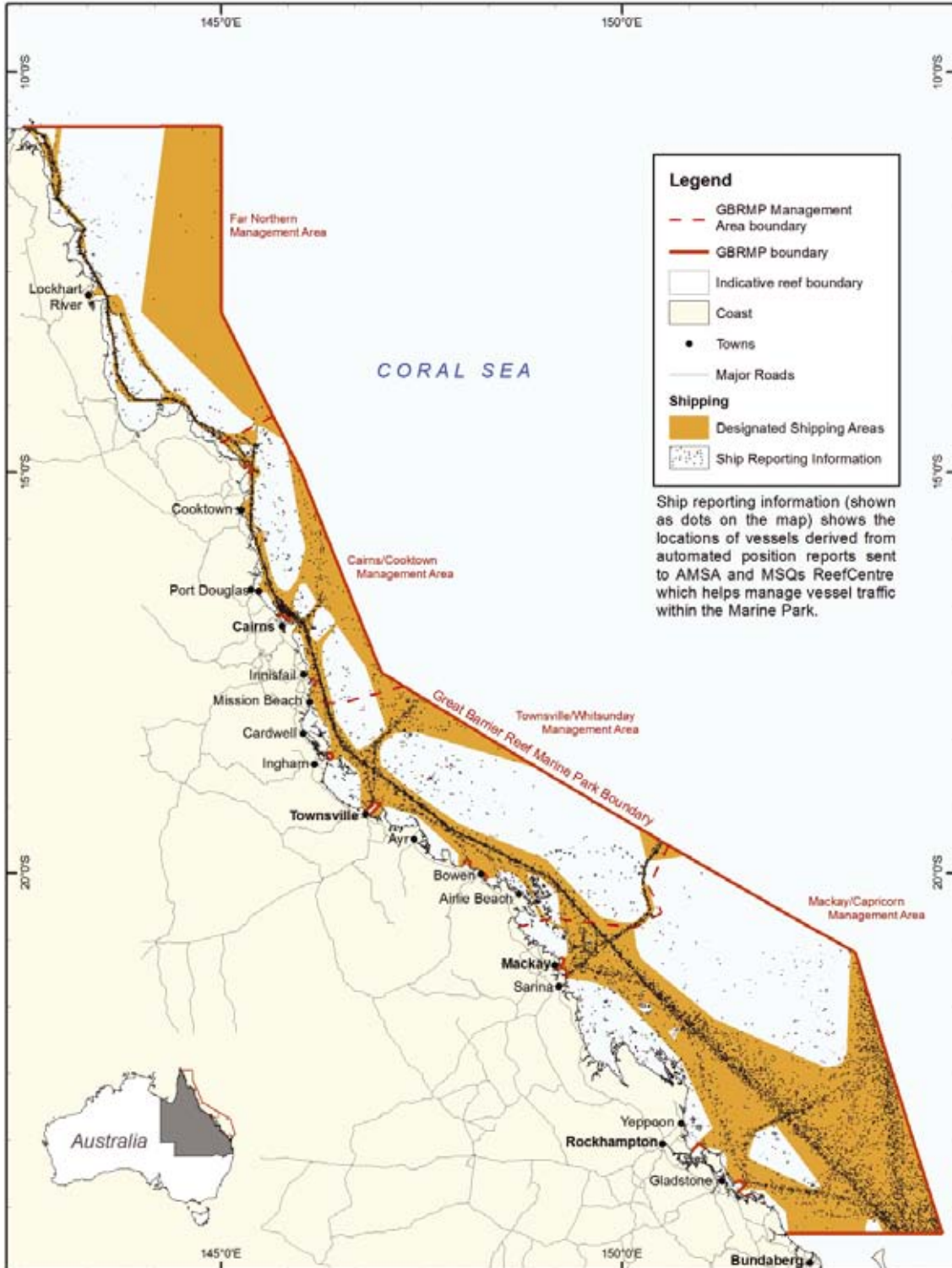
Map 14: East Coast Line Fishery Gross Value of Production and the 2003 Zoning Plan



Map 15: East Coast Net Fishery Gross Value of Production and the 2003 Zoning Plan

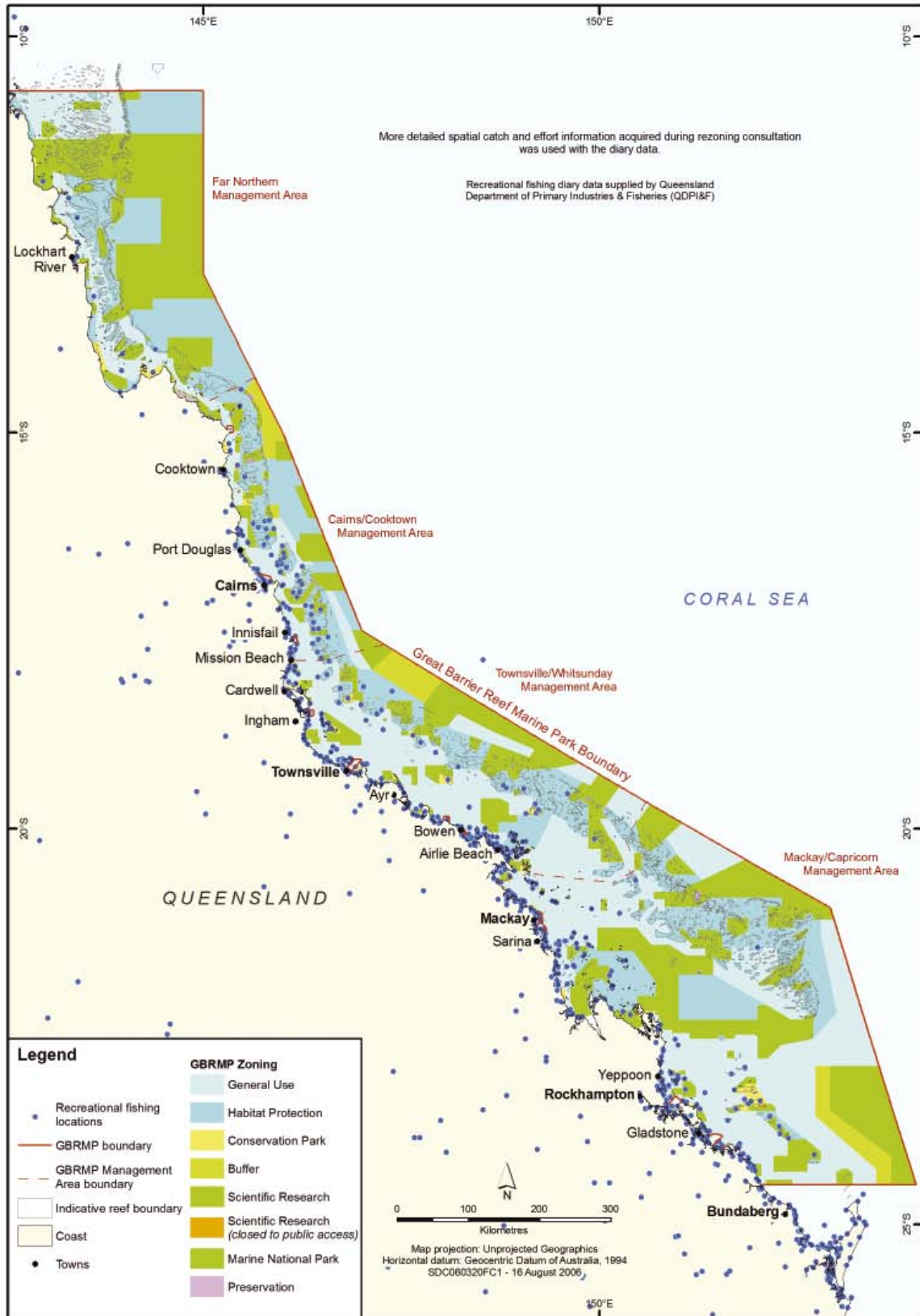


Map 16: Ship reporting information and Designated Shipping Areas in the 2003 Zoning Plan



Shipping is an important user of the Great Barrier Reef Marine Park. Approximately 6,000 ship movements of large vessels in excess of 50 metres in length occur within the Great Barrier Reef and Torres Strait region every year. This map shows the designated shipping areas developed for the final Zoning Plan, and the ship reporting data that helped develop them. The designated shipping areas take into account past and forecast vessel usage patterns in the inner and outer shipping routes, existing recommended tracks and proposed new routes.

Map 17: Recreational fishing diary data and the 2003 Zoning Plan



6.8 Case study of zoning plan development in the Capricorn Bunker Region of the Great Barrier Reef

This section presents a case study that shows at a local level how zoning proposals were developed for one area of the Marine Park. The Review Panel considered five case studies that examined the development of zoning proposals in areas where stakeholders had raised concerns about the process and its outcomes at a local level. The case study presented, of the Capricorn Bunker Region, was chosen as a representative illustration of the way in which the Authority applied the zoning process. The case study looks at the key information sets that were used, such as bioregion location, fishing effort and special sites, and how competing socio-economic and conservation objectives were considered in the development of the draft and final Zoning Plans.

The Capricorn Bunker Region is located off the Queensland coast between Rockhampton and Gladstone (Map 18). The area includes six bioregions, three of which are unique to the area and found in no other part of the Marine Park (Map 19). The Capricorn and Bunker Group of islands and reefs are an important habitat for threatened turtle species such as the loggerhead, green, and hawksbill turtles. The area is part of the Capricornia Cays National Park and includes significant seabird nesting sites.

There are important commercial fisheries operating in the Capricorn Bunker Region. These include otter trawl and line fisheries, a commercial aquarium fishery, and a large proportion of the Queensland Spanner Crab Fishery. The area is also popular with recreational fishers. Many of the islands are popular holiday spots and tourism is an emerging market in the area. In recent years, visitor numbers have increased significantly.

Over 1 150 submissions on the Draft Zoning Plan commented specifically about the Capricorn Bunker Region or the surrounding related areas. Significant changes were made from the Draft Zoning Plan to the final 2003 Zoning Plan in this area as a result of the information provided by stakeholders in submissions and further consultations with the users of the area. In summary, the major changes to accommodate competing user interests were:

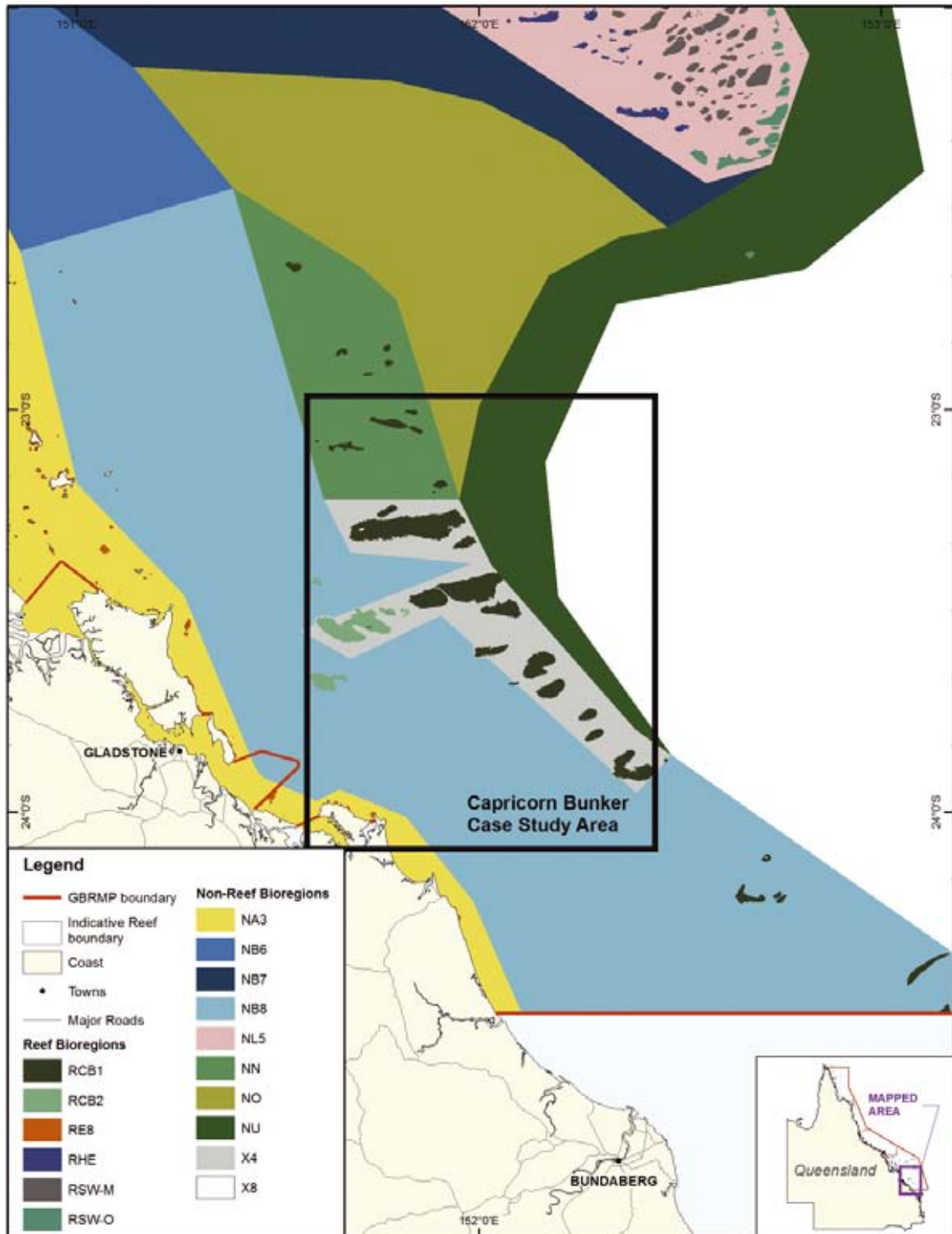
- All boundaries of Green, Yellow and Dark Blue Zones¹⁸ were reduced to avoid impact on trawl and line fishing.
- The Green Zone in the southern Capricorn Bunker Group was moved further south to avoid important spanner crab and trawl fishing grounds.
- The North West Island Green Zone was modified to help improve public understanding of its location and to reduce the impact on the commercial aquarium fishery.
- The Green Zone surrounding Wilson Island, which complements tourism use of this area and protects a bioregion, was not extended, as proposed in some submissions, to reduce the impact on the line fishery.
- Mast Head Island was excluded from the Green Zone to reduce impacts on commercial line and aquarium fisheries, and recreational fishing.
- The Green Zone surrounding the One Tree Island Orange Zone was substantially reduced to allow for recreational drift fishing and commercial line fishing.
- The Orange Zone around Heron Island was reconfigured to reduce impacts on tourism use.

¹⁸ See Figure 7 for explanation of zoning.

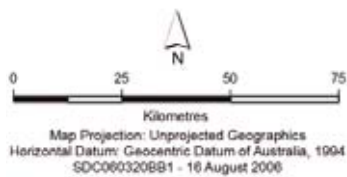
Table 9: Case study maps

Maps 18–19	Reef and non-reef bioregions in the case study area
Maps 20–22	Data on fishing Gross Value of Production considered in developing the zoning
Map 23	Areas identified by stakeholders as important in the first round of public consultation
Map 24	Draft Zoning Plan for Capricorn Bunker case study area
Map 25	Areas of key concern raised by stakeholders in the second round of public consultation
Map 26	Key stakeholder issues reflected in final changes to 2003 Zoning Plan
Map 27	2003 Zoning Plan for the case study area

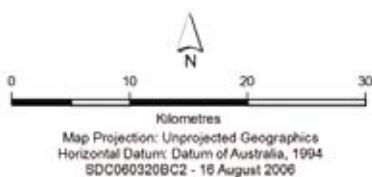
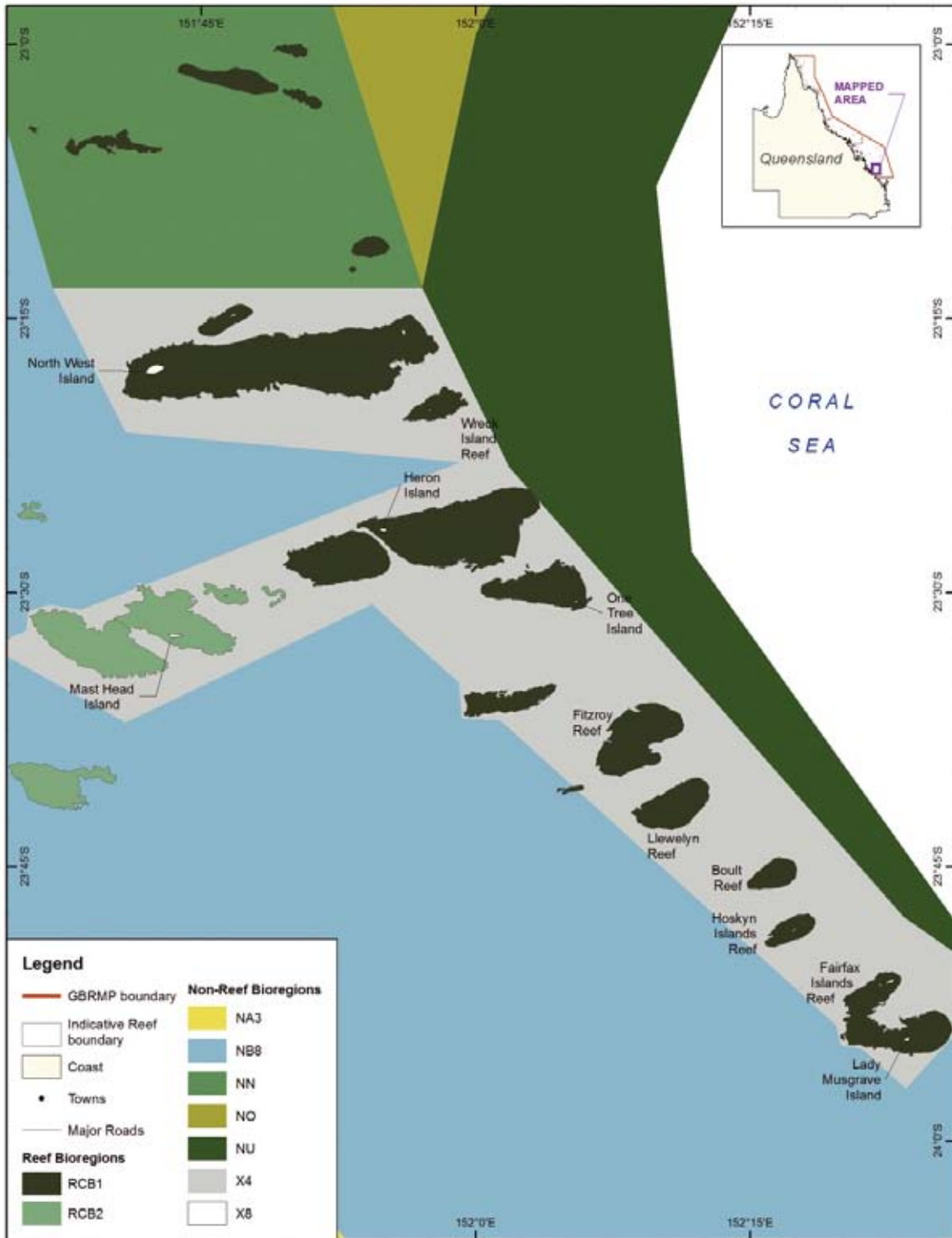
Map 18: Capricorn Bunker Region – bioregions on broad scale



This map shows the reef and non-reef bioregions within the case study area. These regional-scale maps show that most bioregions extend well past the case study area, and consideration of bioregions and meeting the principles Great Barrier Reef wide were both fundamental aspects of the planning considerations.

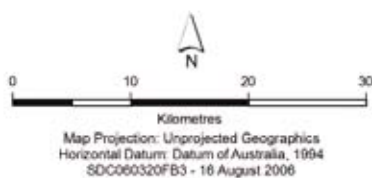
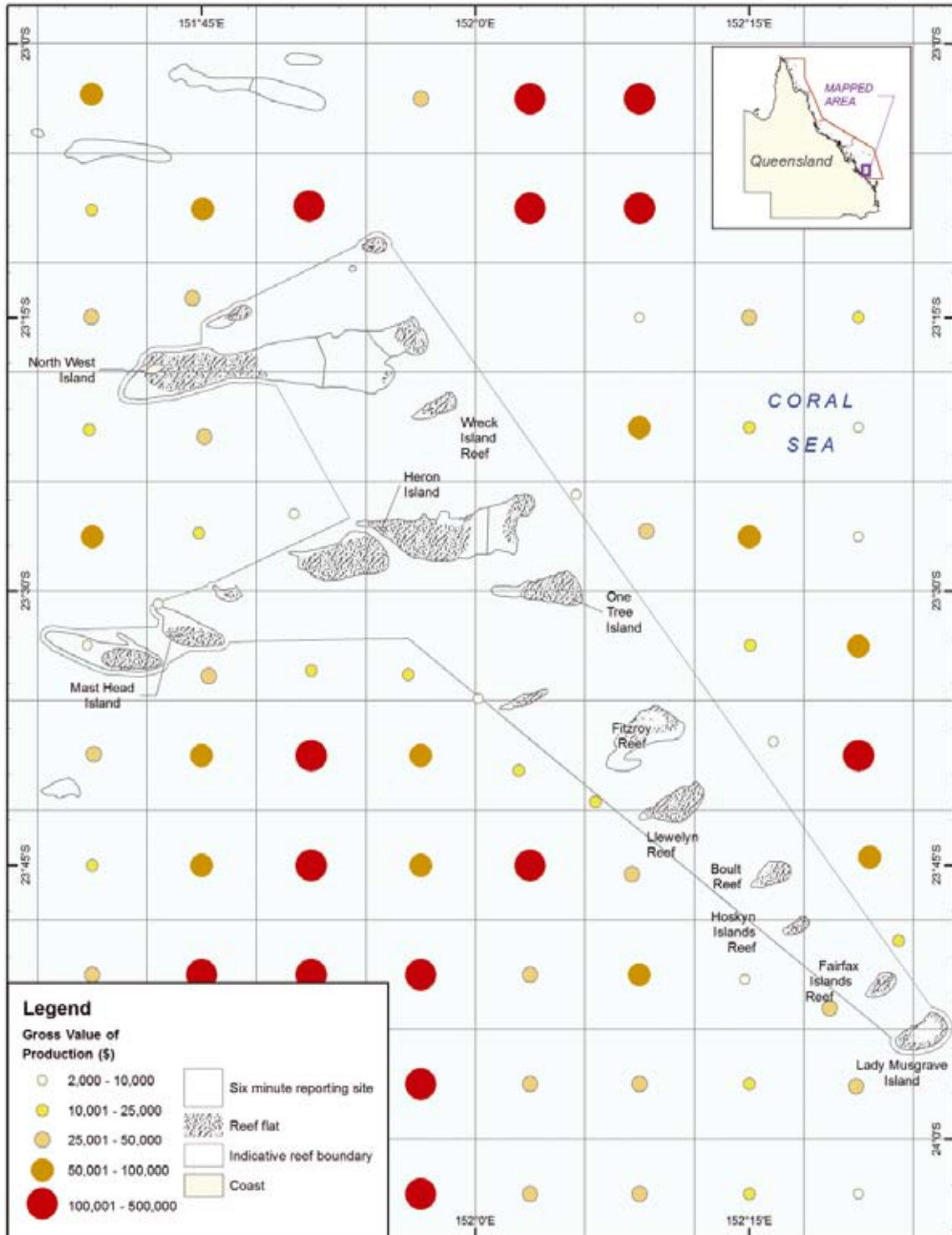


Map 19: Case study area – reef and non-reef bioregions



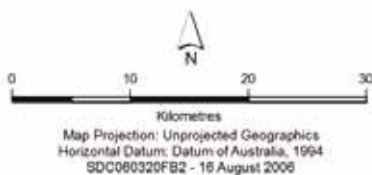
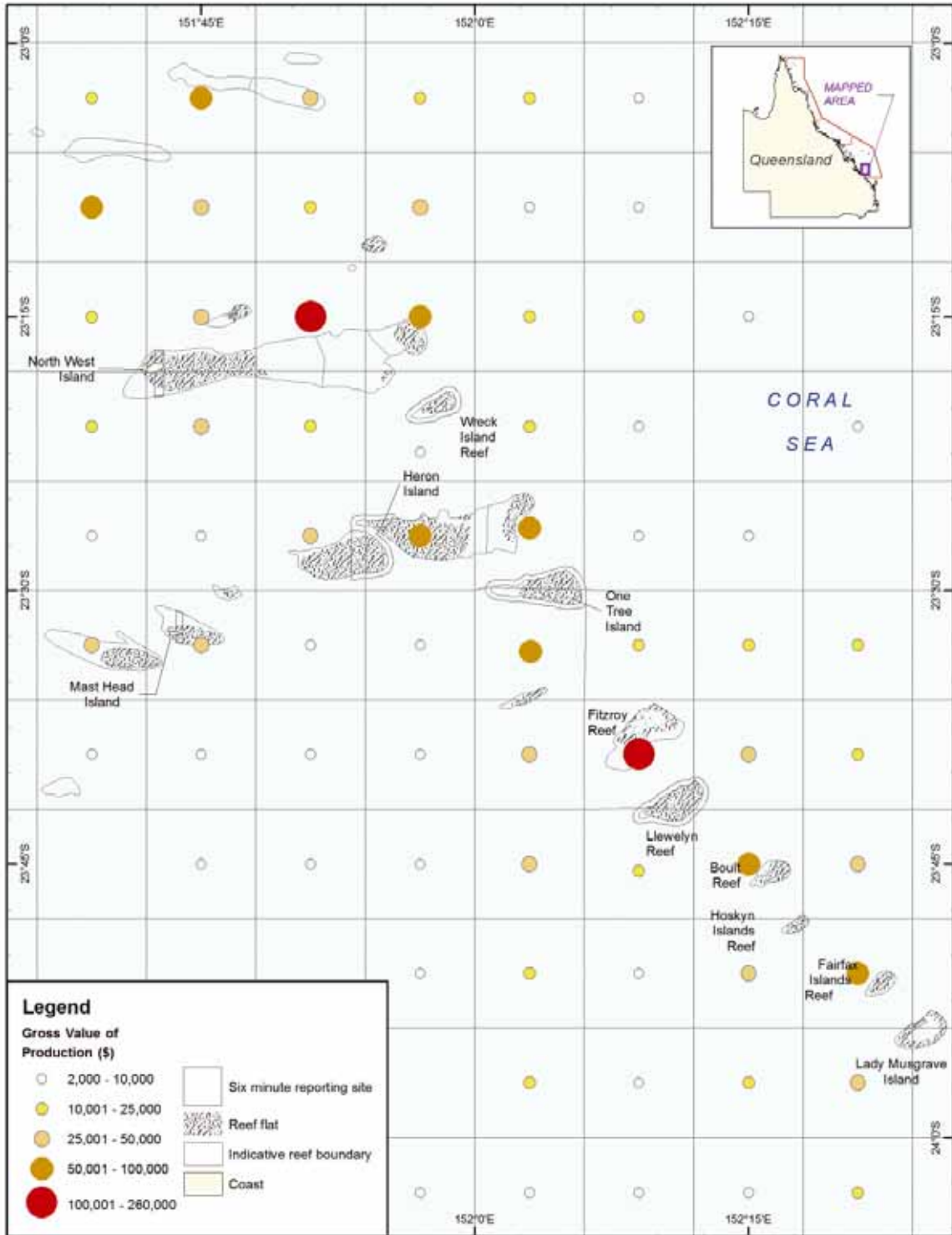
Many of the bioregions depicted above are part of larger bioregions that extend past the area of this map. Consideration of the entire bioregion as well as biophysical operational principles (e.g. protecting a minimum of 20% of each bioregion) were necessary when developing and refining the draft and final Zoning Plan.

Map 20: Case study area – East Coast Commercial Otter Trawl Fishery average Gross Value of Production (GVP) 2001–2002



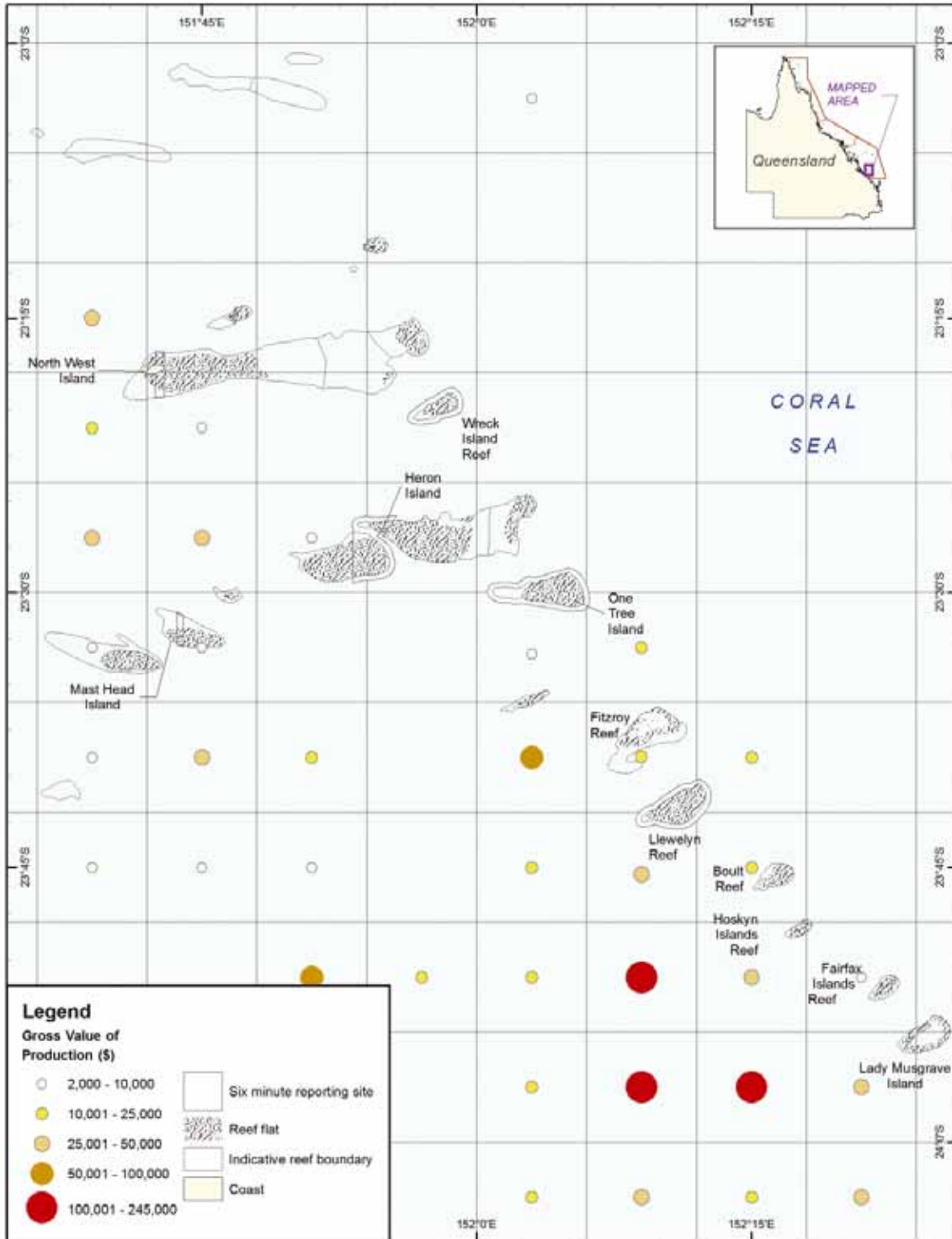
This map indicates the average gross value of production (GVP) for the East Coast Commercial Otter Trawl Fishery (2001 - 2002) for the case study area. 2001 – 2002 logbook data were used to provide spatial representation of the fishery after major fisheries management changes by Queensland in 2000. On the map, catch and effort information is shown in the six minute reporting sites not previously closed to trawling under those management arrangements. More detailed spatial catch and effort information acquired during rezoning consultation was used along with GVP and VMS data.

Map 21: Case study area – Line Fishery Gross Value of Production data



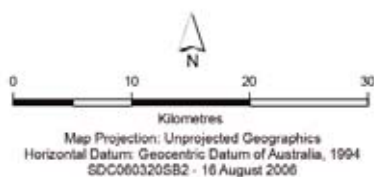
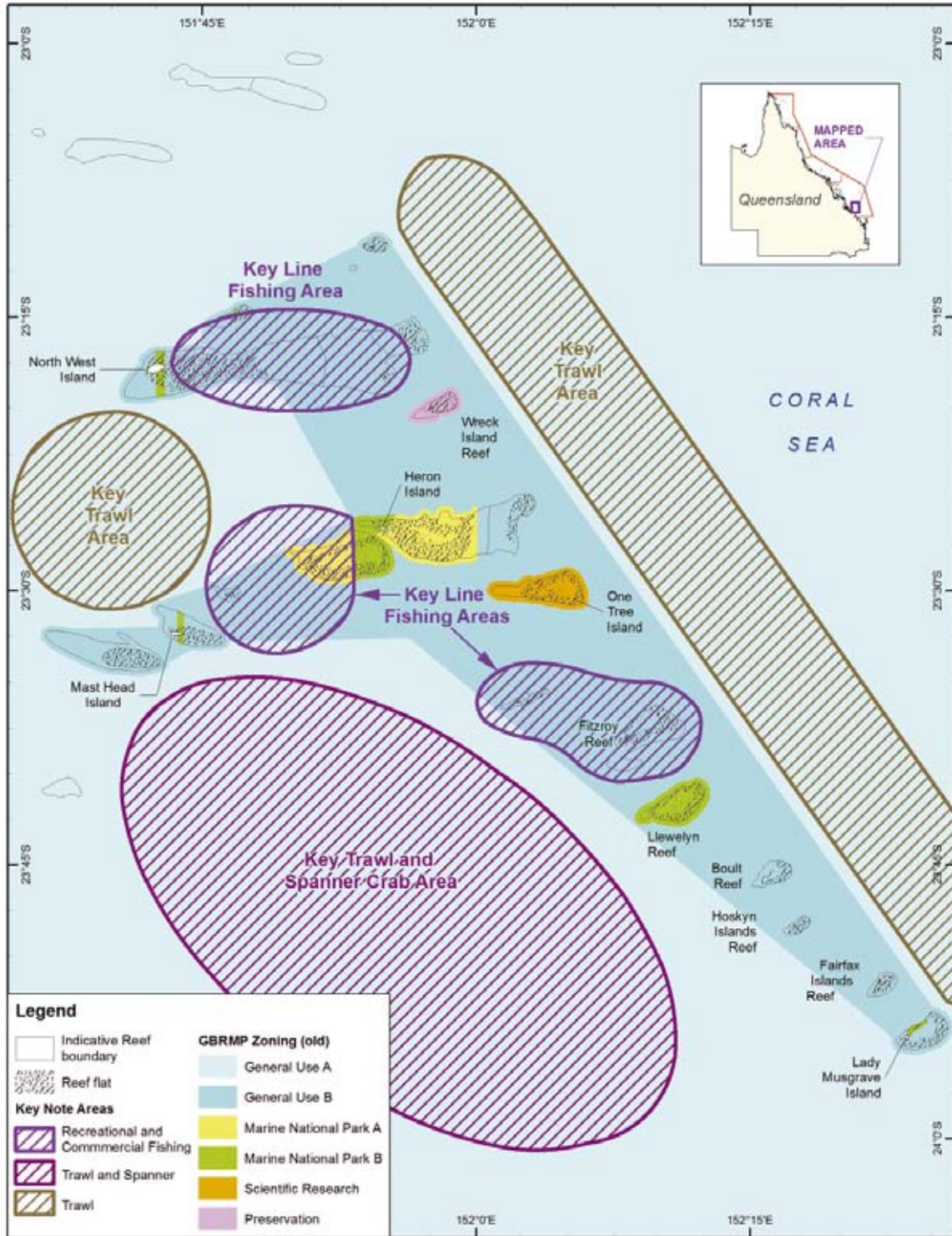
This map indicates the average gross value of production (GVP) for the East Coast Commercial Line Fishery (1996 - 2002) for the case study area. 1996 - 2002 logbook data were used to provide spatial representation of the fishery available prior to major fisheries management changes by Queensland on 1 July 2004. More detailed spatial catch and effort information acquired during rezoning consultation was used along with GVP data.

Map 22: Case study area – Spanner Crab Fishery Gross Value of Production data



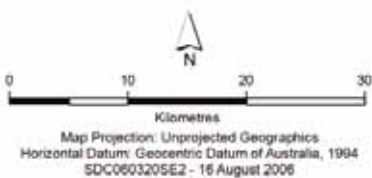
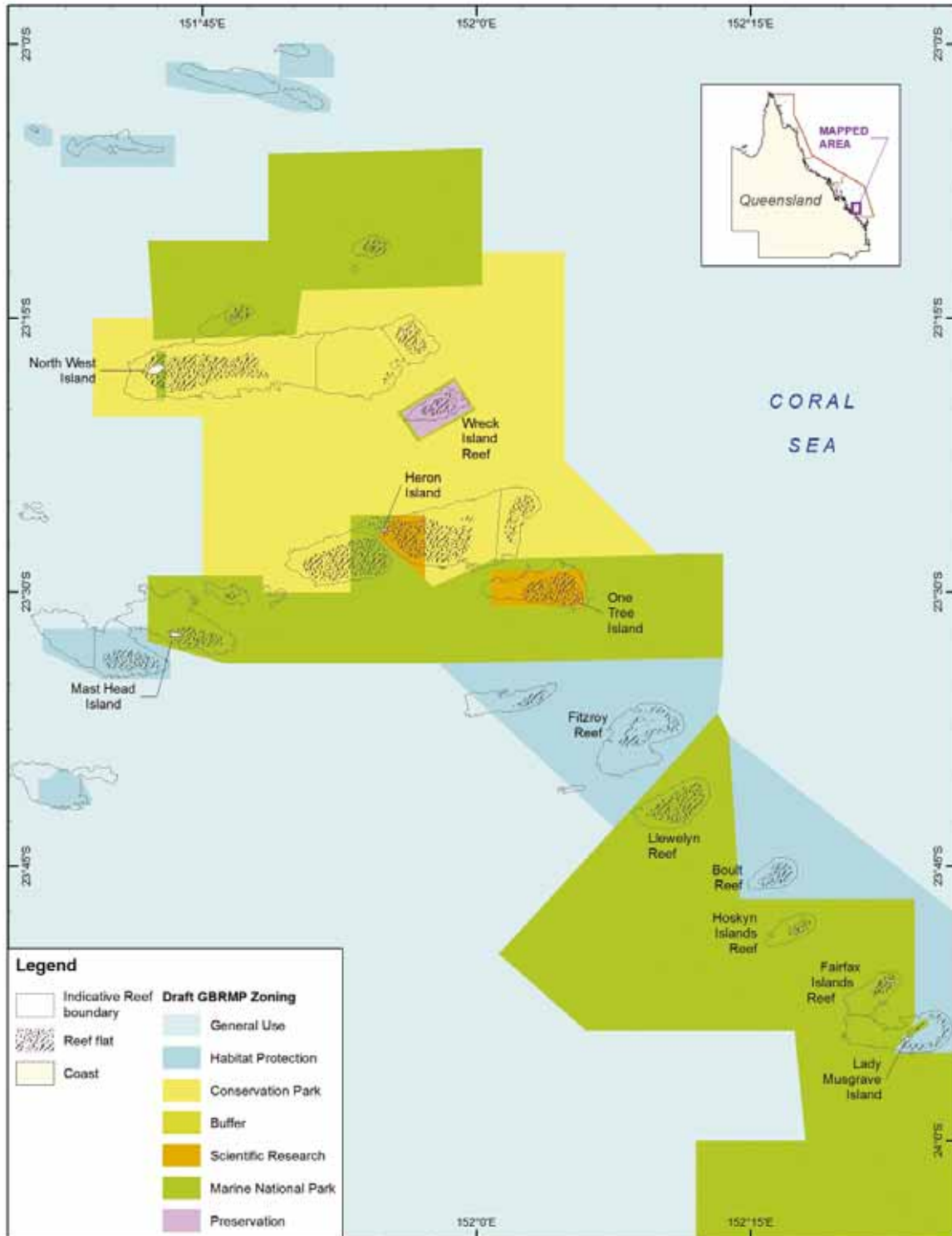
This map indicates the average gross value of production (GVP) for the East Coast Commercial Spanner Crab Fishery (1996 - 2002) for the case study area. 1996 - 2002 logbook data were used to provide spatial representation of the fishery. More detailed spatial catch and effort information acquired during rezoning consultation was used along with GVP data.

Map 23: Areas of importance to stakeholders raised in the first round of public consultation



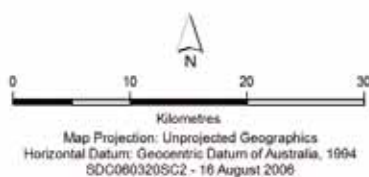
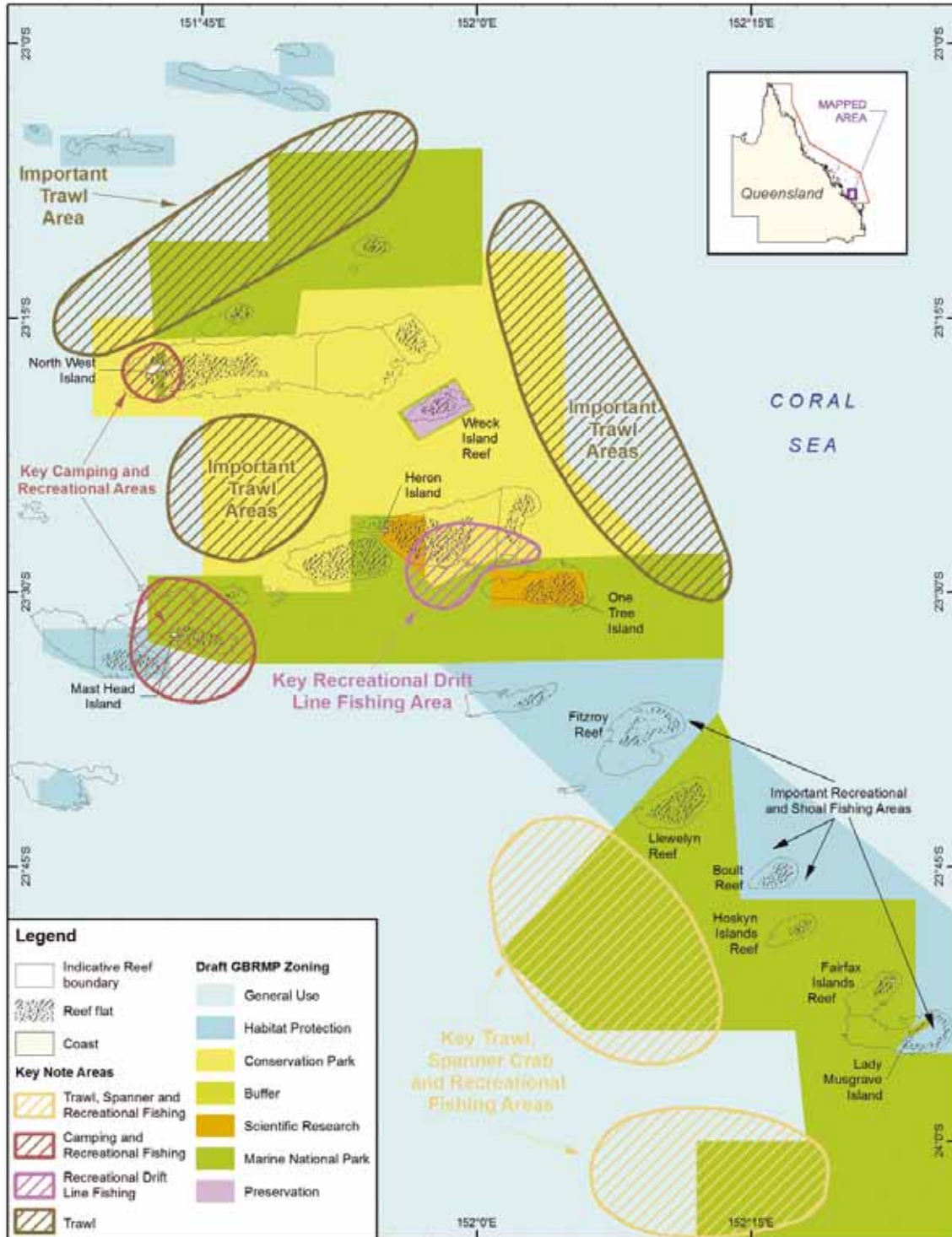
This map indicates key areas of importance identified in submissions received during the first formal Community Participation phase of the rezoning of the Great Barrier Reef Marine Park. The submissions, and the valuable and detailed local information they presented were used to develop the Draft Zoning Plan.

Map 24: Case study area – Draft Zoning Plan



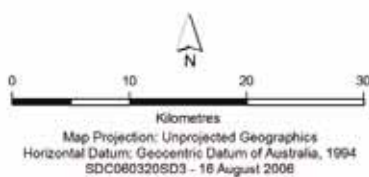
The Draft Zoning Plan was developed after consideration of available natural resource, social, economic and cultural information, as well as management issues and public input. The Draft Zoning Plan built upon the framework established by previous zoning plans, and provided for the first time, zoning of 28 new coastal areas added to the Great Barrier Reef Marine Park between 2000 and 2001.

Map 25: Areas of importance to stakeholders raised in the second round of public consultation



This map indicates key areas of importance raised in submissions commenting upon the Draft Zoning Plan during the second formal Community Participation phase of the rezoning of the Great Barrier Reef Marine Park. The submissions, and the valuable and detailed local information they presented, were used to refine and develop the final zoning of the area.

Map 26: Case study area showing final zoning changes to address key stakeholder issues



The final zoning for the Great Barrier Reef Marine Park involved consideration of all submissions received during both phases of Community Participation, together with all other available information about the known uses and values for the Marine Park, including ecological, social, cultural and economic information (e.g. commercial and recreational datasets).

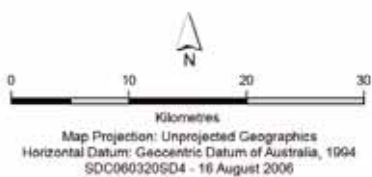
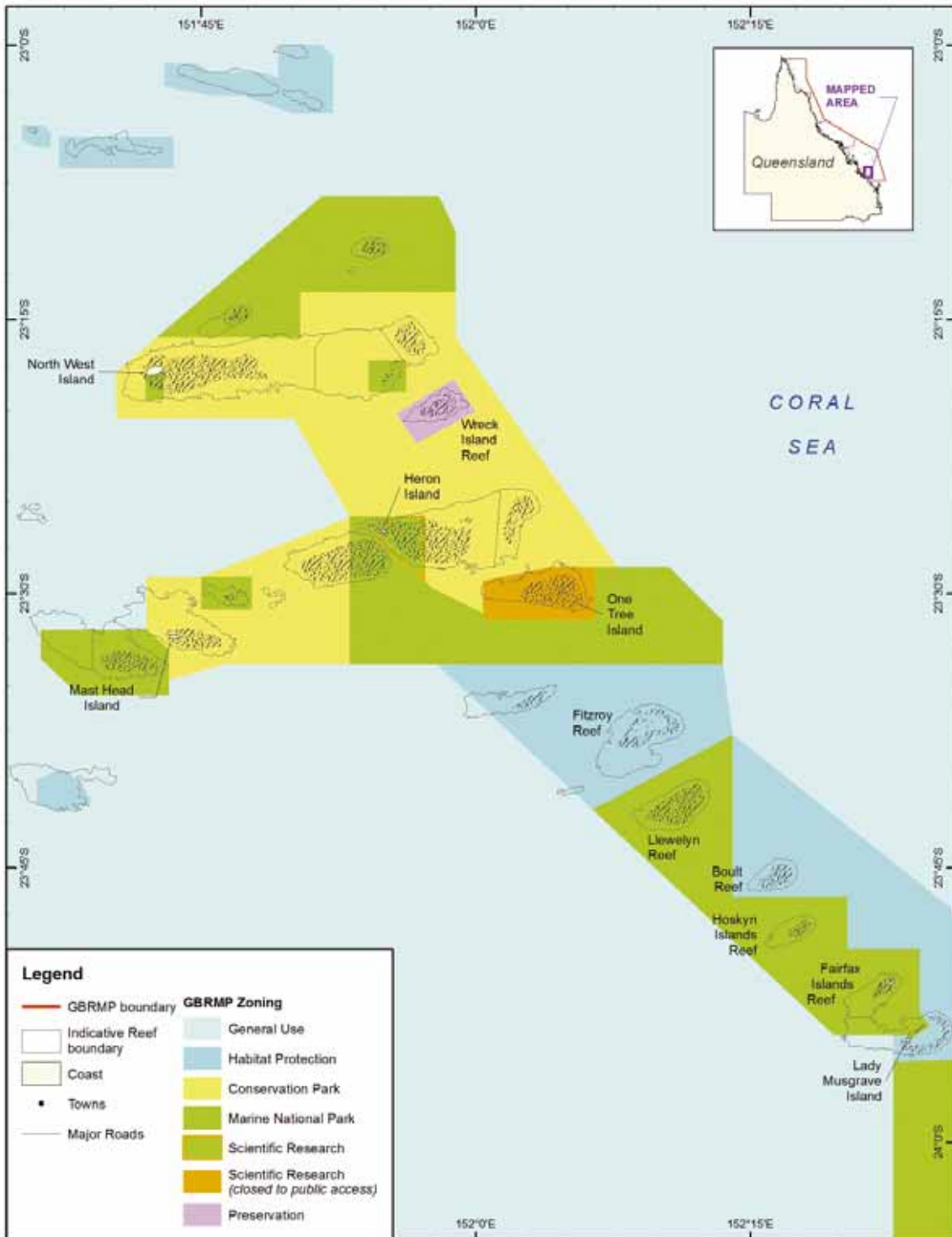
Notes for Map 26

Numbers on map correspond to numbered notes below.

See Figure 7 for guide to zoning.

1	Pink Zone or 'no access area' at Wreck Island recognises its National Park Scientific status and that it is one of the largest loggerhead turtle rookeries in the Marine Park
2	One Tree Island and Heron Island Research Stations. Adjacent reef zoned Orange to allow for continued use for scientific research. Zone boundaries have been contained to reduce impacts on the line fishery that operates in the area
3	The Green Zone covering Tryon Island and North Reef protects important conservation values. Green Zone considerably reduced from Draft to final Zoning Plan, particularly in the north, east and west, to reduce impacts on the trawl fishery
4	Yellow Zone complements the mainly tourism and recreational use of the area, while protecting conservation values (seabirds and turtles). Changed considerably from the Draft Zoning Plan, particularly on the east side to avoid important trawl areas, and on the west side to avoid line fishing areas of Mast Head, North West Islands, and the 'Cabbage Patch'. Boundaries were also not extended to the north and south in the final Zoning Plan to avoid impacts on the line, aquarium fish and spanner crab fisheries
5	Green Zone surrounding Wilson Island Reef complements tourism use of the area but was not extended further as proposed in some submissions, to reduce the impact on the line fishery
6	Green Zone restricted to southern side of North West Island Reef allows important recreational line fishing to continue
7	Green Zones around Erskine Island, Polmaise and Irving Reefs amended from Draft to final Zoning Plan to reduce impacts on line and aquarium fish fisheries on nearby reefs while protecting a bioregion
8	Green Zone recognises importance of deep channels between Wistari and Heron Reefs containing species of special interest. Builds on a previous Green Zone, complements tourism use, but was amended from Draft to final Zoning Plan, particularly on the eastern side, to reduce impacts on the trawl fishery. Sykes and Lamont Reefs omitted from Green Zone to reduce impact on line fishery
9	Green Zone surrounding Llewellyn, Hoskyn, and Fairfax Island Reefs and the northern side of Lady Musgrave Island Reef builds on a previous Green Zone. Fitzroy and Boulton Reefs, shoal grounds to the north of Fairfax Island Reef and the Lady Musgrave lagoon reef area, were omitted from the Green Zone to reduce impacts on line fishery and key recreational areas. Considerable changes from Draft to final Zoning Plan, particularly on the western and eastern sides, and to the north of Fairfax Islands, to reduce impacts on the trawl and spanner crab fisheries
10	Lady Elliot Island Reef is included in a Green Zone. This Green Zone was amended from the Draft Zoning Plan to exclude shoal areas, including the 'Banana Gutter' and the 'West Warregoes', to minimise the impact on line fishing by local communities, identified in submissions as important. Zone boundaries contained to west and north to reduce impact on the trawl and spanner crab fisheries

Map 27: Case study area – final 2003 Zoning Plan



The final zoning for the Great Barrier Reef Marine Park involved consideration of all submissions received during both phases of Community Participation, together with all other available information about the known uses and values for the Marine Park, including ecological, social, cultural and economic information (e.g. commercial and recreational datasets).

7. Pressures on the Marine Park

7 Pressures on the Marine Park

The governance framework, regulatory environment and future role and responsibilities of the Authority needed to deliver long-term protection of the Great Barrier Reef will be shaped by the nature and extent of the threats and pressures facing the ecosystem.

These pressures arise from the multiple uses of the Marine Park, from activities in catchment areas adjacent to the Great Barrier Reef and other external pressures such as climate change. Understanding the nature of these individual pressures and the extent to which their impacts need to be addressed is central to consideration of the changes necessary to the current arrangements. The extent to which these pressures arise from actions that occur within Marine Park boundaries and fall within the purview of the Authority are also an important consideration. The relative risks to the ecosystem posed by these pressures will also influence the future approach required.

The *Great Barrier Reef Marine Park Act 1975* provides for management of the Great Barrier Reef through the establishment, control, care and development of the Marine Park. At the time the Act was passed, the main perceived pressures were mining, oil spills, the crown-of-thorns starfish and management of tourism. The remoteness of large parts of the Great Barrier Reef afforded some protection from user impacts over the first two decades and the multiple use approach to park management could thus initially be delivered by separate regulatory approaches for each issue and sector.

Over the last 10 years tensions have emerged with increasing access to and use of the Marine Park for commercial and recreational activities. Since 1996, for example, a number of investment warnings on commercial fisheries have been issued by the Queensland Department of Primary Industries and Fisheries due to concerns that the fisheries are fully exploited and over-capitalised. Management plans to reduce effort in a number of fisheries have been introduced in parallel with increasing levels of protection and zoning for different uses in both the Marine Park and the Queensland marine park. Financial assistance has been provided jointly on two occasions by the Australian and Queensland governments to address the social and economic impacts of such measures. This assistance was in relation to the implementation of Dugong Protection Areas in 1999 and the update to the *Fisheries (East Coast Trawl) Management Plan 1999* in 2001. Over the period 2004 to 2006 the Australian Government is providing an assistance package for commercial fishers and associated land-based businesses affected by the implementation of the 2003 Zoning Plan (Chapter 11).

Also over the last decade climate change, water quality, increasing population pressure and coastal development have been identified as major pressures on the long-term maintenance of the Great Barrier Reef. These pressures and the measures to address them are largely external to the Marine Park or transcend Park boundaries. They also have national, international and cross-jurisdictional policy implications that require a consistent approach and an integrated framework for decision making.

Robust quantitative and qualitative assessments of pressures and risks will be required to inform actions, strategies and priorities. The need to assess the required level and form of protection of the Marine Park, and to assess any economic and social impacts that may result in the Marine Park or in the catchment area, will be a major challenge for the future. At present, such information is not generally or regularly available in relation to individual pressures or across pressures, with the important exception of the assessments underpinning the *Reef Water Quality Protection Plan*.

This chapter provides a synopsis of the quantitative and qualitative information on the extent of the pressures facing the Great Barrier Reef and the agencies and jurisdictions involved.

7.1 Water quality

Water quality was first identified in 1989 as an emerging pressure on the long-term health and resilience of the Great Barrier Reef. Poor water quality can inhibit development and growth of corals and marine plants, and can support organisms that compete with corals or feed off corals (such as the crown-of-thorns starfish). Other water quality threats include pollution by toxic compounds such as pesticides, oil and acid sulphate soils, altered salinity regimes from discharges of fresh water and introduction of exotic parasites, pathogens and disease.

Water quality in the Great Barrier Reef is influenced by marine and land activities such as agriculture in catchment areas, coastal development, wetland and mangrove clearing, sewage and stormwater discharges from marine outfalls and waste and ballast water discharges from ships.

The diffuse-source pollution that impacts on water quality results from land use practices that occur in water catchments feeding into the Great Barrier Reef. These practices sometimes result in sediment, acidified soil, fertiliser and pesticide being discharged into the Great Barrier Reef via river systems.

The catchment area is very large. It comprises 22 per cent of Queensland's land area, 20 per cent of its population and contains 30 major rivers. Around 80 per cent of land in the catchments adjacent to the Great Barrier Reef supports agricultural production. Fertiliser use has resulted in a doubling of nitrogen exports and a tripling of phosphorus since 1850 and soil erosion ranges at 0.8 to 30 tonnes per hectare per annum. Figure 8 shows the increase in land area used for sugar cultivation in Queensland between 1930 and 1996. Figure 9 shows the increase in phosphorus and nitrogen use in catchment areas over a similar period.

Flood plumes from the major rivers are of concern as they can carry a large volume of pollutants. Their impacts are concentrated on inshore reefs, which put the areas from Port Douglas to Hinchinbrook and from the Whitsunday Islands to Mackay most at risk. These areas contain 28 per cent of inshore reefs and are the most heavily utilised area of the Marine Park by both tourists and fishers.

Figure 8: Increase in Queensland land area used for sugar cultivation, 1930–1996

Source (Gilbert 2001)

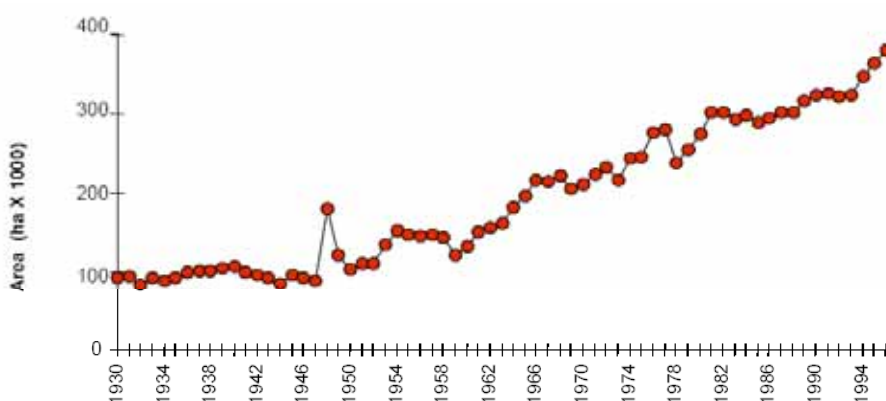
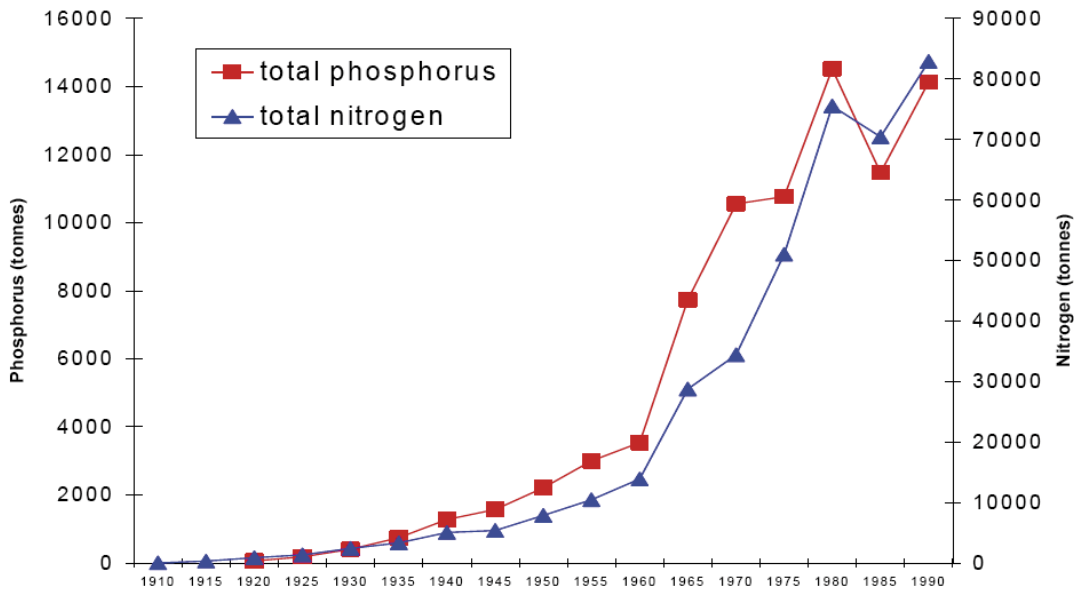


Figure 9: Increase in phosphorus and nitrogen use in the Great Barrier Reef catchment, 1910–1990

Source (Pulsford 1996)



The development of the *Reef Water Quality Protection Plan*

Early responses to water quality concerns focused on controlling point sources of pollution through regulation. Significant investigation of diffuse source pollution from the catchment area was undertaken in 2001 which resulted in a report, released by the Minister for the Environment and Heritage, (GBRMPA 2002) proposing end-of-river load targets for 26 rivers entering the Marine Park. Reports on the issue were also released by the Great Barrier Reef Protection Inter-Departmental Science Panel (2002) and the Productivity Commission (2003).

In 2002, Australian and Queensland government steps related to activities in the catchments adjacent to the Great Barrier Reef affecting water quality were brought together to form a collaborative approach to the issue. In this year, the Prime Minister and the Premier of Queensland signed a Memorandum of Understanding¹⁹ to protect the Great Barrier Reef from land-sourced pollutants. From this, the *Reef Water Quality Protection Plan* was developed and put in place in 2003. The Plan has as its goal halting and reversing the decline in water quality entering the Great Barrier Reef lagoon within 10 years. It has two objectives. The first is to reduce the load of pollutants from diffuse sources in the water entering the Great Barrier Reef. The second is to rehabilitate and conserve areas of the catchment that have a role in removing water borne pollutants. There are nine major strategies and 65 key actions under the Plan. The development of the Plan was underpinned by scientific and socio-economic assessments.

Funding for many activities under the *Reef Water Quality Protection Plan* is provided through the *National Action Plan for Salinity and Water Quality* and the Natural Heritage Trust. Further funding beyond the agreed timetables for the *National Action Plan* and the Trust will be settled by governments through future budget processes.

¹⁹ Memorandum of Understanding between the Commonwealth Government and the Government of the State of Queensland on Cooperation to Protect the Great Barrier Reef from Land-sourced Pollutants.

The Memorandum of Understanding makes explicit the objectives of the arrangement, the basis of the approach, the process and timelines for developing the *Reef Water Quality Protection Plan*. It also ensures transparency and accountability. There is a requirement for independent audit on progress against the Plan and two formal progress reports through the Ministerial Council back to the Prime Minister and Queensland Premier. The first such report occurred in 2005 and the second is due in 2010. The Memorandum of Understanding establishes an Intergovernmental Steering Committee to oversee the process comprising seven agencies including the Authority.

In addition to the *Reef Water Quality Protection Plan*, there are a number of government initiatives directed at improving water quality. These include the development of coastal management plans, water recycling strategies, the *National Action Plan for Salinity and Water Quality* and Natural Heritage Trust programmes and measures (for example, the Coastal Catchments Initiative). Queensland legislation such as the *Land Act 1994*, *Water Act 2000*, *Vegetation Management Act 1999* and *Environment Protection Act 1994* also plays a role in controlling activities affecting water quality.

7.2 Climate change

Research by the Global Coral Reef Monitoring Network (GCRMN 2000, 2004) indicates that 11 per cent of the world's reefs have been lost due to human impacts and a further 16 per cent to the massive climate-related coral bleaching event in 1998. It has been estimated that 58 per cent of the world's reefs are threatened (World Resources Institute 1998).

The single largest cause of this loss and threat of future losses is coral bleaching. In 1988, for example, a significant climate-related bleaching event destroyed 16 per cent of coral reefs in the world in nine months. Only around half of these damaged reefs are likely to recover over the next 20 years.

Australian coral reefs are currently in good condition relative to the rest of the world. Healthy coral reefs will be more resilient to human and climate change pressures. For example, only 3 per cent of the Great Barrier Reef was lost in the 1998 bleaching event, whereas the loss in the West Indian Ocean was 48 per cent.

Over the coming century, global climate change is expected to lead to:

- increased air and sea-surface temperatures
- rises in sea level
- ocean acidification
- changes in weather patterns
- more frequent storms, droughts, floods and other extremes of weather in some places
- possible alterations in the pattern of ocean circulation.

The Intergovernmental Panel on Climate Change (IPCC 2001) foreshadows major impacts on the world's coral reefs, including the Great Barrier Reef, as a result of climate change. It suggests there will be more extensive coral bleaching and reduced species biodiversity and fish yield from reefs. The resilience of coral to bleaching events will depend on the extent of other concurrent pressures, in particular declining water quality.

Coral bleaching is a natural event. However, the intensity and frequency of bleaching events is likely to increase with global warming. Mass bleaching occurs when the sea surface temperature rises above the tolerance range for the particular coral type, which, in the case of the Great Barrier Reef, is usually in the range of 28 to 32 degrees Celsius. Bleaching also occurs during extreme low tides or heavy fresh water run-off onto reefs.

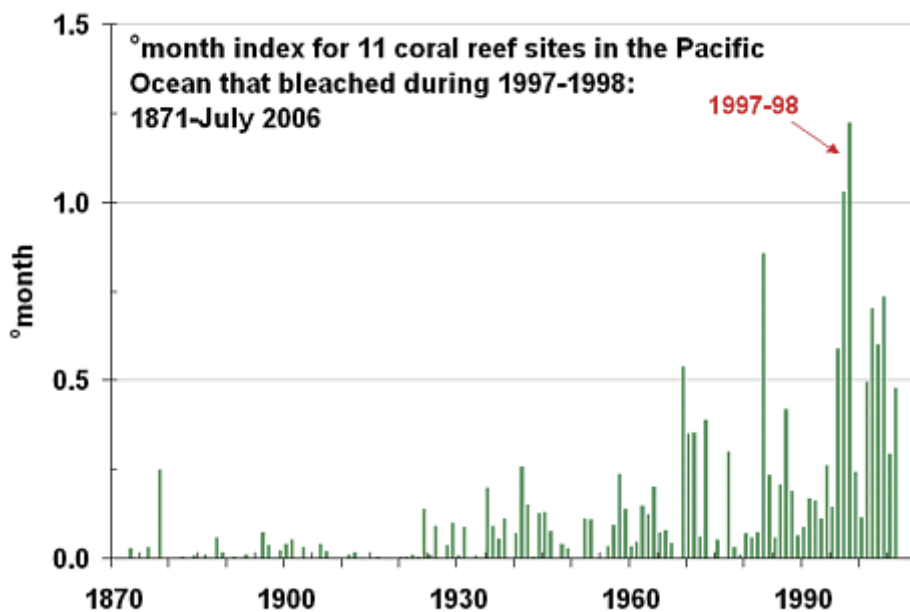
Other impacts of climate change are also of potential concern. Increased sea levels may inundate wetlands, estuaries, mangroves, intertidal and coastal areas and reduce biodiversity and water quality.

Increased intensity of storm events such as cyclones is likely to increase the severity and breadth of storm damage to ecological communities. Absorption of carbon dioxide by the oceans causes higher acidity. This changes the concentrations of carbonate and bicarbonate ions available to marine organisms that may lead to slower growth and weaker skeletons. This may increase the rate of erosion of reefs and impact more broadly upon marine life, as many of the species potentially affected sit at or close to the bottom of food chains.

In 1998, the worst coral bleaching event in 700 years occurred on the Great Barrier Reef (Lough 2000). This was followed in 2002 by the warmest year for sea water temperatures in north-east Australia since 1870. There was major bleaching in this year affecting 60 per cent of the Great Barrier Reef. By 2004, many of the catastrophic declines in some species as a result of these events had been fully reversed, which demonstrates the current resilience of the reef (Australian Greenhouse Office 2003). Figure 10 plots annual thermal stress indices, showing the increasing frequency of bleaching events since 1871.

Figure 10: Annual thermal stress indices averaged from 11 sites in the Pacific Ocean, 1871–2006

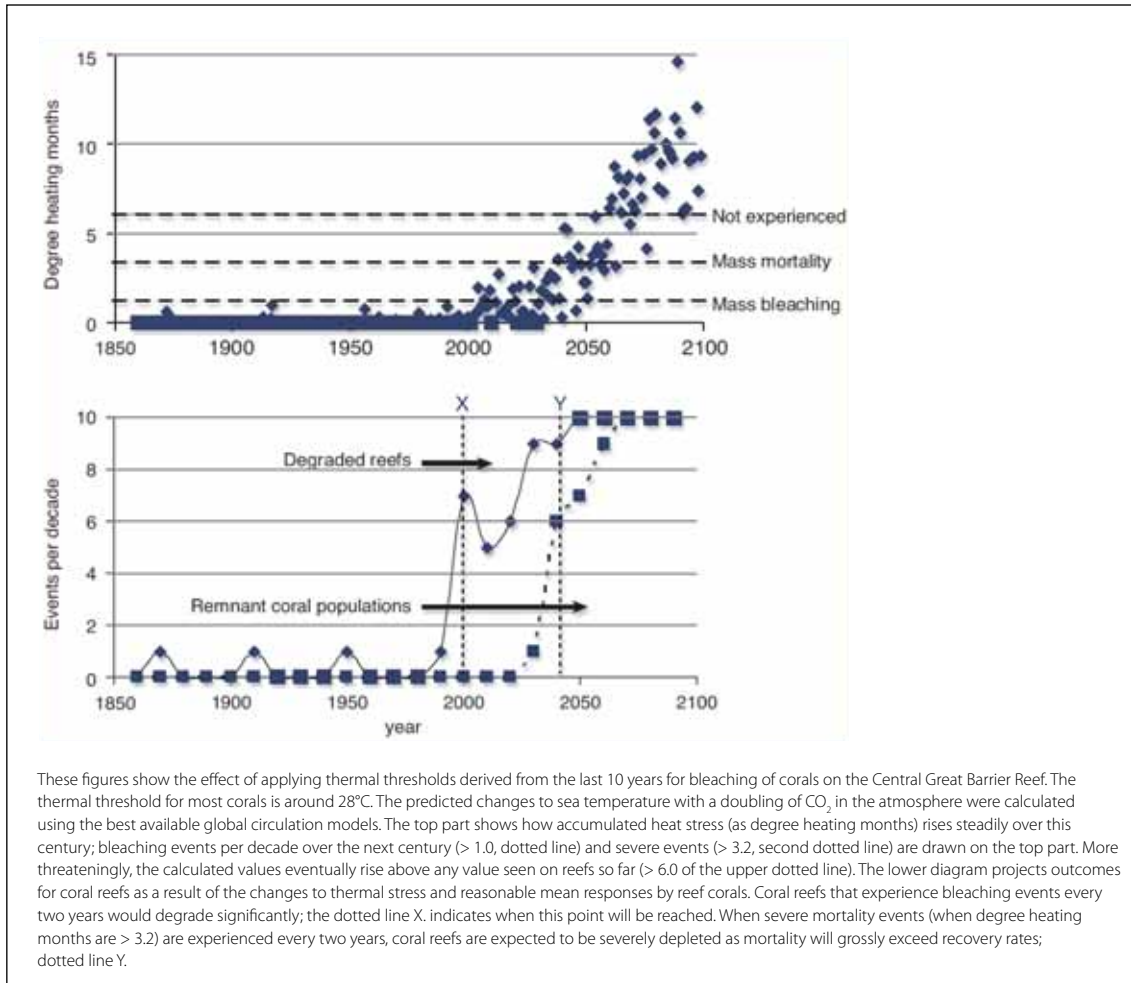
Source (Lough 2006)



The average warming in Australia's coral reef regions is expected to be in the range of 2 to 5 degrees Celsius by the year 2100. This suggests that the Great Barrier Reef will experience temperatures above present bleaching thresholds almost every year well before the end of the century (see Figure 11). This increased frequency and intensity of bleaching events will place the coral reefs under considerable pressure as there will be minimal recovery time between bleaching events. Coral may be able to adapt initially through selection of more heat tolerant coral and algae species. However, scientists expect that the rate and extent of adaptation will be slower than necessary for the corals to resist the projected frequency and severity of high sea surface temperatures.

Figure 11: Projected bleaching events Great Barrier Reef

Source (GCRMN 2004)



7.3 Coastal development

The *Australian State of the Environment Report 2001* (Australian State of the Environment Committee 2001) concluded that Australia's coastal and marine environments are likely to be under increasing pressure over the next decade. The 'sea change' phenomenon is a growing pressure on the coastal environment around Australia, including the Great Barrier Reef. Population growth in coastal areas outside capital cities is 50 per cent higher than the national average. The population along the coast of the Great Barrier Reef is currently around 850 000 and expected to grow to one million by 2026.

There are 21 local government areas adjacent to the Great Barrier Reef. Most have populations of around 25 000, but some have up to 140 000. An assessment of these local government areas shows population increases from 5 to 65 per cent from 1986 to 1991 and expected changes of from 1 per cent in the Cape York Peninsula Coast to 73 per cent in the northern Wide Bay Coast between 1996 and 2011 (GBRMPA 1998). There is also increasing resource and heavy industry development that is providing strong economic growth and exports in the region. The economics of coastal development are a clear business driver and will provide challenges into the future for environmental protection.

Table 10: Population change in coastal regions adjacent to the Great Barrier Reef

Source (GBRMPA 1998)

	% change 1986–1996	% change 1996–2011
Cape York Peninsula Coast	15	1
Wet Tropic Coast	38	34
Cardwell/Hinchinbrook Coast	5	4
Dry Tropic Coast	14	27
Whitsunday Coast	24	23
Capricorn Coast	33	41
Curtis Coast	21	24
Wide Bay Coast (northern section)	65	73

Continuing coastal development will result in a number of pressures on the Great Barrier Reef. First, increasing population will increase local demand for commercial and for recreational use of the Marine Park. Secondly, development can impact on water quality through pollution, increasing water turbidity from run-off and through the release of acid from acid sulphate coastal soils. A further pressure arises from the reduction in coastal habitats such as mangroves, salt marshes, salt flats, wetlands, sea grass beds, dunes, estuaries, and intertidal mudflats.

Another source of pressure is heavy industry. Heavy industry within catchments adjacent to the Great Barrier Reef includes alumina, shale oil, zinc, copper and nickel refineries and power stations. There are 13 existing heavy industry operations and five proposals for further developments in the Gladstone area.

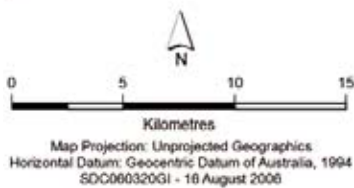
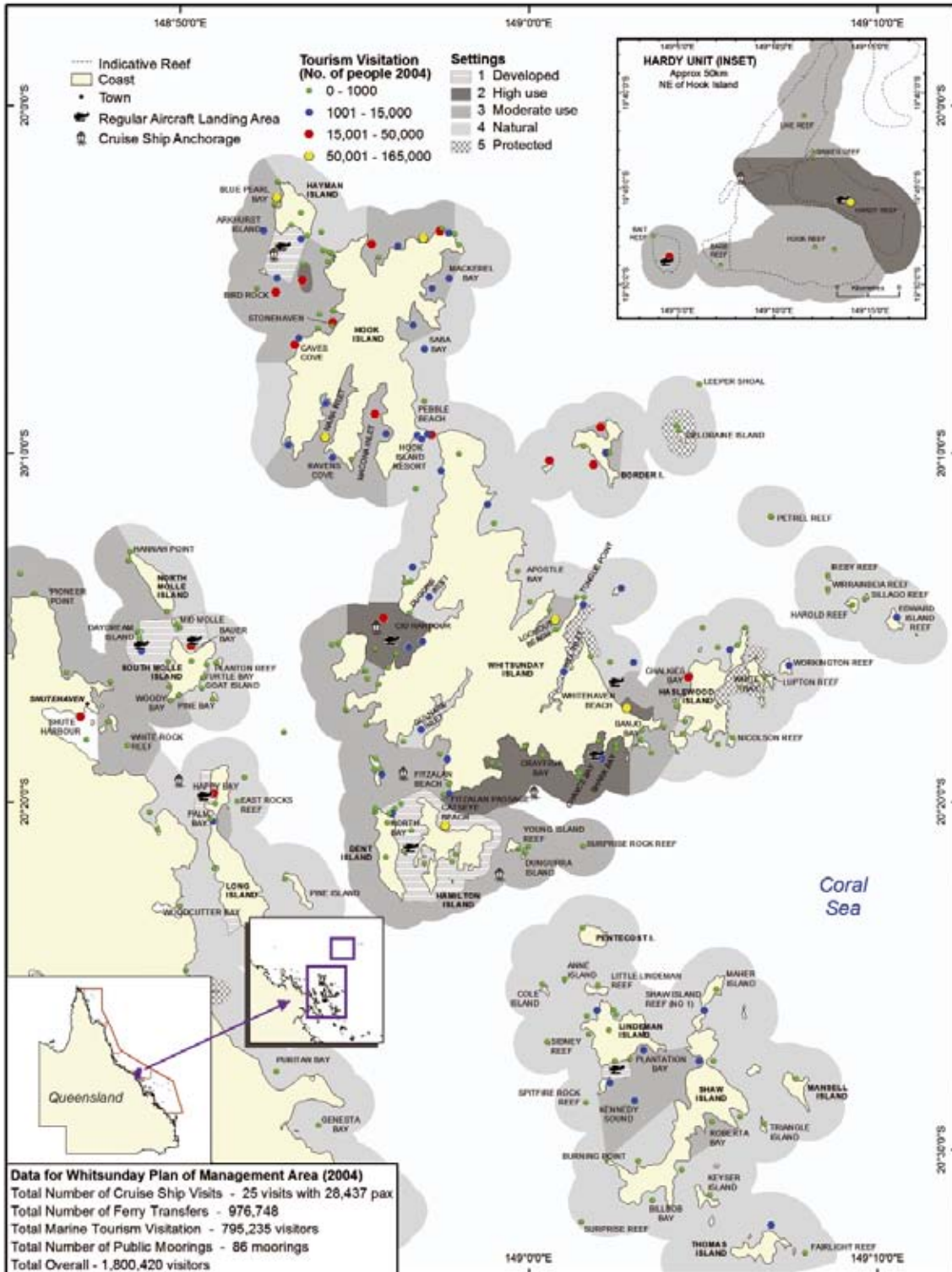
Effluent discharged into waterways and the marine environment is subject to Queensland and local government regulation. In particular, point source pollution is generally managed through environmental assessments and approvals under the Queensland *Environment Protection Act 1994*. In addition, the Queensland *Integrated Planning Act 1997* has implications for coastal development regulation. Its purpose is to balance community well-being, economic development and the protection of the natural environment.

7.4 Tourism

Tourism is a major contributor to the economy of the areas of Queensland adjacent to the Great Barrier Reef. One of the main attractions of the Great Barrier Reef to tourists is its good condition relative to the rest of the world's reefs. Pressures on the health of the Great Barrier Reef are therefore a key concern to the tourism industry.

Tourism is one of the major commercial uses of the Marine Park. Tourism activities include day tours on high speed catamarans, dive tours, boat hire, cruise ships, and island resorts. Other activities include recreational fishing, particularly charter boat fishing. In 2005, there were 840 operators and 1 500 vessels permitted to operate in the Marine Park. Environmental Management Charge data show that visitor days have increased from 1.85 million in 2001 to 1.97 million in 2004, a 5 per cent increase. The majority of overnight visitors to the Great Barrier Reef, some 75 per cent, are domestic, with about half coming from interstate (Access Economics 2005). Cairns, Port Douglas and the Whitsunday Islands have to date been areas of intense use by tourists. Map 28 shows tourism infrastructure and usage in the Whitsunday area. Up to 85 per cent of visitors come to this area which comprises only around 10 per cent of the Park.

Map 28: Tourism development and usage in the Whitsunday area



This map presents the tourism visitation of the Whitsunday's area as a case study for tourism. The tour vessels used by operators range in size from small sailing vessels, which typically take fewer than 20 people, to the large luxury wave-piercing catamarans, which carry up to 400 people. There is also an increasing number of cruise ships and super yachts using the Great Barrier Reef, visiting specific reefs, continental islands and coral cays.

The impacts of tourism include damage to coral and marine ecosystems through inappropriate anchoring, diving and snorkelling activities, development and operation of moorings, and pollutant discharge from ships and resorts during normal operations and from shipping incidents. Looking to the future, these impacts may increase as demand for tourism increases and advances in transport technology and the increasing use of cruise ships make the more remote areas of the Great Barrier Reef more accessible. Resource allocation between the fishing, tourism and conservation sectors can also be expected to be a key issue in the future in the multiple use of the Marine Park.

The marine tourism industry is a major contributor to the local and Australian economy. Gross tourism expenditure in the Great Barrier Reef catchment in 1999–2000 was \$4.2 billion (Productivity Commission 2003), with gross value for 2020 estimated at around \$6.5 billion. The tourism industry in the catchment area provides 48 000 jobs (10 per cent of all jobs) in the region.

Tourist activities in the Marine Park are regulated through zoning plans, plans of management and site plans developed under the *Great Barrier Reef Marine Park Act 1975*. Permits are the primary means of managing commercial tourism use. They prescribe where an operator may go and the activities that can be conducted there. Permits are also required for moorings, pontoons and other infrastructure, as well as research, educational and collecting activities. Accreditation and incentives for best practice are key tools in managing tourism. The Authority works with the industry, notably through the Tourism and Recreation Reef Advisory Committee, which has developed the *Cooperative Framework for the Sustainable Use and Management of Tourism and Recreation Opportunities in the Great Barrier Reef Marine Park* (2002). This Framework provides a key basis for the management of tourism by the Authority.

7.5 Fishing

Commercial and recreational (including charter) fishing constitute a major use of the Marine Park. Fishing is a long standing use of the Great Barrier Reef. Hand netting for prawns began in the 1880s, with commercial fishing by the coral reef fin fishery starting around 1940 and commercial otter trawling in the 1950s.

There are 17 commercial fisheries that operate within the Great Barrier Reef Marine Park. Only two of these have operations that extend much beyond the Marine Park—30 per cent of the East Coast Otter Trawl Fishery and 60 per cent of the Spanner Crab Fishery occur outside Marine Park boundaries. The Coral Reef Fin Fish Fishery operates on the perimeter of reef areas, whereas trawling occurs in deeper waters in between reefs. The Spanner Crab Fishery occurs on a specific habitat in the southern region of the Marine Park.

The value of the commercial fishing operations within the Marine Park has been estimated at \$130 million per annum in Gross Value of Production terms (PDP Australia 2003). The East Coast Otter Trawl and Coral Reef Fin Fish Fishery constitute 82 per cent of this value.

It is reported that there are around 198 000 recreational fishers (National Recreational and Indigenous Fishing Survey 2003) in the catchments adjacent to the Great Barrier Reef. The annual catch of recreational fishers throughout Queensland is around 8 500 tonnes²⁰ of seafood. In some cases the recreational catch is larger than the commercial catch (e.g. coral trout). Around 55 per cent of recreational fishing occurs from the shore (Hunt 2005a). Recreational fishing in Queensland has been trending downwards at 1 per cent per annum since 1996 (Hunt 2005a).

Some 45 000 interstate and international tourists participate in recreational fishing, many through charter fishing. There are around 120 charter fishing vessels operating in the Marine Park.

20 Queensland Government Department of Primary Industries and Fisheries figures taken from http://www.dpi.qld.gov.au/cps/rde/xchg/dpi/hs.xml/28_139_ENA_HTML.htm

Annual expenditure by recreational fishers in the catchment is estimated at between \$80 and \$201 million (Hunt 2005a). The Queensland Department of Primary Industries and Fisheries has estimated expenditure on recreational boat fishing in the Marine Park at around \$100 million for 2004 (Access Economics 2005).

Hunting of marine turtles, dugongs and other marine resources is undertaken by some Traditional Owners. It represents an important part of their culture. There is a recognised need to ensure that such hunting is sustainable.

Over the period 1996 to 2004 the major commercial fisheries in the Marine Park have been subject to a number of management controls introduced by the Queensland Government. These controls have included effort reduction through caps, quotas, licence restrictions, gear restrictions and spatial and temporal closures. As at the end of 2005, Queensland had introduced three Fisheries Management Plans—the *Fisheries (East Coast Trawl) Management Plan 1999*, the *Fisheries (Coral Reef Fin Fish) Management Plan 2003* and the *Fisheries (Spanner Crab) Management Plan 1999*.

An amended State fisheries management plan for the East Coast Trawl Fishery was introduced in 2001. This provided for a 15 per cent reduction in effort. It also closed 96 000 square kilometres (28 per cent) of previously un-trawled areas of the Marine Park. A joint Commonwealth–State adjustment package of \$20 million was used to purchase licences equating to 10.86 per cent of the effort in the fishery. There was also an in-kind contribution from the fishery through a 5 per cent across-the-board effort reduction. The area remaining open to trawling in 2004–05, including with the implementation of the *Great Barrier Reef Marine Park Zoning Plan 2003*, is 58 per cent of the total fishery and 34 per cent of the Marine Park (GBRMPA 2003b).

Over the period 1996 to 2004 there has been a 20 per cent reduction in annual catch of principal fish species in the East Coast Otter Trawl Fishery (Table 11) and a reduction in actual effort of 38 per cent (Figure 12) (Queensland Government 2005). This is due to the interaction of a broad range of regulatory and market factors.

Figure 12: East Coast Trawl Fishery – annual number of otter trawl days fished and number of reporting licences (includes Moreton Bay), 1988–2004

Source (Queensland Government 2005)

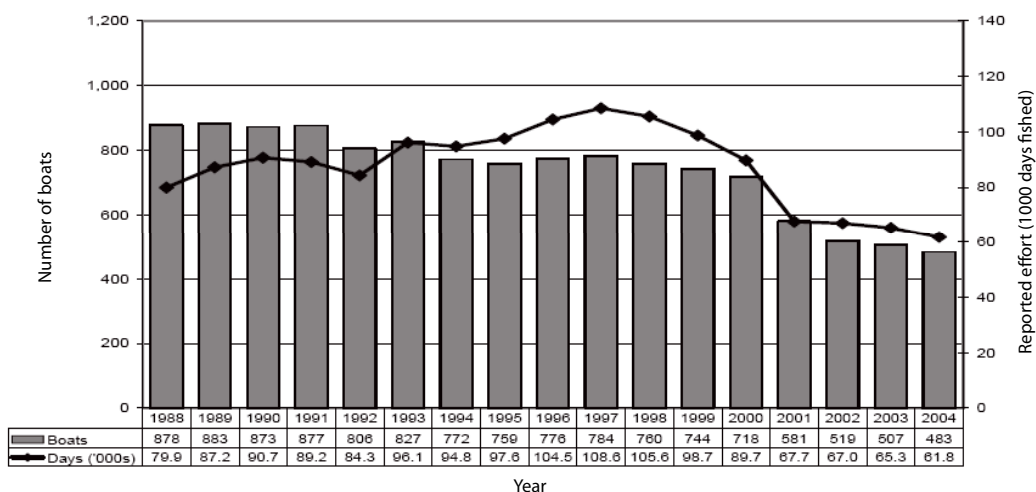


Table 11: Annual catch in tonnes of principal species harvested by otter trawl in the Queensland East Coast Trawl Fishery (includes areas outside the Marine Park), 1996–2004

Source (Queensland Government 2005)

Species	1996	1997	1998	1999	2000	2001	2002	2003	2004
Prawns	8 936	7 338	8 555	7 891	6 087	6 133	6 979	7 313	7 167
Scallops	760	1 054	1 052	932	958	1 059	571	442	664
Bugs	662	748	744	551	393	322	478	469	470
Squid	167	236	189	108	174	117	126	133	152

The Fisheries Management Plan for the Coral Reef Fin Fish Fishery that came into force in 2004 introduced a 37 per cent reduction in total allowable catch and 77 per cent reduction in licences. The implementation of this plan coincided with the introduction of the 2003 Zoning Plan.

In 1997, the East Coast Inshore Fin Fish Fishery was impacted by the introduction of 15 Dugong Protection Areas in which netting is restricted or prohibited. Financial assistance of \$2.5 million for licence buy-out was made jointly available by governments.

Management Plans have not as yet been completed for the other two major commercial fisheries, the East Coast Inshore Finfish Fishery and East Coast Dive-Based Fisheries.

In July 2004 the *Great Barrier Reef Marine Park Zoning Plan 2003* came into force. The Plan placed restrictions on the areas available for commercial and recreational fishing. The overall impact of the 2003 Zoning Plan on fishing was estimated to be 10.5 per cent of commercial catch and between 1 and 5 per cent impact on recreational fishers (PDP Australia 2003). In the financial years 2004–05 and 2005–06, the Australian Government has made available funding of \$87 million to help affected business and communities adjust to the impacts of the 2003 Zoning Plan. The assessment and analysis of the socio-economic impacts of zoning is considered further in Chapter 11.

Complementary mirror zoning conserving approximately 20 per cent of the coastline adjoining the State coast marine park was introduced by Queensland in November 2004 (Hunt 2005a and 2005b). It is estimated that around 50 per cent of net, crab and beam trawl fisheries occurs in estuaries and intertidal areas that form part of the State marine park.

Since November 2004, a total of 16 Queensland-managed fisheries that operate in the Marine Park have been subject to the assessment and approval requirements under the *Environment Protection and Biodiversity Conservation Act 1999*. This includes the five main commercial fisheries. Approvals are usually for a period of three years. Assessment occurs if the fishery is in Commonwealth waters, in which case the fishery is assessed for impacts on cetaceans, listed threatened species and communities, listed migratory species and listed marine species and/or where the fishery has an export component, in which case the extent to which the fishery is managed in an ecologically sustainable manner is determined.

Fishing can impact on fish numbers, both target species and 'by-catch'. It can also damage the seabed and reefs through the use of nets and anchors. By-catch quantity estimates range from two to 10 times that of the retained species. CSIRO trawl depletion experiments, undertaken over a five-year period in the Far Northern Section of the Marine Park, have shown that one pass of a trawl net removed between 5 per cent and 25 per cent of benthos (seabed life) (Poiner I. et al. 1998). The recent trawl fisheries management plan has sought to address these issues and introduced requirements for by-catch reduction devices that can reduce by-catch in prawn trawling by up to 30 per cent. The plan also targeted a 25 per cent reduction in the impacts on the seabed between 1999 and 2005.

The management requirements for fisheries and the ecosystem in the Marine Park have changed considerably since 1975. Today, management actions need to be approached in a manner that is consistent with the World Heritage Convention, the Authority's legislative objectives, Queensland fisheries management and environment protection legislation and the Australian Government's legal and policy framework on oceans, Marine Protected Areas and fishing.

There are now many dimensions to the policy and regulatory environment, tensions between objectives, and responsibilities vested in a number of different bodies across jurisdictions. This has become a complex regulatory environment for business planning by commercial interests. Since 1996, access to resources in the major fisheries has been subject to increasingly tighter fisheries management controls including allocation of resources for commercial and recreational fishers in individual fisheries. Marine Park zones allow recreational, commercial and conservation uses of the Marine Park through conditions placed on access and types of use. The area subject to such zoning has significantly increased with the implementation of the 2003 Zoning Plan. The allocation of resources between extractive and non-extractive use of the Park is now a major pressure.

7.6 Shipping

Every year approximately 6 000 ship movements of large vessels in excess of 50 metres in length occur within the Great Barrier Reef and Torres Strait region. Some 75 per cent of these vessels use the Inner Route with the rest entering or departing through Hydrographers, Palm or Grafton Passages (Great Barrier Reef and Torres Strait Shipping Management Group 2003).

A wide variety of goods including hazardous materials are transported to, from and through the Great Barrier Reef and Torres Strait. The vessels using the Great Barrier Reef are 42 per cent bulk carriers, carrying significant tonnages of export cargo, including coal, bauxite, nickel ores, raw sugar, alumina and silica sand. Between 5 per cent and 10 per cent of ships are oil tankers, 24 per cent container vessels, and 22 per cent general cargo (Great Barrier Reef Shipping Review Steering Committee 2001).

Demand for shipping services along Queensland coastal waters is expected to increase with expanding mining and minerals processing. For example, around Townsville, Rockhampton and Gladstone such developments are projected to increase by about 36 per cent between 2001 and 2020.

There are two major shipping routes in the Great Barrier Reef and the Torres Strait. The Inner Route extends north-south between the Great Barrier Reef and the Queensland coast from the Torres Strait to Gladstone in the south. The Outer Route commences at the eastern limit of the Torres Strait (the Great North East Channel) continuing southwards through the Coral Sea and rejoining the Queensland coast near Sandy Cape south of Gladstone. Ships may traverse the Great Barrier Reef via four main transit passages: Grafton Passage near Cairns, Palm Passage near Townsville, Hydrographers Passage near Mackay and in the south, the Capricorn Channel.

The navigational task along the Inner Route, the Torres Strait and its transit passages is demanding. The region is covered by an extensive network of reefs, cays and islands and is subject to strong trade winds, occasional cyclones and complex tidal streams. Ships encounter shallow waters, reduced visibility in the wet season and narrow shipping lanes in some areas.

The Australian Maritime Safety Authority is responsible for maritime safety, marine environment protection, and maritime and aviation search and rescue services in Australia. These roles are performed in accordance with Australia's obligations under a range of international conventions including the United Nations Convention on the Law of the Sea, the Chicago Convention on International Civil Aviation, the International Convention for the Safety of Life at Sea and the International Convention on Maritime Search and Rescue.

In performing its functions, the Australian Maritime Safety Authority works collaboratively with the Authority in addressing pollution and safety issues within the Marine Park. It was instrumental in the declaration of the area as a Particularly Sensitive Sea Area by the International Maritime Organization in 1990. The Australian Maritime Safety Authority oversees the safety of the shipping routes through the Marine Park and administers the requirements under the *Great Barrier Reef Marine Park Act 1975* for compulsory pilotage of boats over 70 metres and oil and chemical tankers.

The Australian Maritime Safety Authority provides a national network of integrated aids for the safe and efficient coastal navigation by commercial ships and runs the mandatory ship reporting system REEFCENTRE at Hay Point. In addition the 2003 Zoning Plan includes designated shipping areas throughout the Inner Route to provide recognised passages and guaranteed access to ports.

Shipping has the potential to adversely impact on the Great Barrier Reef and Torres Strait region. The introduction of invasive marine species into new environments via ship hulls and ballast water has been identified by the International Maritime Organization as one of the four greatest threats to the world's oceans. In 2001 a potential pest species, the Asian green mussel, was identified in the port of Cairns. However, the national marine pest response has so far been successful in preventing the establishment of the pest.

Other shipping impacts include oil and chemical spills, waste disposal, the use of anti-fouling paints on ships, physical damage from groundings and anchorage, and air pollution. Protection is provided to the Great Barrier Reef under the International Convention for the Prevention of Pollution from Ships (MARPOL), which is implemented through Commonwealth and Queensland legislation. This legislation bans tanker cargo washings, chemicals, and sewage discharge.

The Australian Maritime Safety Authority has recorded 230 reports of oil spill sightings in the Great Barrier Reef and Torres Strait region since 1989. None of these incidents has resulted in a major oil spill pollution event requiring response through the REEFPLAN programme that is administered jointly by the Australian Maritime Safety Authority, the Great Barrier Reef Marine Park Authority and the Queensland Government under the *National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances*. However, a total of 18 pollution events required some form of response. In addition, between 1985 and 2005 there were 31 major shipping incidents in the Great Barrier Reef (excluding the Torres Strait) comprising 15 groundings and 16 collisions.²¹

The environmental and economic impact of an oil spill and subsequent clean up operations can be significant, as demonstrated by incidents in other Australian waters. The oil spill which followed the grounding in the Torres Strait of the *Oceanic Grandeur* in 1970 led to high mortality of oysters in pearl farms and a serious depletion of juvenile pearl collecting beds. More recently, the *Iron Baron* grounding near Launceston in 1996 involved a bunker fuel spill with clean up costs of around \$10 million. The *Laura D'Amato* operational spill incident in Sydney Harbour in 1999 resulted in clean up costs, legal proceedings and fines totalling more than \$3 million.

7.7 Summary

There are clearly many pressures on the health of the Great Barrier Reef Marine Park. The major threat of warming seas from global climate change is the overarching pressure on the Great Barrier Reef. Yet the extent of climate change and its impacts cannot be directly controlled by the Authority or the actions of the Australian and Queensland governments alone. Maintaining the Great Barrier Reef ecosystem in a healthy and resilient condition will be essential for it to withstand the major impacts of climate change, in particular coral bleaching. Thus effectively managing each of the pressures on the Great Barrier Reef—including water quality, coastal development, direct source pollution, tourism, shipping and fishing—in order to ensure the resilience of the ecosystem, will be of paramount importance over the next 30 years.

²¹ Information provided to the Review Panel by the Australian Maritime Safety Authority.

PART 2

8. Challenges, priorities and framework for the future

8 Challenges, priorities and framework for the future

8.1 Achievements of the first 30 years

The establishment of the Great Barrier Reef Marine Park has been a 30-year journey beginning with the historic *Great Barrier Reef Marine Park Act 1975* and the founding of the Great Barrier Reef Marine Park Authority, moving through the progressive declaration of specific areas within the Great Barrier Reef Region as part of the Marine Park and arriving at the present-day integrated zoning of the Park.

The Marine Park is very large, covering around 344 400 square kilometres, an area roughly the size of Japan. Its water catchment area comprises 22 per cent of Queensland's land area. The operating environment is also highly complex. The *Great Barrier Reef Marine Park Act 1975* provides for the overall conservation and management of the Marine Park in conjunction with multiple use. Around 20 key pieces of Commonwealth and State legislation and eight international conventions are also applicable (see Appendix F). In addition, management of the Marine Park requires the Authority to interact with around 20 other Australian and Queensland government agencies (see Appendix G).

At the time the *Great Barrier Reef Marine Park Act 1975* was established, the main perceived pressures on the Great Barrier Reef were mining, oil spills from shipping, damage from the crown-of-thorns starfish and the rapid growth of tourism. The remoteness of large parts of the Marine Park afforded some protection from high use over the first two decades and the multiple use approach to park management was thus initially able to be delivered by separate regulatory approaches for each issue and sector.

The establishment of the Marine Park has been an evolutionary process, with the first section proclaimed in 1979 and the last 10 sections in 2001. A consolidation of the sections with a consistent method of zoning across the entire Marine Park was only achieved in 2004 under the *Great Barrier Reef Marine Park Zoning Plan 2003*. The 2003 Zoning Plan also brought about an eightfold increase in the parts of the Marine Park classified as 'green' and therefore closed to extractive activities. At the same time, Queensland introduced complementary zoning for the adjoining coastline, thereby providing a consistent approach across the area as a whole.

Over the last 30 years the *Great Barrier Reef Marine Park Act 1975* has achieved its original objective of establishing the Marine Park and putting in place an effective operational and institutional management framework. During this period, both the Australian and Queensland governments have continued to demonstrate a strong commitment to working together collaboratively for the long term to maintain and protect the Great Barrier Reef. Testimony to this is the fact that the Great Barrier Reef is in good condition relative to other reefs around the world (GCRNM 2000, 2004), further reinforcing its exceptionality and iconic status.

Nonetheless, there remain considerable challenges for the future delivery of the current objects of the *Great Barrier Reef Marine Park Act 1975*—'the establishment, control, care and development of a marine park in the Great Barrier Reef Region...'. The sheer size and scale of the Marine Park, the complex legislative and policy environment and the many emerging risks and pressures will present continuing challenges for both the Authority and for the Australian and Queensland governments.

8.2 Challenges for the future

Applying the concept of multiple use to the management of the Marine Park over the next 30 years will become increasingly challenging. Demands are increasing for access to and use of the Marine Park for commercial and recreational purposes. At the same time, the pressures and risks facing the Marine Park have heightened the need to preserve the long-term health and resilience of the Great Barrier Reef through conservation measures.

The way the Marine Park resource as a whole is accessed and used is currently defined in several ways: the application of a comprehensive Zoning Plan across the majority of the Marine Park, the use of detailed plans of management for areas of high usage or special significance and the introduction by Queensland of broad-based fisheries management controls.

The *Great Barrier Reef Marine Park Zoning Plan 2003* significantly increased levels of resource protection, introducing seven grades of zoning with varying restrictions on access and use. The area protected from extractive activities in the Marine Park has increased from 4 to 33 per cent and only 34 per cent of the Marine Park is classified for general use. Over the last decade Queensland has also issued a number of investment warnings and introduced management controls for two key commercial fisheries operating in the Marine Park. These factors, together with changes in other costs of production such as increasing fuel and labour costs, have seen a 20 per cent fall in actual catch in the East Coast Otter Trawl Fishery since 1996. In 2004 a 37 per cent reduction in Total Allowable Catch was introduced for the Coral Reef Fin Fish Fishery. Resource allocation in the Marine Park across commercial and recreational uses, in the context of conservation objectives, has thus emerged as a major issue.

The nexus between the sustainability of commercial and recreational activities and ecosystem conservation has come into sharper focus and a range of approaches to addressing resource use have emerged. A landmark measure in the approach to multiple use in the Marine Park was the introduction in 1993 of the Environmental Management Charge, a levy on the use of the Marine Park, mostly imposed on commercial tourism operators. The levy is appropriated to the Authority to fund programmes for research, education and Park management. Further recognition of this economic/conservation nexus is illustrated by actions associated with the implementation of Dugong Protection Areas in 1999 and the 2001 amendment to the *Fisheries (East Coast Trawl) Management Plan 1999*. Together these made available \$22.5 million in financial assistance from the Queensland and Australian governments to address structural impacts. More recently the Australian Government has made \$87 million available in 2004–05 and 2005–06 for assistance to both marine and upstream and downstream land-based businesses for social and economic impacts caused by the introduction of the *Great Barrier Reef Marine Park Zoning Plan 2003*.

The regulatory, governance and policy environment for management of the Marine Park has also seen considerable change since the mid-1990s. The Australian Government introduced a new financial governance framework in 1997. In 1999 an integrated national approach to environmental regulation was introduced by the *Environment Protection and Biodiversity Conservation Act 1999*. Governance arrangements for statutory authorities became subject to the recommendations of the Uhrig review which reported to government in 2003. There have been equivalent changes in Queensland in State environment protection legislation, and the State became responsible for commercial fisheries management in coastal waters in 1995. A broad range of national policies now intersect with the regulation and management of the Marine Park, including oceans policy, fisheries management, natural resource management and climate change policies.

Other pressures on the Marine Park are largely external to or transcend Park boundaries and often have national, international and cross-jurisdictional policy implications. They include water quality issues, climate change impacts, population pressure and coastal development, all of which have become of increasing importance to the long-term sustainability of the Marine Park ecosystem. Measures to address these pressures require a consistent and integrated approach. In the future, therefore, there will be an even more acute need to integrate the assessment of ecosystem protection needs, and the nature of action required, with the likely economic and social impacts, both marine and on land.

8.3 Stakeholder views

The many challenges facing the Marine Park in the future mean that two things will be essential for successful management approaches and harmonious stakeholder relations—effective engagement with stakeholders, and transparency and accountability in the public domain. During the course of this Review, issues of stakeholder engagement, transparency and accountability have emerged as recurrent themes in stakeholder representations.

Two countervailing stakeholder perspectives on the Authority have been put forward. On the one hand, many felt that the Authority has been highly effective in delivering on its charter and that only evolutionary change was required to address future needs. On the other hand, some stakeholders see the Authority as biased and lacking accountability. Stakeholders expressing such dissatisfaction did so in the context of the Representative Areas Programme, in particular the outcome in relation to recreational and commercial fishing.

Overall, stakeholders considered that the transparency and accountability of the Authority could be improved. A number were also concerned that the resources allocated to day-to-day management were insufficient. Some commercial operators in the Marine Park expressed concern about duplicate or fragmented administrative processes at Australian Government and State level.

In relation to governance issues, many expressed the view that everything was working well and therefore the status quo should be maintained. Other stakeholders considered that the Authority had too much power and lacked accountability for its actions, and proposed that the functions of the Authority should become the responsibility of the Department of the Environment and Heritage. Similarly, there was a divergence of views as to whether policy functions were best located with the Authority or the Department.

8.4 Future considerations

The Authority is at a point of transition from its initial focus on establishing and zoning the Marine Park. It is now moving to a role that is centred on managing usage of the Park and its long-term protection. Neither of these functions can be undertaken in isolation, nor by the Authority alone. The challenges for the protection and management of the Marine Park will require an integrated approach in which the role of the Authority is set within a broader policy and governance framework. A number of specific considerations need to be taken into account to ensure that such a framework can provide for the following:

- an ecosystem-based approach to management of the Marine Park that allows for multiple use, subject to an overarching conservation objective
- the ability to assess and manage coast, catchment and marine pressures that transcend Park boundaries or are external to the Marine Park
- efficient administration of the Marine Park regulatory environment, as implemented through the *Great Barrier Reef Marine Park Zoning Plan 2003* and other regulatory measures
- effective monitoring and enforcement of zoning
- a means of assessing emerging pressures on and risks to the Marine Park ecosystem, and of determining the appropriate level of protection
- science-based assessment of any proposed changes to the level of protection in place across the Marine Park
- the capacity to assess the socio-economic impacts, both locally and regionally, of any changes to Marine Park protection levels

- a structure for decision making on resource allocation between alternative or competing uses of the Marine Park
- processes and decisions to be transparent to stakeholders.

The framework should also provide for an integrated approach to the management of the Marine Park ecosystem, biodiversity, habitats, fish-stocks, fishing and fisheries to:

- achieve commercial, social, cultural and conservation outcomes
- ensure the cost of measures and socio-economic impacts of sequential and concurrent changes are assessed
- streamline process and regulation across agencies and jurisdictions
- provide a clearer environment for business planning.

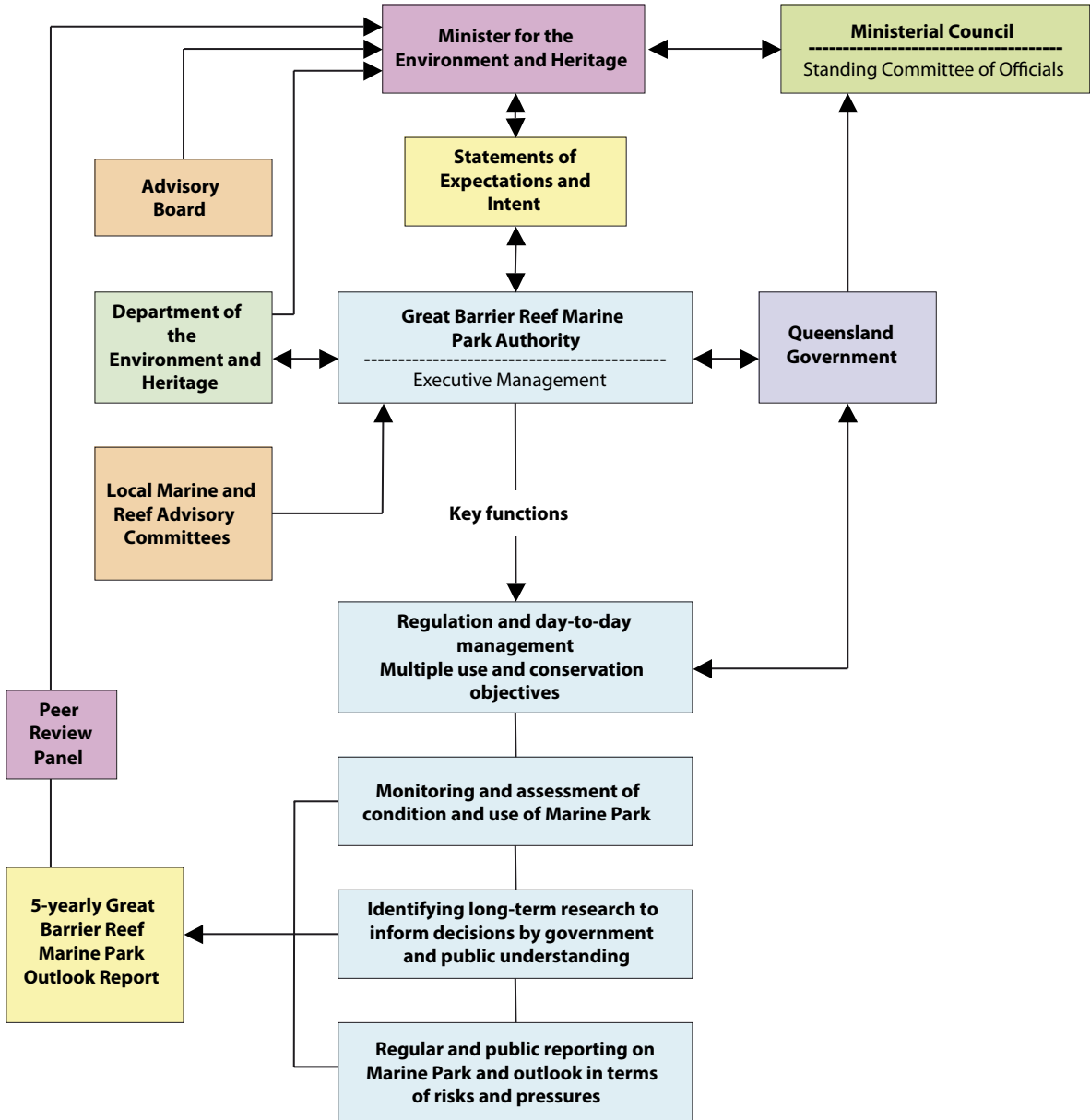
Finally, the framework needs to provide for cooperation between the Australian and Queensland governments so that they can make decisions and take action on the long-term critical issues that will impact on the Marine Park.

8.5 A framework for the future

With the above requirements in mind, the framework proposed to provide for the long-term protection of the Great Barrier Reef Marine Park is summarised below and outlined in Figure 13 as a guide to the second part of this report.

1. The future role and functions of the Authority require a renewed focus on the dual objectives of ongoing management and long-term protection of the Marine Park. A key part of this renewed focus should be an increased emphasis on using research, monitoring and reporting to measure performance, to inform management and policy considerations and to deliver transparency and accountability in the public domain.
2. To ensure that broader policy issues are addressed and the development of management measures is effective, the agreement between the Australian and Queensland governments should be updated to, among other things, provide greater clarity with respect to the charter and processes of the Ministerial Council. Effective collaboration between the Department of the Environment and Heritage and the Authority should be achieved through the application of principles defining roles and responsibilities for operational and policy matters.
3. Decision making across the whole framework should be underpinned by a periodic *Great Barrier Reef Marine Park Outlook Report* providing an integrated assessment of the use, risks, pressures on and condition of the Marine Park. This report should provide quantitative and qualitative information supported by biophysical, social and economic research.
4. The Authority should remain as a statutory authority, constituted as a body corporate and comprising a group of statutory officeholders. As a predominantly regulatory, service delivery and advisory body, an 'executive management' governance structure should be applied to the Authority. Consistent with the recommendations of the Uhrig review, the Authority's operations should also become subject to the *Financial Management and Accountability Act 1997* as a prescribed agency.

Figure 13: Proposed framework for the future



9. Roles and responsibilities

9 Roles and responsibilities

Management of the Great Barrier Reef is not something that can be achieved by the Authority alone. Effective management requires the involvement of the Queensland Government and the Australian Government departments and agencies, as well as the Authority.

This chapter discusses the roles and responsibilities of each of these entities. Subsequent chapters discuss the way in which these roles and responsibilities are performed: Chapter 10 discusses the engagement of users and communities, Chapter 11 the use of research, monitoring, reporting and socio-economic information as an underpinning for management, policy development and accountability, Chapter 12 the structures required to ensure good governance and Chapter 13 the regulatory powers and processes used to manage the Marine Park.

9.1 The role of the Authority

The current role of the Authority, as set out in the *Great Barrier Reef Marine Park Act 1975* (s. 5), is to advise and act on behalf of the Australian Government in relation to 'the establishment, control, care and development of the Great Barrier Reef Marine Park'. Performing this role encompasses a number of functions, which in summary include:

- advising and making recommendations to the Minister in relation to the care and development of the Marine Park, including the areas that should be declared to be a part of the Park
- developing zoning plans and plans of management
- managing the Marine Park cooperatively with the Queensland Government. This includes performing permitting and approval functions and enforcing the Act, Regulations and zoning plan
- carrying out or arranging research relevant to the Marine Park
- providing or arranging for the provision of education, advisory and information services relating to the Marine Park.

These general functions remain paramount. Looking to the future, the challenge will be to manage the Great Barrier Reef in an integrated manner with the primary goal of maintaining ecological processes, biodiversity and functioning biological communities. This reflects an ecosystem-based approach to management of Marine Protected Areas, as detailed in the Australian Government's Oceans Policy.

The Authority will need to work even more closely with other Australian and Queensland government agencies, Marine Park users and local communities. Management of the Marine Park will need to be informed by robust scientific biophysical and socio-economic research and analyses. Regular assessment of the health and integrity of the ecosystem over time will be required, together with an understanding of the social, cultural and economic values and uses, the emerging pressures and risks, and the effectiveness of management responses.

Given these considerations, the Review Panel **recommends** that the primary objective of the Authority be:

the long-term protection, wise use, understanding and enjoyment of the Great Barrier Reef.

The Review Panel **recommends** that to achieve this objective, the Authority should focus both on Marine Park management and on ensuring that longer-term issues are effectively and accountably addressed. Accordingly, the Authority's main functions should be:

- managing the Marine Park on an ecosystem basis, whilst facilitating multiple use
- undertaking or facilitating research, monitoring and reporting to inform management, policy and accountability, which would include:
 - monitoring and assessing the condition of the Marine Park, having regard to the objectives of protection and wise use of the resource

- identifying long-term research needed to inform decisions by government and understanding by the public
- regularly and publicly reporting on the management of the Marine Park and the outlook in the context of risks and pressures.

In so doing, the Review Panel **recommends** that the Authority's functions set out in the current Act (ss. 7 & 8) should continue, in particular:

- advising and making recommendations to the Minister in relation to the care and development of the Marine Park, including the areas that should be declared to be a part of the Park
- developing zoning plans and plans of management
- managing the Marine Park cooperatively with the Queensland Government, including permitting and approval functions and enforcing the Act, Regulations and zoning plan
- carrying out or arranging research relevant to the Marine Park
- providing or arranging for the provision of education, advisory and information services relating to the Marine Park.

Management of the Marine Park and facilitating multiple use

The management of the Marine Park into the future will provide considerable challenges, all the more so with the recent extension of zoning throughout the Commonwealth Marine Park and the complementary zoning of the Queensland marine park.

There are three key elements to operational management of the Marine Park as follows:

- the establishment of planning and regulatory instruments restricting and controlling use of the Marine Park
- the administration and enforcement of those plans and regulatory instruments
- on-ground field management.

The first of these elements includes the development of zoning plans, plans of management and Regulations under the *Great Barrier Reef Marine Park Act 1975*. The Review Panel considers that these tasks should continue to be undertaken by the Authority. Chapters 10 and 13 provide recommendations directed at improving the way in which this is done, for example, by increasing transparency and accountability in the development of zoning plans and enhancing engagement mechanisms to ensure that management is responsive to the needs and interests of Marine Park users and communities.

The second and third of these elements comprise a wide range of activities including administration of the permit system, the enforcement of regulatory requirements, day-to-day field management of the Marine Park, on-ground rehabilitation and management works and the establishment and maintenance of visitor facilities. These day-to-day management functions are currently delivered cooperatively by the Authority, the Queensland Government and other Australian Government agencies such that the Marine Park, the Queensland coastal marine park and island national parks are managed in a largely integrated manner. These arrangements have been successful to date and provide a sound foundation for future management.

The Review Panel considers that education about and ensuring compliance with the zoning plan should be a priority for management by the Authority in the future. Effective education and enforcement will be essential to ensure the integrity of the zoning plan and the multiple use approach.

Effective enforcement will be challenging given that the majority of the Great Barrier Reef Region has now been zoned, and given the likely increase in usage pressures into the future. The resources and delivery mechanisms required to effectively undertake education and enforcement need to be assessed in light of these factors. It is noted that much of the funding for monitoring and compliance activities is presently derived from a one-off grant provided through the Natural Heritage Trust (Chapter 4) that ends in 2006–07.

To help the Authority meet the challenge of effective enforcement, the Review Panel **recommends** that a comprehensive review of the investigation, enforcement and offence powers of the *Great Barrier Reef Marine Park Act 1975* be undertaken (Chapter 13). This review should be done in light of the importance of effective and efficient enforcement to future management as well as to achieve better consistency with the *Environment Protection and Biodiversity Conservation Act 1999*. Chapter 13 also provides recommendations relating to other aspects of the regulatory framework, such as the streamlining of permitting and environmental impact assessment processes. These recommendations are directed at producing a more consistent and streamlined regulatory environment and ensuring that the Authority has access to the regulatory and management tools necessary to ensure the efficient and effective protection and wise use of the Marine Park.

Research, monitoring and reporting to inform management, policy and accountability

A key function of the Authority should be to carry out and/or arrange for research, monitoring and periodic public reporting.

As discussed in detail in Chapter 11, research, monitoring and reporting are essential for effective day-to-day management and the long-term protection of the Marine Park. Both short- and long-term management need to be informed by monitoring and assessment of Marine Park use and the effectiveness of existing management measures. Research should also be directed at providing timely information and analysis of ecosystem health and the risks and pressures on the Marine Park, and socio-economic information.

Such research and monitoring will show whether management measures are delivering expected outcomes in regard to conservation and multiple use objectives and will enable future management effort to be better targeted. This research and monitoring would also underpin accountability by ensuring that management actions and the level of protection are based on robust information and that performance is measured against objective indicators.

Periodically, research and monitoring should be brought together in a *Great Barrier Reef Marine Park Outlook Report*. This publication would report on the management of the Marine Park and the overall condition of the ecosystem, provide a risk-based assessment of the longer-term outlook, and address social and economic considerations. The report would both inform management and provide transparency and accountability for performance. The proposed report is discussed in greater detail in Chapter 11.

9.2 The roles of the Minister and the Department

The Uhrig review explains that Ministers are responsible for statutory authorities within their portfolios. It is the role of departments to assist Ministers in discharging this responsibility. This requires departments to support and advise their Minister in relation to the governance of statutory authorities.

Chapter 12 details recommended future governance arrangements for the Authority. In summary, it is recommended that an 'executive management' structure be applied to the Authority. This implies a role for the Minister in communicating the expectations of government for the operations of the Authority and in overseeing performance.

The primary mechanism for achieving this communication would be Statements of Expectations and Intent. Statements of Expectations are made by the Minister and communicate government expectations of a statutory authority in relation to performance, objectives, values and broader policies. Statements of Intent, made by the authority in response to Statements of Expectations, outline the initiatives the authority is undertaking, or proposes to undertake, to meet government expectations. These statements are discussed further in Chapter 12.

Statements of Expectations and Intent provide structure, formality and transparency in the setting of government expectations and oversight of performance and as such are an important mechanism in effective governance and accountability. Accordingly, the Review Panel **recommends** that they be introduced in relation to the Authority.

In addition to the use of Statements of Expectations and Intent, the Minister, supported by the Department, would:

- recommend the appointment of Authority members to the Governor-General
- oversee the performance of the Authority, for example, by considering performance reports.

The roles of the Minister and Department in the proposed governance framework for the Authority are discussed in greater detail in Chapter 12.

Importantly also, the Uhrig review recommends that the role of portfolio departments as the principal source of advice to Ministers be reinforced. It also notes that the role of statutory authorities is primarily in the implementation of policy, rather than its development.

This is not to say, however, that the Authority should not be the primary source of advice to the Australian Government on the control, care and development of the Marine Park. Indeed, as discussed above, a key function of the Authority into the future should be to undertake research, monitoring and reporting to inform management and policy development.

However, it is apparent that the risks and pressures on the Great Barrier Reef extend beyond Marine Park boundaries and that, in future, ways need to be found to manage the coast, the catchment and Marine Park as a single system. Achieving this integration will require whole-of-government, national, international and cross-jurisdictional policy and regulatory issues to be considered and addressed. Additionally, it is proposed that the Ministerial Council's charter (see Section 9.3) should include consideration of onshore, offshore and cross-jurisdictional matters.

It is difficult to define precisely the boundaries between the respective operational and policy responsibilities of the Authority and the rest of the Australian Government, as these boundaries depend on the specific nature of the issue in question and the context; for example when considering the management of islands in the World Heritage Area, shipping issues or an integrated approach to the ecosystem and fisheries management. A principles approach to responsibilities and to the relationship of the Authority to the Department, the Minister and to 'whole-of-government' objectives is therefore **recommended** as a guide for the future. This approach recognises the many dimensions of the operating environment in which the Authority will need to work. The principles proposed are based on respective roles, legal authority and whether the issues are local, State, Commonwealth, national or a combination.

The **recommended** principles are as follows:

The Authority should have primary responsibility for:

- those functions provided for in the *Great Barrier Reef Marine Park Act 1975* where the activity to be regulated or managed occurs within the boundaries of the Marine Park
- operational policy or guidelines, that is, policies related to the administration of an established government policy, regulatory regime and/or programme.

A whole of portfolio approach involving the Authority, Department and other relevant portfolio agencies should be developed where:

- the matter transcends Marine Park boundaries
- there is a need for an equivalent and consistent approach in areas adjacent to the Marine Park boundary
- a decision by the Australian Government is required.

A whole of portfolio and/or whole-of-government approach involving the Authority, the Department and other relevant Australian Government departments and agencies should be taken where:

- the matter, or its impacts, are external to the Marine Park
- there are national or cross-jurisdictional policy implications or issues of precedent
- there is a major budget impact, such as with structural adjustment assistance
- there is a need for consequential change in policy, legislation and regulation by the Department or other Australian Government agencies.

These principles can readily be applied within the current management processes and arrangements as a number of mechanisms to facilitate information flow and collaboration are already in place. Primary among these is the weekly meeting of the Departmental Executive, Departmental Division Heads and Portfolio Agency Heads (including the Chairperson of the Authority). The Authority provides reports to this forum three times a year on strategic priorities, emerging issues, risks, performance and other issues.

Finally, as covered above and in Chapter 11, development of management practices and policy directions in future should be more closely integrated with the research and analysis of measures, risks and pressures. This will also require an integrated approach by the Australian and Queensland governments.

The Review Panel **recommends** that to improve the interaction between the Department and the Authority, senior management of the Department and the Authority should meet at least twice annually to systematically review research, policy, operational and budget issues.

9.3 The role of Queensland

The Great Barrier Reef is a complex ecosystem that crosses jurisdictional boundaries and areas of responsibility, which are themselves complex and in many cases overlapping.

These factors make collaborative management of the Great Barrier Reef by the Australian and Queensland governments essential. There are two key reasons for this. Firstly, because management of the Great Barrier Reef is beyond the power and remit of any one jurisdiction, successful and cost effective management requires coordinated action by both governments. Secondly, where the interests and responsibilities of the two governments overlap, collaborative effort provides for greater efficiency and effectiveness in achieving both common and individual goals and objectives.

A number of examples illustrate the need for and value of collaboration. One example relates to the creation and management of marine parks. As noted earlier in this report, the Australian Government does not have the legislative power to declare the Marine Park over intertidal areas, Queensland islands and the 'internal waters' of Queensland. However, such areas are ecologically significant and in some cases, form a part of the World Heritage Area. The Queensland Government has therefore established marine and terrestrial national parks in relation to such areas, so as to ensure almost complete coverage of the Great Barrier Reef ecosystem through a network of parks. This in turn creates further imperatives for collaboration, in particular in the management and regulation of the multiple parks. Through measures such as joint permitting, mirror zoning and joint field management, collaboration delivers a more consistent and streamlined regulatory environment and greater efficiency in government service delivery. Collaboration is also all the more important because the boundary between the Australian Government and Queensland parks is in most places difficult to delineate due to geographical and legal uncertainties.

Another example of the importance of collaboration relates to the management of water quality within catchments feeding into the Great Barrier Reef. This is primarily a role for the Queensland Government, although the Australian Government can also play a role through natural resource management programmes such as the Coastal Catchments Initiative of the Natural Heritage Trust.

One final example of the importance of collaboration relates to areas of common, yet differentiated, responsibility, most notably the management of fishing. In summary, the Queensland Government is responsible for managing fisheries within the Marine Park, the Department of the Environment and Heritage for assessing the sustainability of Queensland management arrangements, and the Great Barrier Reef Marine Park Authority for managing the Great Barrier Reef ecosystem. A collaborative and integrated approach by all agencies is likely to provide for better outcomes at lower cost and impact than would unilateral, issue-specific action by each agency.

Current collaborative management arrangements

Collaborative management of the Great Barrier Reef is currently provided for in a variety of institutional and operational arrangements. These arrangements facilitate Queensland involvement at all levels of governance and management.

At a Ministerial level, collaboration is provided for through the Great Barrier Reef Ministerial Council. The Council comprises two Ministers from each government representing the environment, tourism, marine parks and/or science. The role of the Council includes agreeing arrangements for day-to-day management, agreeing to the declaration of sections of the Marine Park and overseeing scientific research.

At Authority level, the *Great Barrier Reef Marine Park Act 1975* (s.10) provides Queensland with the capacity to nominate one of the four members of the Authority. As a matter of practice, the Queensland nominee is the Director-General of the Queensland Department of Premier and Cabinet. This facilitates whole-of-government involvement by Queensland in setting the strategic direction and priorities of the Authority, approving the Authority's operational policies and overseeing significant initiatives such as zoning plans and plans of management, as well as the general operations and performance of the Authority.

At officer level, collaboration is facilitated through working relationships and formal mechanisms such as consultative bodies. Under the *Great Barrier Reef Marine Park Act 1975* (s. 22), the Queensland Government may nominate members of the Great Barrier Reef Consultative Committee. Current Committee members include senior officials from Queensland Government departments responsible for the Premier and Cabinet, the environment and fisheries. Queensland Government officials are also members of the Authority's Reef Advisory Committees and participate in Local Marine Advisory Council meetings. Similarly, officials of the Authority are involved in Queensland consultative committees, notably Marine Advisory Committees established under the Queensland *Fisheries Act 1994*.

At an operational level, collaboration is achieved through measures such as joint permitting and mirror zoning, which seek to effectively manage and regulate the Commonwealth and Queensland parks as a single park. The *Great Barrier Reef Marine Park Act 1975* (s. 8) facilitates such collaboration, by providing the Authority with the power to perform its functions in cooperation with the Queensland Government and its agencies.

Collaboration at an operational level is also facilitated through arrangements for day-to-day field management of the Commonwealth and Queensland parks. Under these arrangements, the multiple parks are managed as a single park by Queensland and the costs shared by the two governments. Officials from the Queensland Government and the Authority work together through committees to establish strategic and annual business plans for day-to-day management and to oversee implementation of those plans.

Finally, collaboration is provided for in relation to some specific issues through agreements and memoranda of understanding. An example is the *Reef Water Quality Protection Plan*. This Plan, agreed to by the Prime Minister and Queensland Premier, sets out strategies and actions for improving the quality of water flowing into the Great Barrier Reef. Actions in the Plan are the responsibility of various Queensland and Australian government agencies and local governments.

Another example is a 1988 Memorandum of Understanding on fishing and collecting in the Marine Park. This Memorandum of Understanding differs somewhat from the *Reef Water Quality Protection Plan*, however, in that it attempts to delineate and differentiate responsibilities for fishing, rather than attempting to foster collaborative effort to address common objectives.

Enhancing collaboration

While there is a strong history of collaboration between the Australian and Queensland governments in management of the Great Barrier Reef, the Review Panel considers collaborative management arrangements should be enhanced by:

- establishing a comprehensive intergovernmental agreement
- enhancing the Ministerial Council as a forum for joint policy development and policy coordination between governments
- improving collaboration and coordination on fisheries management and other substantive matters such as the management of islands within the marine parks.

Each of these proposals is discussed in turn.

An intergovernmental agreement

Arrangements for the collaborative management of the Great Barrier Reef rely on a high level of goodwill between the Australian and Queensland governments and their agencies. This has been forthcoming, but it cannot be taken for granted, especially in the absence of a comprehensive intergovernmental agreement setting out the objectives of collaboration and the institutional and operational arrangements established to achieve those objectives.

The Review Panel considers that the Emerald Agreement of 1979 (Appendix E) does not provide an adequate overarching framework. The Agreement is limited in scope and detail and much of its substance implied, rather than explicit. It establishes only two aspects of collaborative management arrangements—that there will be a Great Barrier Reef Ministerial Council and that Queensland will be responsible for day-to-day field management, subject to the Authority. Other arrangements for collaborative management have their basis in the *Great Barrier Reef Marine Park Act 1975* (which preceded the Emerald Agreement), in other formal and informal agreements and in established practices, understandings and relationships.

The Review Panel believes that a comprehensive intergovernmental agreement is an essential foundation and framework for good governance and effective collaboration. More specifically, such an agreement would establish:

- the purpose and objectives of collaboration, as well as mechanisms through which expectations of performance can be established and communicated
- an institutional and operational framework for collaborative effort, by clearly defining the roles, responsibilities and powers of relevant institutions
- mechanisms for ensuring transparency and accountability.

Accordingly, the Review Panel considers the establishment of an intergovernmental agreement for the Great Barrier Reef an essential component of organising for successful management into the future.

This agreement should have as its clear objective facilitating the integrated and collaborative management of marine and land environments so as to provide for the protection and wise use of the Great Barrier Reef.

The agreement should clearly describe the nature, functions, powers, accountability, operational protocols and interrelations between the governments, the Ministerial Council and the Authority. The agreement should also confirm that Queensland will continue to be responsible for day-to-day management of the Marine Park, subject to the Authority. More detailed arrangements for day-to-day management should remain in separate agreements.

Enhancing the Ministerial Council

The Ministerial Council has a key role to play in facilitating collaborative management by providing a forum for the development of joint policies and for policy coordination. At present, however, the responsibilities and powers of the Ministerial Council are somewhat unclear and it is apparent that the Council has not always been effective as a forum for policy collaboration and coordination.

To address this, it is recommended that the responsibilities and powers of the Council be clearly defined in the new intergovernmental agreement. The agreement should provide the Ministerial Council with a clear charter for joint policy development and policy coordination in relation to both onshore and offshore issues affecting the protection and use of the Great Barrier Reef. The Council should also continue to play a role in providing broad oversight of day-to-day field management.

A standing committee of officials should be established to support the Ministerial Council. In general terms, its role should be to identify issues requiring joint policy development or policy coordination and, subject to the direction of the Council, to progress these issues through steering committees with the appropriate responsibilities and expertise. Such matters could include assessing pressures and risks, managing the current *Reef Water Quality Protection Plan*, consideration of fisheries management activities and management of the islands within the State and Commonwealth marine parks.

Improving collaboration on fisheries management and related activities

As noted above, the Authority, the Department and the Queensland Government are all involved in regulatory activities that affect fisheries management.

The Queensland Government is responsible for managing fisheries, including within the Marine Park, with the objective of the economically and ecologically sustainable use of fisheries resources. This is achieved through means such as the development of management plans and input controls, including licensing requirements, equipment limits, size limits and closed seasons.

The Department is responsible for 'managing the managers' by assessing and approving the fisheries management arrangements put in place by the Queensland Government to ensure fishing occurs within a framework of ecologically sustainable development. Most fisheries in the Marine Park are currently approved by the Department of the Environment and Heritage on a prospective basis, that is, they are recognised as sustainable on the basis that certain identified measures will be implemented. Furthermore, in some cases, accreditation has been provided, in part, on the basis of management actions put in place under the *Great Barrier Reef Marine Park Act 1975*, notably the 2003 Zoning Plan.

The Authority is responsible for managing the Marine Park so as to protect the environmental and cultural values of the Great Barrier Reef and to provide opportunities for ecologically sustainable use. This requires the Authority to manage the Great Barrier Reef ecosystem as a whole, which encompasses, but is broader than, the management of fisheries resources. Thus, while management actions such as zoning plans restrict fishing activities (among other things), they are not targeted simply at maintaining the viability of fish stocks for extractive uses, but at managing the health of the ecosystem as a whole.

The involvement of the Authority in fisheries management was a point of contention for many people making submissions to the Review. Some such submissions assert that the Authority's role in fisheries management duplicates management actions by the Department and the Queensland Government. Other submissions express concern that there do not appear to be any clear and stable policy framework or objectives guiding the Authority's involvement in fisheries management, which is a cause of industry uncertainty. Yet other submissions assert that the Authority's actions on fisheries management have not been based on robust and objective science.

The Review Panel believes that the Authority has a legitimate role in relation to fishing activities. As noted above, as manager of the Marine Park the Authority, under the *Great Barrier Reef Marine Park Act 1975*, has a responsibility to protect the environmental and cultural values of the Marine Park and to provide opportunities for ecologically sustainable use. This requires the Authority to regulate fishing activities through means such as zoning plans and to participate in management of fishing by the Department and the Queensland Government, with the objective of managing the health of the Great Barrier Reef ecosystem as a whole.

That said, the Review Panel considers that there is a need for a clearer framework for fisheries management actions by the Authority, the Department and the Queensland Government. This framework should clearly identify roles and responsibilities and seek to promote collaborative and cooperative effort directed at common goals and objectives. It should also ensure that management actions by all agencies concerned are based on robust and objective research and monitoring data.

It is recommended that the Ministerial Council provide the medium for achieving these objectives. In so doing, the Council may wish to develop an approach similar to that used to manage water quality (the *Reef Water Quality Protection Plan*).

This approach should identify:

- the objectives and goals of the Australian and Queensland governments in relation to ecosystem and fisheries management within the Great Barrier Reef World Heritage Area
- strategies and actions for achieving the goals and objectives based on robust and objective scientific and socio-economic data
- agencies and organisations responsible for implementing actions and the associated milestones and timeframes
- the monitoring and evaluation that will be undertaken to assess the effectiveness of management actions and inform continuous improvement and adaptive management.

In doing these things, the objective is to bring together and integrate planning and fisheries management actions by the Queensland Government, assessment and monitoring by the Department for *Environment Protection and Biodiversity Conservation Act 1999* purposes and Marine Park management by the Authority.

Such a cooperative and integrated approach will improve the efficiency and effectiveness of management by taking advantage of synergies, while removing duplicate effort. It would also improve industry certainty by setting clear objectives, processes and responsibilities in relation to fisheries management actions by governments. Accountability would be enhanced through ongoing monitoring, evaluation and reporting against defined requirements. Finally, the fisheries framework proposed would also help to ensure that management actions by all agencies are based on common, robust and integrated scientific and socio-economic information.

The division of roles and responsibilities for fisheries management and living marine resource management is a matter of policy preference. It is not the role of this Review to examine the 1995 Offshore Constitutional Settlement regarding fisheries adjacent to Queensland. However, the Review Panel notes that in any future review of the Offshore Constitutional Settlement, consideration could be given to simplifying the intergovernmental relationship between the Queensland and Australian governments regarding living marine resources and fisheries management in the Marine Park.

Summary of recommendations

To sum up this section on the role of Queensland, the Review Panel **recommends** the collaborative arrangements between the Australian and Queensland governments in management of the Great Barrier Reef be enhanced by:

- establishing a comprehensive intergovernmental agreement that:
 - has as its clear objective facilitating the integrated and collaborative management of marine and land environments so as to provide for the protection and wise use of the Great Barrier Reef
 - clearly describes the nature, functions, powers, accountability, operational protocols and interrelations between governments, the Ministerial Council and the Authority
 - confirms that Queensland will continue to be responsible for day-to-day management of the Marine Park, subject to the Authority, with the detailed arrangements for day-to-day management in separate agreements
- strengthening the Ministerial Council by providing it with:
 - a clear charter for joint policy development and policy coordination in relation to both marine and land issues affecting the protection and use of the Marine Park and World Heritage Area
 - the role of overseeing day-to-day field management of the marine parks
 - a standing committee of officials established to support the Ministerial Council to identify issues requiring joint policy development or policy coordination and, subject to the direction of the Council, progress these through steering committees with the appropriate responsibilities and expertise
 - responsibility for the *Reef Water Quality Protection Plan*
 - a clear role of improving collaboration and coordination of regulatory activities that affect fisheries and of other substantive matters such as the management of islands within the marine parks. The Council may wish to develop an approach similar to that used to manage water quality (the *Reef Water Quality Protection Plan*) in relation to fisheries issues.

10. Engaging users and communities

10 Engaging users and communities

10.1 The importance of engagement

Engagement of stakeholders and local communities is an essential component of management of the Marine Park and of ensuring that Australia meets its obligations under the United Nations Convention Concerning the Protection of the World Cultural and Natural Heritage (1972).

There is a wide range of users of the Marine Park, including recreational and commercial fishers, tourism and shipping operators and traditional owners. Managing the Marine Park on a multiple-use basis requires the Authority to manage and balance often competing demands from these users, as well as meeting overarching conservation objectives. Understanding and working constructively with stakeholders is essential in meeting this challenge and in ensuring management responses are efficient, effective, practical and relevant.

Engagement with users is also a priority in management of the Marine Park due simply to its size. The Park extends approximately 2 300 kilometres along the coastline of Queensland and takes in a large number and diverse range of communities. The livelihood and lifestyle of people in these communities is often strongly connected to the Great Barrier Reef. It is important that their needs are considered in management of the Marine Park and the socio-economic impacts of management actions are incorporated in decision making.

10.2 Current engagement mechanisms

The Authority engages stakeholders and the community in management of the Marine Park through a variety of formal and informal mechanisms. Key among these mechanisms is a range of stakeholder committees—the Great Barrier Reef Consultative Committee, the Reef Advisory Committees and the Local Marine Advisory Committees. These committees provide a forum for stakeholders and local communities to provide input into and feedback on management by the Authority. Engagement is also achieved simply by the presence of the Authority and its offices in north Queensland.

Engagement is an integral part of the planning and regulatory functions undertaken by the Authority. The Authority, for example, consults extensively in relation to major management initiatives such as the development of zoning plans, plans of management and regulatory activities such as the assessment of permit applications. Some such consultation is required by legislation, although consultation during the development of the 2003 Zoning Plan, for example, far exceeded statutory requirements for the formal public consultation phases.

In late 2004, the Authority commissioned Futureye Pty Ltd (2005) to review its approach to engaging stakeholders and local communities. The Futureye review focused particularly on the views of key stakeholder groups on the development process for the 2003 Zoning Plan. The review was a means of identifying needs and opportunities for enhancing community engagement structures and processes.

Futureye made a number of recommendations directed at establishing a 'partnership approach' to the management of the Marine Park, notably by developing and maintaining a stronger regional presence. Many of the recommendations have already been implemented. For example, a Local Marine Advisory Committee was established in the Bundaberg area in early 2005 and additional community representatives have been appointed to the Consultative Committee. The Authority has also recently established a Community Partnerships Group to oversee and coordinate engagement throughout the Authority. The Group includes liaison officers based in regional offices in Cairns, Townsville, Mackay and Rockhampton to cover the Cape York, Far Northern, Northern, Central and Southern Regions.

These changes build on a number of successful consultative arrangements already in place with a broad range of stakeholders. For example, much of the Authority's approach to the management of tourism activities is based on the *Cooperative Framework for the Sustainable Use and Management of Tourism and Recreation Opportunities in the Great Barrier Reef Marine Park* (Tourism and Recreation Reef Advisory Committee 2002) developed by stakeholder and community representatives through the Tourism and Recreation Reef Advisory Committee. The Authority also has an effective working relationship with the Australian Maritime Safety Authority at an operational, advisory committee and board level in relation to shipping and environmental protection (Chapter 7). In 2004 the Reef Guardian Schools programme commenced and the Reef Guardian Council approach was developed. The first Traditional Use of Marine Resources Agreement on use of the Marine Park sea country was entered into by the Girringun Traditional Owners and the Authority in December 2005.

Overall, the Authority has established effective working relationships with most stakeholder groups. However, relationships with some stakeholders in commercial and recreational fishing sectors are poor or even non-existent. Building these relationships will be important for the future successful management of the Marine Park. A key task in building relationships will be to establish a broad public understanding of the environmental, social, cultural and economic values of the Marine Park. This will include conveying an understanding that the conservation and management of the Marine Park ecosystem seeks to provide for multiple use and this carries inherent challenges of managing competing uses.

10.3 Enhancing engagement

The Review Panel has considered engagement processes and structures as a part of the current Review, taking into account the Futureye report (2005), the reforms already undertaken by the Authority and the issues raised by stakeholders in their submissions to the Review. The following sections discuss, in turn, engagement as a part of planning and regulatory processes and the various consultative committees.

Planning and regulatory processes

Consultation is a key component of planning and regulatory processes undertaken by the Authority, notably the development of zoning plans and plans of management and the administration of the permitting system. Some such consultation has its basis in statutory requirements, although consultation undertaken by the Authority generally goes beyond that strictly required.

A large number of submissions to the Review commented on engagement as a part of planning and regulatory processes. Most such submissions relate to the development of zoning plans, with particular reference to the development of the 2003 Zoning Plan (Chapter 6). These issues are discussed below.

Another issue raised in submissions is that there should be greater transparency and public participation in relation to environmental impact assessment and permitting under the *Great Barrier Reef Marine Park Act 1975*. Most such submissions pointed to the *Environment Protection and Biodiversity Conservation Act 1999* as an example of best practice in this respect. This issue is discussed further in Chapter 13 of this report, which deals with the regulatory framework.

Finally, a considerable number of stakeholders expressed the view, both in submissions and meetings with the Review Panel, that the Authority works exceedingly well with stakeholders and communities in the development and implementation of plans of management and site management plans. There are currently 10 such plans in place (Chapter 5). The Review Panel has also formed a view that the plans of management and site management plans demonstrate ongoing and highly effective engagement between the Authority, local communities and other stakeholders, with outcomes having a high degree of ownership by all groups.

Consultation in zoning plan development

Zoning plans are the primary mechanism through which the Marine Park is managed and regulated. As such, zoning has implications for users of the Marine Park and for local communities adjacent to the Park.

Many submissions to the Review commented on the development of zoning plans, with particular reference to the development of the *Great Barrier Reef Marine Park Zoning Plan 2003*. Two basic views were expressed. On the one hand, a large number of stakeholders consider engagement by the Authority to be best practice, comprehensive, extensive, exhaustive and effective. Some in this group considered the degree of consultation during the Representative Areas Programme to be almost excessive. This group primarily comprised persons and organisations associated with tourism, shipping, sailing and diving, the research and academic community, conservation groups and some local community groups.

On the other hand, there were a number of, although certainly not all, recreational and commercial fishing stakeholders who expressed the view that the Authority has a culture of bias and does not effectively engage with them. Some felt that during the Representative Areas Programme, for example, there were insufficient opportunity, time and information to adequately evaluate the implications of proposed zoning and provide informed input. Others felt that the Authority did not properly take account of information provided during public consultation and, in some cases, used that information to deliberately close favoured and productive locations.

In developing the 2003 Zoning Plan, the Authority was required to assess competing views and interests from a diverse range of users including recreational, commercial and game fishers, tourism operators, recreational users and shippers. These demands had to be reconciled, not only against each other, but also against the overarching conservation objectives of the Representative Areas Programme.

To guide this process of assessment, the Authority published Operational Principles establishing 'ground rules' for the development of zoning. Biophysical Operational Principles (Appendix H) established ground rules directed at achieving the environmental objectives of the Representative Areas Programme and included, for example, the goal of protecting a minimum of 20 per cent of each bioregion, minimum desirable sizes for no-take areas and a rule that, where a reef is included in a 'no-take' zone, the whole of the reef should be protected. Social, Economic, Cultural and Management Feasibility Operational Principles (Appendix J) established ground rules designed to minimise detrimental impacts to stakeholders and local communities, for example, by providing that Green Zones be located in a manner that minimises conflict with users.

Chapter 6 provides an analysis and case study illustrating the way in which the Authority utilised environmental, social and economic information in the development of zoning, including information provided in submissions. The case study illustrates that zoning was not driven simply by environmental objectives, but was also heavily influenced by socio-economic considerations. Maps 12–17 (in Chapter 6) provide an indication of the extent to which, at an aggregate level, social and economic uses of the Marine Park are accommodated in the 2003 Zoning Plan for a range of users. Maps 12–15 illustrate that areas closed to commercial fishing generally avoid locations with the highest aggregate economic value. Map 16 shows that the 2003 Zoning Plan has provided security of access for shipping by means of Designated Shipping Areas. Map 17 shows the location of popular recreational fishing locations relative to the final zoning.

These maps demonstrate that, overall, the placement of zones was done in a manner that sought to achieve environmental objectives while also maximising social and economic usage and minimising socio-economic impacts. Achieving this outcome involved a trade-off between at times competing and conflicting views and interests, as well as between environmental, social and economic values. There were, for example, 21 500 submissions on the Draft Zoning Plan, as well as a significant amount of other socio-economic and environmental data to be factored into the development of zoning. Because of this, the 2003 Zoning Plan necessarily reflects the totality of the assessment of all the views and considerations.

As a result, however, a number of stakeholders feel that their views and interests were not appropriately considered.

Such concerns point to an underlying need for the zoning plan development process to have a higher degree of transparency and accountability in the future such that:

- stakeholders are appropriately informed on the overarching objectives and rationale for the proposals
- there is sufficient time in relation to the complexity of the proposals for stakeholders to prepare comment
- the basis for decisions on alternate use is clear and in the public domain
- the social and economic impacts at a local and regional level and how they interact with State and local government responsibilities are understood.

Improving the zoning plan process

The Review Panel **recommends** that the zoning plan process be made more transparent and accountable by enhancing the process for developing zoning plans through the changes to the regulatory framework and administrative arrangements (such as Statements of Expectation and general directions by the Minister).

There is a need to ensure the benefits of zoning accrue and that there is an appropriate period to establish stability for the ecosystem and business environment. The Review Panel **recommends** that, given the overall response times of biological and human systems, a review and amendment of all or part of a zoning plan should not be commenced until at least seven years from the date the plan came into effect. A review would not necessarily be required after seven years, but should a review be commenced, the following process would apply.

The Review Panel **recommends** that, as a first step, the responsible Minister should be required to approve the opening of the zoning plan for amendment. This decision should be made on advice from the Authority, as well as being informed by the periodic *Outlook Report* detailed in Chapter 11, and other relevant information.

At the first consultation phase (on the intention to create/amend a zoning plan), the Authority should release a report, drawing on relevant scientific and socio-economic research, explaining why zoning needs to be reviewed. Information on the proposed process for amending the zoning plan should also be released at this time. The Minister should have the power to issue directions to the Authority in relation to the process.

The development of zoning should be based on a set of published Operational Principles approved by the Minister. These principles should set out the policy parameters and objectives on which the development of the zoning plan will proceed, including, for example, the level of protection targeted and the way in which competing environmental, social and economic values will be considered. The Operational Principles should be supported by a robust and publicly available explanation of their scientific and policy rationale. Once approved, the Authority should be required to have regard to the Operational Principles in developing the zoning plan.

The current statutory requirement for two public consultation phases, one on the intention to create a zoning plan and another on a draft plan, should be retained. However, the minimum period for public comment at each stage should be extended from one month to three. Socio-economic analysis should be undertaken and be made available prior to consultation and should be updated as the zoning plan is developed and refined.

The current arrangements for Ministerial approval of the final zoning plan should remain as is. More specifically, in order to ensure the Authority retains a degree of independence in the development of zoning, the Minister should have only the power to suggest changes to the Authority for consideration.

Should such suggestions not be incorporated into the final plan delivered by the Authority to the Minister, the Minister may amend the plan, but must report any such changes to Parliament at the time the plan is tabled.

To ensure that the outcome of the zoning plan process is both transparent and accountable, it is recommended that, following acceptance by the Minister and Parliament, the Authority make information available to stakeholders on the rationale for the final zoning plan, and in particular, the reason for changes between the draft and final plans. This information disclosure could include the publication of a synopsis of the process and its outcomes.

Advisory committees

The Consultative Committee

The *Great Barrier Reef Marine Park Act 1975* (s. 20) provides for the creation of the Great Barrier Reef Consultative Committee. Its functions, as specified in the Act, are to advise the Minister in relation to the operation of the Act and to advise the Authority on matters relating to the Marine Park.

The Committee comprises a minimum of 12 members appointed by the Minister and one member of the Authority. Queensland may nominate one-third of members (not including the member of the Authority). There are currently 24 members of the Committee, which includes:

- Chairpersons of the Authority's Reef Advisory Committees
- Chairpersons of five of the Authority's Local Marine Advisory Committees
- senior officials from the Queensland Government departments with responsibility for Premier and Cabinet, environment and fishing
- a representative from the Australian Government Department of the Environment and Heritage
- Aboriginal and Torres Strait Islander representatives
- representatives of commercial fishing, recreational fishing, tourism, the research community and conservation organisations.

A number of submissions to the Review contended that the Consultative Committee was not working well and suggested this could be resolved by providing it with a clearer charter. Other submissions considered that the role of the Committee has been superseded by the Reef Advisory Committees introduced in 2001 and the Local Marine Advisory Committees that were established between 1999 and 2005.

The Review Panel considers that there is a need for the Minister to have access to advice on specific issues related to Marine Park protection and use from business, community, Indigenous, environmental and other relevant stakeholders. However, the Consultative Committee is no longer effective and has conflicting accountability to the Authority and the Minister.

To address this, the Review Panel **recommends** that the Consultative Committee be reconstituted as an Advisory Board to the Minister for the Environment and Heritage. The Advisory Board would provide the Minister with a means to access advice on specific issues related to the Marine Park protection and use from business, community, Indigenous, environmental and other relevant stakeholders. An Advisory Board is consistent with the findings of the *Review of Corporate Governance of Statutory Authorities and Office Holders* (Uhrig 2003).

The Advisory Board would provide advice on particular matters as requested by the Minister, for example coastal development and Indigenous use of the Marine Park. This role of the Advisory Board in providing advice to the Minister would be distinct from that of the Reef Advisory Committees and Local Marine Advisory Committees. These committees would be responsible for providing advice to the Authority in relation to more detailed subject- and area-specific operational issues.

The Advisory Board should be non-statutory. The Minister should prepare and publicly release terms of reference for the Board. Appointments to the Board should continue to be the responsibility of the Minister. The Board should provide for broad representation of stakeholders associated with Indigenous communities, commercial operators, recreational users, the research community and conservation bodies.

In order to provide a degree of independence, the Authority should not be a member of the Board, but attend Board meetings as an observer. Furthermore, the Department should provide secretariat support to the Advisory Board, as recommended by the *Review of Corporate Governance of Statutory Authorities and Office Holders* (Uhrig 2003). Meetings of the Advisory Board should be convened by the Chairperson. The Advisory Board would be expected to meet twice a year.

Reef Advisory Committees and Local Marine Advisory Committees

The Authority established 11 Local Marine Advisory Committees between 1999 and 2005 and four Reef Advisory Committees in 2001 as mechanisms for involving local communities and stakeholders in the management of the Marine Park.

Local Marine Advisory Committees provide a forum for engaging local communities. They bring together different segments of communities to discuss and identify local concerns and objectives, develop proposed solutions and actions, and provide feedback to the Authority and other agencies on management decisions and actions. Local Marine Advisory Committees comprise members from the relevant region who are independent or represent particular user or interest groups.

The Reef Advisory Committees provide a forum for expert input from relevant stakeholder interests in relation to the four issues identified as critical by the Authority. They are named correspondingly, as follows:

- Conservation, Heritage and Indigenous Partnerships
- Water Quality and Coastal Development
- Fisheries
- Tourism and Recreation.

The Authority is internally structured into management groups that correspond to each of these critical issues. The Director of each critical issue group participates in the corresponding Reef Advisory Committee, so providing a direct conduit for input by the Reef Advisory Committees into management.

Submissions to the Review generally suggest that the Local Marine Advisory Committees and Reef Advisory Committees are working well. Members of these committees, in particular, feel that the committees provide an effective means for contributing to management, are appropriately resourced and that the Authority is generally responsive to committee recommendations.

Nevertheless, a number of submissions to the Review suggested that responsibilities and appointment processes of the committees are currently unclear and lack formality. More specific concerns included that membership is at present the sole responsibility of the Chairperson of the Authority, that membership of some committees is not appropriately representative and that there should be better provision for 'cross-fertilisation' between committees.

The Review Panel **recommends** that the Local Marine Advisory Committees and Reef Advisory Committees should be formally constituted as committees reporting to the Authority. They should not, however, have a statutory basis, as the structure of consultative groups may need to change over time. Instead, it is suggested that the Minister's Statement of Expectations express an expectation that the Authority will employ such consultative committees as part of its management framework.

The Authority should establish clear terms of reference and appointment processes for the committees. These terms of reference should establish that the role of the Local Marine Advisory Committees is to

provide area-based advice to the Authority, and the role of the Reef Advisory Committees is to provide issues-based advice on operational issues. Appointment and dismissal of committee members should be the responsibility of all members of the Authority collectively rather than the Chairperson alone.

To promote transparency and accountability, the terms of reference and appointment processes for the committees should be publicly available. The Authority could also publish minutes of committee meetings and copies of advice from the committees on its website.

Finally, some submissions to the Review suggested that the Fisheries Reef Advisory Committee duplicates the Marine Advisory Committees established by the Queensland Department of Primary Industries and Fisheries. As discussed elsewhere in this report, the Authority has an important role in relation to fisheries matters as part of its responsibility for the care and management of the Great Barrier Reef ecosystem as a whole. The Review Panel therefore considers a separate Fisheries Reef Advisory Committee appropriate. However, Chapter 9 of this report provides recommendations directed at improving collaboration on fisheries management. There may be scope to improve fisheries consultative arrangements as a part of this.

11. Research, reporting and socio-economic information

11 Research, reporting and socio-economic information

This chapter considers the extent to which the Great Barrier Reef Marine Park Authority and its network of research organisations are positioned to meet future information needs for managing the Marine Park and providing for its long-term protection and continued multiple use.

11.1 Current approach

Under the *Great Barrier Reef Marine Park Act 1975* (s. 7(1)(b)), a key function of the Authority is to carry out and/or arrange for 'research and investigations relevant to the Marine Park'.

There is a significant amount of research of relevance to the Great Barrier Reef undertaken each year, encompassing a range of different research fields. This research covers a broad range of topics and is undertaken for and utilised by a wide variety of public and private research users.

The Authority provides some direct support for research and monitoring. In 2004–05 this was around \$5 million in cash and in-kind support for some 90 projects. However, the Authority primarily accesses research relevant to Marine Park management through networks, partnerships and formal publications. The Authority has 18 key research partners, as set out in Table 12.

The Authority's research needs are very broad, covering a wide range of subjects and disciplines, from socio-economic understanding of the Great Barrier Reef to monitoring the effectiveness of the *Great Barrier Reef Marine Park Zoning Plan 2003*. The mechanisms through which this research is delivered, however, are dispersed and somewhat informal. This makes it a difficult and complex task for the Authority to assess the extent to which the subject matter, timeframes, priority and pitch of research are aligned to current and future needs for long-term protection of the ecosystem.

Recent research that has been of particular relevance to management of the Marine Park shows a mix of baseline data collection, information on key pressures, biodiversity and population monitoring and impacts of extractive uses (Table 13).

Table 12: Great Barrier Reef Marine Park Authority key research partners

Cooperative Research Centre for the Great Barrier Reef World Heritage Area, superseded by Marine and Tropical Sciences Research Facility 2005–06
Australian Institute of Marine Science
ARC (Australian Research Council) Centre of Excellence in Innovative Science for Sustainable Management of Coral Reef Biodiversity
James Cook University
CSIRO
Australian Research Council
Fisheries Research Development Corporation
Access Economics
Bureau of Meteorology
Environmental Economics Unit (Department of the Environment and Heritage)
University of Queensland
Australian National University
Sydney University
Queensland Department of Primary Industries and Fisheries
Queensland Environmental Protection Agency
Australian Museum
Queensland Museum
National Oceanic and Atmospheric Administration (USA)

The Authority's current research needs are identified in the publication *Research Needs for the Protection and Management of the Great Barrier Reef Marine Park 2005* (GBRMPA 2005b). This publication identifies 274 research questions across 22 themes, with 21 of the questions being identified as of critical importance (Table 14).

To deliver these research needs, the Authority is engaging with its network of research providers to get better leverage through consolidation and integration of effort, for example, by streamlining the 70 monitoring programmes of relevance to the 2003 Zoning Plan. In 2005, the Authority implemented a web-accessible management information system that maps information on existing and planned research projects against the Authority's identified research priorities: (www.gbrmpa.gov.au/corp_site/info_services/science/research_priorities/database/).

The Authority currently prepares two reports—the *State of the Great Barrier Reef World Heritage Report* and a periodic report to the United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Committee—as part of Australia's responsibilities under the World Heritage Convention. These reports are largely descriptive, being directed towards informing third parties on the state of the Great Barrier Reef and outlining existing management responses to pressures.

Table 13: Key research that has informed Marine Park management

Issue	Institution	Research type
Effect of Green Zones on trout and prey (Graham N. et al. 2003, Davis K. et al. 2004)	James Cook University	Biodiversity baseline
Economic and financial value monitoring (Access Economics 2005)	Access Economics	Economic value uses
Tourism studies (Birtles R. et al. 2002, Pearce P. et al. 1997)	James Cook University	Economic value uses
Effect of line fishing experiment (Mapstone B. et al. 2004)	CRC Reef	Impact of extractive use on biodiversity
Long-term monitoring programme (Sweatman H. et al. 2004)	Australian Institute of Marine Science	Biodiversity baseline
Effects of water quality on inshore reefs (Fabricius K. et al. 2005, McCulloch M. et al. 2003)	CRC Reef/Australian Institute of Marine Science	Pressure
Dugong air survey and historical catch analysis (Marsh H. et al. 2001)	James Cook University /Australian Institute of Marine Science	Biodiversity baseline
Effects of trawl experiment (Poiner I. et al. 1998)	CSIRO/Queensland Department of Primary Industries	Impact of extractive use on biodiversity
Cross shelf transect surveys	Queensland Department of Primary Industries	Biodiversity baseline
Chlorophyll transect study (Williams B. 2002)	Australian Institute of Marine Science/GBRMPA	Pressure baseline
River discharge studies (Furnas M. 2003)	Australian Institute of Marine Science	Pressure
Climate change and mass bleaching (Hoegh-Guldberg O. 2004, Hughes T. 2003)	University of Queensland	Pressure

Table 14: The research needs of the Great Barrier Reef Marine Park Authority

The Authority has identified its current research needs in the publication *Research Needs for the Protection and Management of the Great Barrier Reef Marine Park 2005*. These needs were identified in light of the current needs for protection and wise use of the Marine Park, the Australian Government's National Research Priorities, National State of the Environment reporting requirements and the Authority's Key Performance Indicators and other accountability requirements. From this, 274 research questions were identified. These questions were then prioritised based on the importance of the information to the protection and use of the Marine Park and the urgency or timeframe over which the information is required to be effective and lead to outcomes. From this, 21 critical questions were identified, which in summary cover:

- monitoring the efficiency and effectiveness of the Representative Areas Programme in ecological and socio-economic terms
- monitoring the effectiveness of the *Reef Water Quality Protection Plan*
- enhancing fishing, tourism and recreational opportunities whilst minimising environmental impacts
- the links between catchment activities and pollutant loads
- the effectiveness of current and planned fisheries management strategies
- fisheries impacts on dugongs and potential management responses
- the risk to shark and ray populations from fishing activities
- improving socio-economic understanding as an input to multiple-use management
- the protection of marine turtles
- the likely impacts of climate change and means of mitigating those impacts
- managing diseases and introduced pests
- management strategies that can be used to support or improve ecosystem resilience
- monitoring the health of major habitat types.

11.2 Future research, monitoring and reporting

Undertaking research and monitoring of biological and socio-economic systems requires long lead times, resources, expertise and planning. The Authority currently has a complex task in identifying, aligning, facilitating and tracking the research of a broad range of organisations in order to ensure it has access to relevant, robust and timely information. Equally challenging is the need to draw together the significant amount of individual project and programme findings and apply those findings in a holistic and integrated manner to the long-term protection of the Great Barrier Reef.

The Great Barrier Reef, as a World Heritage Area, is an icon for Australia and the world. There is a high degree of interest in, and sometimes scepticism about, the protection of this complex ecosystem. The regular availability of information on performance and risk will be of paramount importance in future as a source of transparency and accountability in the public domain. This will require three fundamental sets of information.

- regular monitoring of the use of the Marine Park and the performance of management measures against baselines and trends over time so as to provide an understanding of the overall health, resilience, biodiversity and commercial use of the ecosystem. This will enable management effort to be targeted and show whether regulatory and policy settings are delivering expected outcomes in regard to conservation and the wise use objectives
- assessment of future risks and pressures. This information enables consideration of the level of protection of the ecosystem that is required over the longer term and whether there is a need for further action
- analysis of the full range of biophysical, social and economic factors necessary to support consideration of any changes to the level, area or type of protection.

Obtaining this information will require long-term research to be carefully specified and planned. It will also depend on the availability of capable research organisations and the necessary funding. The Authority's recent identification of its long-term research requirements is a positive step toward performing this research and monitoring role. The 21 priority questions identified will need considerable refinement, however, to secure funding for what is essentially non-commercial research.

The Marine and Tropical Sciences Research Facility located at James Cook University in Queensland would be an appropriate source of funds for the key 'public good' components of this work, if the research were appropriately targeted. This Facility was established as part of the Commonwealth Environment Research Facilities Programme, an Australian Government initiative announced in 2004. Under this Programme, \$40 million will be made available over a five-year period from 2005 to support environmental public policy research related to the Great Barrier Reef and its catchments, tropical rainforests including the Wet Tropics World Heritage Area, and the Torres Strait. The Programme is administered by the Department of the Environment and Heritage.

As a user rather than a major provider of research, the Authority will need to manage and coordinate research, performing a central 'clearing house' role. Additionally, the Authority has a key role in synthesising research findings and value-adding by integrating findings to inform operational management and to provide an assessment of the pressures on the Marine Park as a whole. This role will also contribute to consideration of broader-based issues at a national and State level and enable conservation, social and economic impacts to be assessed.

In order to bring all these elements together, the Review Panel **recommends** that there be a regular and reliable means of assessing performance in the long-term protection of the Marine Park in an accountable and transparent manner. The Review Panel **recommends** that this assessment be delivered through a statutory requirement for a *Great Barrier Reef Marine Park Outlook Report*, produced on a five-yearly basis.

The *Outlook Report* should provide information on the management of the Marine Park and the overall condition of the ecosystem, as well as a qualitative and quantitative risk-based assessment of the longer-term outlook. In particular, such a report would include analyses of:

- the ongoing commercial and non-commercial use of the Marine Park
- trends over time against baseline and benchmark data, including commercial and recreational use, biodiversity, ecosystem health and resilience and social and economic systems
- the condition of the ecosystem, including health, resilience and biodiversity
- the effect of management measures, including zoning plans and plans of management
- risks and pressures on the ecosystem, including those external to the Marine Park
- biophysical, social and economic regional factors
- the outlook for the Marine Park based on quantitative and qualitative data.

The *Outlook Report* would inform management of both the Commonwealth Marine Park and the adjacent Queensland coastal marine park. The report would also inform consideration of broader issues by governments by drawing together the monitoring and assessment of the ecosystem and the long-term biophysical, social and economic research of relevance to the level and form of protection required.

The Authority, as the interpreter of research products from many organisations, would be responsible for the production of the *Outlook Report*. Given the formal nature of the report as proposed, its broad scope and many disciplines, the Review Panel **recommends** a process of peer review by a Science Panel appointed by the Minister for the Environment and Heritage. Publication on a five-yearly basis is proposed as a suitable interval for a report of this scope, taking into account the response time of the biological and human systems being assessed. The Panel also **recommends** that the *Outlook Report* be tabled in Parliament and published, to ensure full accountability in the public domain. The report should be a key input for future changes to zoning plans and the consideration of broader issues by governments.

11.3 Socio-economic information and analysis

A number of submissions to this Review suggested that to date the research and analysis utilised by the Authority has been largely focused on biophysical issues, with the social and economic aspects less well covered and often too narrowly focused. For example, commercial fishing bodies and a number of fishing-related businesses suggest that socio-economic impacts were not adequately considered by the Authority in the development of the *Great Barrier Reef Marine Park Zoning Plan 2003*, the comprehensive rezoning of the Marine Park which came into force in June 2004 (see Chapter 6).

A literature review undertaken by the Department of the Environment and Heritage of some 20 socio-economic analyses conducted between 1987 and 2005 on aspects of the Marine Park and its catchment area concluded that overall the approaches and methodologies used in the analyses were sound. To date, however, research has focused on individual elements or sectors. A comprehensive assessment of all economic values across the region is not available and would be very resource intensive to undertake.

Assessment of non-market values, particularly in quantitative terms, has also been limited and thus the majority of economic valuations represent market transactions. There have been few assessments, for example, of cultural, Indigenous or 'quasi-option' values (these latter consider the value of delaying action in order to obtain better scientific information, when the delay may result in irreversible environmental harm). Estimates of value for extractive and non-extractive uses of the Great Barrier Reef are based on actual levels of usage. Also, the data sets available make it difficult to disaggregate values for the Marine Park from those of the catchment as a whole, for example in relation to the value of tourism.

The following section considers the way socio-economic analyses could best be used in the future management and protection of the Marine Park, in particular by drawing on some of the lessons learned in the development of the 2003 Zoning Plan.

Socio-economic data and zoning development

To help identify the type of analysis and data that will be most useful in informing the management of the Marine Park in future, the Review Panel closely examined the process associated with the development of the *Great Barrier Reef Marine Park Zoning Plan 2003*.

During this process, which stretched over a period of six years, the two main areas in which socio-economic analysis was utilised as a tool were the identification of appropriate zone locations and assessment of the likely social and economic impacts of the zoning proposed. The Authority drew on a wide variety of socio-economic data for these analyses, including:

- commercial fishing logbook and Vessel Monitoring System data
- recreational fishing logbook and survey data
- information on tourism operations within the Marine Park derived through permits, plans of management and Environmental Management Charge data
- information on shipping activities provided by the Australian Maritime Safety Authority
- information received through submissions to the Authority during the preparation of the 2003 Zoning Plan.

The case study and maps in Chapter 6 demonstrate the extent to which the Authority utilised this kind of data to accommodate economic and social uses and to minimise detrimental impacts. Maps 12–15 (in Chapter 6) illustrate, for example, that areas closed to commercial fishing were, as far as possible, sited to avoid impinging on areas with high aggregate economic values. Similarly, Map 17 (in Chapter 6) illustrates that the zoning sought to avoid areas that had been identified in Queensland Government surveys as popular recreational fishing locations.

Assessment of impacts associated with recreational fishing

The Review Panel heard views in submissions and consultations that the introduction of the 2003 Zoning Plan had caused significant negative impacts on individuals wishing to participate in recreational fishing, as well as indirect impacts on businesses supplying, for example, boats, motors, spare parts, tackle, bait and berley. In some cases charter fishing businesses that had relied on being able to access specific reefs now closed to fishing were said to be concerned at the lack of alternative locations where fishing was permitted. The recreational fishing areas that were most affected by the 2003 Zoning Plan were the inshore areas in the Rockhampton, Whitsunday, Townsville, Innisfail and Cairns regions and the reef and shoal areas in the Capricornia Bunker reef areas off Gladstone, Townsville and Cairns.

During the preparation of the 2003 Zoning Plan, limited impacts were anticipated for the majority of recreational fishers. For example, in 2003, a report by PDP Australia Pty Ltd (2003) based on boat ramp and fishing location data available at the time estimated that the impact of the 2003 Zoning Plan on recreational fishing would be a closing of only 1.3 to 5 per cent of regularly frequented recreational fishing locations. Unlike the commercial fishing sector, there is no direct employment in the recreational fishing industry (excluding boat charter) and assessment as to whether there would be any more localised effects was not undertaken during the preparation of the 2003 Zoning Plan. More detailed analytical work would have been needed, with a broad range of parameters considered, in order to disaggregate any impact of the 2003 Zoning Plan from other concurrent factors such as those discussed briefly below.

In looking at any direct and indirect impacts of the 2003 Zoning Plan it is important to understand that recreational fishing mainly occurs in rivers, inlets, estuaries, from the shore, in inshore waters and in the mid-reefs. In Queensland, only 6 per cent of recreational fishing occurs more than five kilometres from the coast. Most recreational fishers, therefore, are fishing in inshore waters, which fall within the Queensland Great Barrier Reef Coast Marine Park (between high and low water mark), the Queensland national parks and the Great Barrier Reef Marine Park. As such, recreational fishing in the Great Barrier Reef is regulated through Queensland fisheries management legislation and State and Commonwealth zoning plans.

In Queensland approximately 55 per cent of recreational fishing takes place from the shore (The National Recreational and Indigenous Fishing Survey 2003) and would thus predominantly come under State regulation. Of people who fish from boats, the majority (94 per cent) have vessels that are less than five metres long and are largely restricted to fishing within five kilometres of a boat ramp. Thus a high proportion of recreational fishing occurs in inshore areas, where both the Great Barrier Reef Marine Park zoning and State complementary zoning would apply. A relatively small proportion (around 5.5 per cent) of recreational fishers in the catchment fish from boats over five metres long and are therefore able to access the inner and outer reefs where the Commonwealth Marine Park zoning changes could have an effect.

Another factor to be considered is the overall downward trend in participation in recreational fishing. In Queensland, as elsewhere, there has been a long-term decrease in recreational fishing of 1 per cent per annum since 1996. In the period 2001 to 2004 the decrease outside the catchment was 4 per cent per annum and in the catchment, excluding Cairns, 5 per cent per annum, with a much greater decrease of 16 per cent per annum in the Cairns region (Hunt 2005a). The trend for saltwater fishing from boats over the period 2001 to 2004 was a slight increase of 2 per cent outside the Marine Park and a decrease of 2 per cent per annum within the Marine Park. Interestingly, the number of recreational boats registered in the catchment in 2004 increased over the previous year, by 8 per cent, along with complementary motor sales.

Other factors that need to be taken into account include consideration of the ability of recreational fishers to change location and the introduction of 'Yellow Zones' in which gear limitations effectively exclude commercial fishing. In addition, during 2004, at the time the 2003 Zoning Plan was implemented, an increase of 20 per cent in fuel prices may have impacted negatively on recreational fishing trends. In 2004, the Queensland *Coral Reef Fin Fish Fishery Management Plan* introduced new regulations for recreational fishers, which further added to the complexity of the new environment.

A key conclusion that can be drawn from the above is that a more detailed assessment would have been necessary to ascertain the impacts of the 2003 Zoning Plan on recreational fishers and associated businesses, as well as the relative significance of 2003 Zoning Plan impacts in relation to other factors operating at the time.

Economic assessments, financial assistance and commercial fisheries impacts

Three socio-economic impact analyses were undertaken as part of the development of the 2003 Zoning Plan—these were done by PDP Australia (2003), the Bureau of Rural Sciences (BRS) (2003) and the Bureau of Tourism Research (BTR) (2003). These three reports, together with a covering summary of their contents (GBRMPA 2003c), were tabled in Parliament with the final 2003 Zoning Plan in December 2003.

The three reports estimate the high-level aggregate economic impacts of the 2003 Zoning Plan on commercial fishing and the tourism industry. For commercial fishing the impact was estimated by PDP Australia to be up to \$2.6 million per annum on a Gross Value Added (GVA) basis. In other words, as a result of the rezoning commercial fishers operating throughout the Marine Park would derive \$2.6 million less in profit each year. This figure does not include any flow-on economic impacts on industries up- and down-stream of commercial fishers, for example fishing equipment suppliers and seafood processors, but only considers the lost profit of affected fishers.

Impacts were also estimated in terms of the Gross Value of Production (GVP), that is, the change in the total value of the output produced by affected industries. For commercial fishing, this impact was estimated by the Bureau of Rural Sciences report to be a decrease of approximately \$10.3 million per annum in the total value of fish caught by commercial otter trawl, net, line and crab fisheries in the Marine Park as a result of the rezoning. The Bureau of Rural Sciences estimated that for all fisheries in the Marine Park, including collection and beam trawl, the impact was in the range of \$13.5 to \$14 million. These GVP figures do not reflect the lost profits of affected fishers, as they include the costs incurred in catching the fish. Because these costs are included, however, the estimate provides some indication of upstream effects on businesses such as fuel, net and boat suppliers. The impacts on downstream businesses, such as seafood processors, are not accounted for by either measure.

These GVA and GVP figures, along with the outcomes of the other analyses mentioned above, were presented to the Minister for the Environment and Heritage and to Parliament as estimates of the decrease in the annual economic activity of key industries likely to result from the implementation of the 2003 Zoning Plan. This advice was presented in the context of a Regulatory Impact Statement, which provides a framework for weighing up the costs and benefits of regulatory measures. The Regulatory Impact Statement for the 2003 Zoning Plan concluded that the environmental and economic benefits of the Plan would outweigh its costs.

Consideration by government of the need for financial assistance for businesses and communities in a region, rather than allowing autonomous adjustment, is contingent on the nature of the impacts. The form, and therefore the cost, of structural adjustment assistance can vary significantly depending on the circumstances and the type and level of the support the government wishes to provide. Thus an estimation of the likely costs of an assistance package will require a different type and level of analysis to that undertaken of the high level aggregate economic impacts of the implementation of the 2003 Zoning Plan. The economic impact estimates above of \$2.5 million and \$10.3 million therefore cannot be used as a surrogate for the estimate of cost of providing financial assistance.

Any package directed at helping affected business and communities adapt is tailored to the particular circumstances and the quantum of the package is shaped by a distinct set of factors. For example, assistance for the commercial fishing sector can include provision for the purchase of fishing licences for those wishing to exit the industry, support for employees affected by an employer's exit and business

restructuring assistance for those wishing to stay. Business restructuring assistance or exit assistance can also be extended to both up- and downstream land-based businesses, such as, in this case, net and tackle suppliers and seafood processors. Regional assistance projects may also be provided to help affected communities establish new avenues of investment and employment.

In the case of the *Great Barrier Reef Marine Park Zoning Plan 2003*, the decision to provide structural adjustment assistance in relation to the rezoning and the nature of the assistance provided were separate to the approval of the Zoning Plan. The decision to provide assistance was made in the context of a general Australian Government policy on Marine Protected Areas and Displaced Fishing (Australian Government 2004), which was under consideration at the time the 2003 Zoning Plan was tabled in Parliament. It was at this time that the Australian Government recognised the concerns of the fishing sector and associated land-based industries in respect of the cumulative impact of Queensland fisheries management and coastal zoning changes and the *Great Barrier Reef Marine Park Zoning Plan 2003*.

In order to determine the scope and level of assistance that would be appropriate, the Australian Government announced in late 2003 that it would work with the commercial fishing sector to put in place a financial assistance package. It established an Independent Panel to undertake this task. A base quantum of funding of \$10 million was announced, pending the Independent Panel's report. In June 2004, following the Independent Panel's consultation with the sector, the Government agreed to a comprehensive package for commercial fishers and land-based businesses that included licence buyout, business restructuring and exit assistance, together with regional assistance. At the end of 2005, the funds available for this broad-based and comprehensive package were \$87 million.

In considering the socio-economic impacts of the 2003 Zoning Plan, and the provision of structural adjustment assistance, it is important to note that there were compounding factors that would have affected the economic viability of fishing and related up-and down-stream businesses. Determining the extent to which each separate factor has contributed to this situation is problematic and it would be incorrect to attribute the total impact to any single factor, such as the rezoning of the Marine Park.

Over the period of development of the 2003 Zoning Plan (1997–2003), there were several concomitant developments that would have affected fisheries operations. During this time, for example, a number of major State fisheries management controls were introduced in the region. A series of investment warnings was issued due to concerns that certain fisheries were over-capitalised and fully exploited. A fisheries management plan was introduced for the East Coast Trawl Fishery in 1999 with further controls being introduced in 2001. In 2004 a 37 per cent reduction in total allowable catch was introduced for the major Coral Reef Fin Fish Fishery. A complementary zoning of the State coastal marine park, that introduced protection of 20 per cent of the coastline, also occurred at this time and would have affected inshore commercial crabbing and netting as well as recreational fishing. One estimate (Hunt 2005a and 2005b) places the economic impact of one of the above-mentioned changes as at least equivalent to and possibly more than three times that brought about by the 2003 Zoning Plan.

As well as these changes, fisheries and related onshore businesses have also been affected in recent times by changing domestic and international seafood markets. Growing investment in aquaculture and imports of seafood into Australia, particularly from south-east Asia, have been keeping the price received for Queensland-caught seafood down (Queensland Government 2005). Increasing export demand for live fish would also have affected local seafood processors and distributors. In addition there were concurrent increases in fuel prices and strong competition for labour from the resources and heavy industry sectors. Each of these factors would have placed pressure on fisheries at the time the 2003 Zoning Plan was being introduced. For example, in the East Coast Otter Trawl Fishery, there has been a 20 per cent reduction in annual catch over the period 1996 to 2004 and a reduction of 38 per cent in actual effort (Queensland Government 2005) due to a range of regulatory and market impacts. The impacts of all these factors would have been cumulative.

Key lessons that can be drawn from this set of circumstances are that the consideration of financial assistance to a sector requires a different type of detailed analytical assessment from that required for estimating the likely impact in annual economic activity from the implementation of a regulatory measure, for the purpose of weighing up its economic costs and benefits.

In addition, coordination between the Australian and Queensland governments is important in relation to management actions affecting fishers and related businesses. While there was some policy coordination between the rezoning of the Marine Park, the introduction of Queensland fisheries management changes and the complementary zoning of the State coastal marine park, there was no integrated assessment of the combined socio-economic impacts. Government support for structural adjustment is being provided only in relation to rezoning by the Australian Government. Financial assistance has not been provided by the Queensland Government in relation to the fisheries and marine park management changes stemming from its jurisdiction.

The Australian and Queensland Governments have in the past worked together on two occasions to deliver integrated changes to fisheries and marine park management, specifically in relation to development of Dugong Protection Areas in 1997 and the fisheries management plan for the East Coast Trawl Fishery in 1999. Both of these initiatives were supported by financial assistance, totalling \$22.5 million, provided cooperatively by the Australian and Queensland governments, as well as a contribution by the industry.

Future considerations

The Great Barrier Reef Marine Park is now subject to comprehensive zoning that is complemented by zoning in the State coastal marine park and, within both parks, fisheries management arrangements that are regulated by Queensland. In future, measures to protect the marine ecosystem will require assessment of alternative and competing uses as a basis for resource allocation. In addition, protection of the marine environment may involve action in the coast and catchment area. These factors highlight the importance of access to socio-economic information relevant to the Great Barrier Reef as an input to the long-term management of the Marine Park.

The recommendations throughout this report seek to provide a framework in which such information will be regularly available and can readily form an integral part of decision making. This report's recommendations also aim to establish a more integrated approach to ecosystem and fisheries management and to improve sharing of data and knowledge. The relevant recommendations of the Review Panel in this and other chapters, in summary, are:

- Socio-economic analyses should be a fundamental research priority.
- Socio-economic analyses should be made a formal part of any zoning plan process. They should be undertaken and available prior to consultation on major zoning plan changes and be revised as the options are refined.
- Development of zoning should be based on a set of published Operational Principles approved by the Minister, which would set out policy parameters and objectives, including the way in which alternate and competing environmental, social and economic values will be considered.
- A five-yearly peer-reviewed *Outlook Report* on the Marine Park should be produced and should include key socio-economic information.
- The Great Barrier Reef Ministerial Council should consider bringing together the respective processes for fisheries management by the Queensland Government, approval of management arrangements under the *Environment Protection and Biodiversity Conservation Act 1999* and management of the Marine Park by the Authority.
- The Ministerial Council should establish a standing committee of officials to assess pressures and risks and develop and manage key policy initiatives.

12. The management framework

12 The management framework

This chapter discusses the institutional and organisational framework for management of the Great Barrier Reef by the Authority, in particular, the legal nature, corporate structure and financial management framework of the Authority.

These factors provide the basis for governance of the Authority. In other words, they establish the framework through which strategy, direction and expectations of performance are set and communicated; roles, responsibilities and power are allocated; and performance is subject to oversight and accountability.

Good governance provides an essential foundation for the success of any organisation by ensuring:

- the purpose of the organisation and expectations of performance are clear and appropriate and are understood by those responsible for management
- roles, responsibilities and power are appropriately allocated and clearly understood
- powers and responsibility are linked to performance and review through transparency and accountability.

The following sections consider the legal nature, corporate structure and financial framework of the Authority with a view to ensuring good governance arrangements. Another key objective is ensuring the effective engagement of the Queensland Government in governance and management. This is presently facilitated, among other means, through the nomination by Queensland of members of the Authority and the Consultative Committee, by the Ministerial Council and by joint day-to-day management arrangements. Chapter 9 provides further details of collaborative arrangements with Queensland in the management of the Great Barrier Reef.

The first section of this chapter discusses the legal nature of the Authority. It considers the issue of what type of entity is most appropriate to deliver the government's policies and objectives in relation to the Great Barrier Reef, in particular whether a statutory authority is appropriate and, if so, whether that authority should also be a body corporate.

The second section considers the corporate structure of the Authority in light of the templates for good governance of statutory authorities recommended by the Uhrig review and endorsed by the Australian Government. In light of these considerations, some changes to governance arrangements are proposed and discussed.

The final section considers arrangements for financial management and accountability. As an organisation using primarily public resources, it is important that the Authority's financial framework ensures the efficient, effective and ethical use of those resources. In light of this, the section considers whether the Authority should be subject to the *Financial Management and Accountability Act 1997* or the *Commonwealth Authorities and Companies Act 1997*.

12.1 The legal nature of the Authority

Is a statutory authority appropriate?

The Authority is currently a 'statutory authority', that is, a public sector entity created by legislation, namely the *Great Barrier Reef Marine Park Act 1975* (s. 6).

Statutory authorities differ from departments and executive agencies in the following key ways:

- They are created by statute, whereas departments and executive agencies are created by administrative orders of the Executive arm of government (specifically the Governor-General in Council).

- They are created to undertake a specific function(s), as set out in legislation.
- The involvement of government, through the Minister, in the operations of a statutory authority is limited by the powers set out in the enabling legislation.

Statutory authorities undertake functions of government or provide services to the community on behalf of government. They are generally established where it is desirable for particular activities to operate outside departmental structures so as to promote efficiency and/or objectivity. More specifically:

- Separating specialised activities from the broader and more complex requirements of a portfolio department and providing an authority with a narrow and clearly defined range of functions (with separate funding for those functions) allows management of the authority to specialise and focus on its role.
- Codifying the role of the authority and defining the powers of the Minister in relation to the authority provides a degree of independence.

In the case of the Great Barrier Reef Marine Park, the following considerations indicate that management by a specialised statutory authority is appropriate.

Firstly, the size, complexity and unique nature of the Great Barrier Reef and the task of managing for multiple-use objectives indicate a need for an intensive and specialised approach to management. A unique and separate regulatory regime has been established for this reason. Given these factors, continued use of a specialised statutory authority is likely to provide efficiencies and confidence in management and regulation.

Secondly, as discussed in Chapter 9, effective management of the Great Barrier Reef requires cooperative and collaborative participation by the Queensland Government. Use of a statutory authority facilitates this in a way that is difficult to achieve through a departmental or executive agency structure.

Thirdly, as noted by a number of submissions to the Review, the significant natural and cultural value of the Great Barrier Reef and the Australian Government's commitment to long-term protection indicate that a degree of independence in management and regulation is appropriate.

On the other hand, a number of submissions to the Review considered that the Authority currently possesses too much independence and power and is not properly accountable. Some submissions suggested that this should be addressed by disbanding the Authority and moving responsibility for the Authority's functions to the Department. These views were largely expressed in the context of the development of the 2003 Zoning Plan (Chapters 6 and 10) and have been addressed by recommendations on the zoning plan process (Chapters 10 and 13).

On balance, the Review Panel **recommends** that continued management by a separate statutory authority is appropriate, noting that the full suite of reforms recommended by this report are directed at improving the transparency, accountability and performance of the Authority.

Is a body corporate appropriate?

The Authority is established by the *Great Barrier Reef Marine Park Act 1975* as a body corporate, that is, it is legally recognised as an entity having its own rights, privileges and liabilities separate from those of the Australian Government.

Statutory authorities are generally established as a body corporate where the authority requires the capacity to sue and be sued in its own name and to hold assets in its own right. Another circumstance in which incorporation may be required is when a group of officeholders need to exercise collective decision making under a single organisational name in the performance of statutory functions.

Under the *Great Barrier Reef Marine Park Act 1975*, members of the Authority are collectively responsible for the performance of regulatory and planning functions. It is therefore appropriate for decision making to be done collectively under a common seal, rather than in the name of the members individually. For this reason, the Review Panel **recommends** that the Authority continue as a body corporate.

12.2 Corporate structure of the Authority

The Uhrig templates

The Uhrig review (Uhrig 2003) describes two structures designed to provide for good governance of statutory authorities—a governing board and executive management.

Under the governing board structure, governance is primarily provided by a board of individuals selected for their relevant business and commercial experience. The board determines strategy and direction for delivering on the authority's legislative functions and financial goals, and supervises and holds management accountable for implementation.

Under an executive management structure, an executive management group is responsible for efficient and effective performance of the legislative functions of the authority and is overseen by and accountable to the Minister.

In determining the appropriate governance model the key factor is the extent to which the authority is delegated power to act, that is, the power to determine and oversee the implementation of strategy and direction by management. This in turn depends on the functions of the authority.

Some statutory authorities are established to undertake commercial activities. It is generally appropriate to delegate full power to act to such authorities, as their operations, policies and strategies are commercial in nature and are driven by the imperatives of the market. In this circumstance a governing board structure may be appropriate, as the board can be provided with the power and independence necessary to function with 'entrepreneurial' freedom in response to market imperatives and thereby to add value.

Most statutory authorities, however, are not commercial in nature. Instead, they are directed at providing outcomes that the market would not ordinarily deliver, which inevitably affects the allocation of resources between competing interests. This is a uniquely government role. Governments are elected on the basis of the policies, objectives and priorities that guide performance of this role and are held accountable for the outcomes achieved.

Because of this role and accountability of government, it is generally inappropriate to grant this latter form of authority full power to act. Instead, government should be involved in the governance of the authority. An executive management structure is designed to provide for this. It provides government with a role in setting the overarching objectives and priorities of the organisation, while also preserving an appropriate level of independence for the authority. Executive management is then overseen by and accountable to government for performing the functions of the authority consistently with the identified objectives and priorities.

In the case of the Great Barrier Reef Marine Park Authority, the Authority's functions are to provide advisory, regulatory, management and service delivery functions on behalf of the government. These activities are not commercial and carry implications for the community, the allocation of resources and the expenditure of public money. They involve the exercise of public power and the use of the coercive power of the Commonwealth. This suggests that the oversight by and accountability to government provided by the executive management structure is appropriate and that the *Financial Management and Accountability Act 1997*, which is designed to ensure the efficient, effective and ethical use of public money, is the appropriate financial management framework for the Authority.

A number of submissions to the Review expressed concerns about the application of an executive management structure to the Authority. One such concern is that an executive management approach would not allow the Authority to develop policy, and that it is important the Authority is able to carry out such a role.

The Uhrig review notes that it is the role of statutory authorities to implement policy, not develop policy. This applies regardless of whether a governing board or executive management structure is used. The basis for this view is that portfolio departments are best placed to provide whole-of-government advice on policy issues, as they possess the necessary infrastructure, practices, resources and culture.

This is not to say that statutory authorities cannot play a key role in policy development. Indeed, in the case of the Great Barrier Reef Marine Park Authority, its specialised knowledge, on-ground presence and close working relationships with stakeholders and communities suggest that it should remain a key source of advice. However, as discussed in Chapter 9, in the case where matters transcend Marine Park boundaries, have cross-jurisdictional implications and/or raise significant budgetary implications, a whole of portfolio or whole-of-government process involving the Department would generally be appropriate.

The notion that statutory authorities should not develop policy also does not mean that they should not develop operational policy, that is, policies related to the administration of an established government policy, regulatory regime and/or programme. In the case of the Authority, such activities would include development of policies and practices related to regulation and administration of the Act, the development of detailed plans of management, the establishment and allocation of infrastructure and the administration of government programmes, including, for example, decisions as to the allocation of funding.

Another issue with the executive management approach expressed in some submissions to the Review is that it provides less independence relative to a governing board approach. Under an executive management structure, government provides oversight of management in the performance of the authority's functions against the established strategic direction, priorities and policies. Under the governing board structure this role is performed by the board, which is accountable to the Minister. However, in both cases, the capacity of government to directly intervene in the functions of the authority is limited by the powers provided in the enabling legislation. Recommendations as to government powers in relation to the Authority are discussed below.

One final consideration is the value of management by a group of statutory officeholders with relevant knowledge, experience and ability for critical thought, objectivity and judgement. This is of particular importance in management of the Great Barrier Reef given its complexity, size, environmental, social and economic values and the difficult task of managing for multiple use objectives. The use of a group of statutory officeholders is also particularly important as it facilitates Queensland Government involvement in governance and management of the Marine Park through nomination of a statutory officeholder.

In light of these considerations, the Review Panel believes that the Authority should continue to comprise a group of statutory officeholders selected for their relevant expertise and independence. However, consistent with an executive management structure, the role of government in governance of the Authority should also be better formalised. The following section details these proposed governance arrangements.

Future governance arrangements for the Authority

The Review Panel **recommends** that the Authority continue to comprise a group of statutory officeholders (members) collectively responsible for the functions and governance of the Authority.

In performing their role, the members of the Authority should be subject to government direction and oversight. More specifically, it should be the role of government to establish expectations of the Authority in relation to overarching performance, objectives, values and broader government policies. The Authority

members would then be responsible for developing and implementing strategies, measures and initiatives to efficiently and effectively perform the legislative functions of the Authority consistently with government expectations.

The following sections provide further details of the recommended composition of the Authority, role of Authority members and role of government.

The composition of the Authority

The Authority currently comprises four members—a full-time Chairperson and three part-time members. One part-time member is appointed on the nomination of the Queensland Government and another to represent the interests of Indigenous communities adjacent to the Marine Park. All appointees must possess qualifications or experience relevant to the functions of the Authority.

A number of submissions to the Review suggested that membership of the Authority be expanded to include representatives of particular industries operating in the Marine Park or persons with expertise in those industries.

The Uhrig review notes that representational appointments do not provide for good governance, as appointees may be more concerned with those they represent than the success of the entity they are responsible for governing. For this reason, the Review Panel **recommends** that members of the Authority continue to be appointed based on qualifications and experience that are relevant to the functions of the Authority. Representation and input from specific sectors, businesses and bodies should instead be provided for through advisory and consultative committees, such as the Advisory Board, Reef Advisory Committees and Local Marine Advisory Committees. These committees are considered in more detail in Chapter 10, including the reconstitution of the Consultative Committee as an Advisory Board.

The Review Panel also considers that, given the functions of the Authority and the role of government in governance under an executive management structure, a small number of officeholders would work most effectively. The Review Panel therefore **recommends** that the Authority comprise a Chairperson and a minimum of two and a maximum of four other members. The Chairperson should be appointed on a full time basis, with all other appointments part-time.

To provide for Queensland participation in management, the Review Panel **recommends** that one member, not being the Chairperson, should continue to be nominated by the Queensland Government in consultation with the Australian Government. Other appointments should be the responsibility of the Australian Government, in consultation with the Queensland Government.

The Review Panel **recommends** that the current arrangement for the appointment of members by the Governor-General on the advice of the Minister should continue. Members should be appointed for a period of up to three years, with the opportunity for reappointment. Remuneration and resignation provisions should remain as currently provided for in the *Great Barrier Reef Marine Park Act 1975*.

The role and powers of Authority members

The role of the Authority members is to ensure the efficient and effective performance of the legislative functions of the Authority, consistent with the government's expectations in regard to performance, objectives, values and broader government policies.

Under the proposed model, these expectations would primarily be communicated by the Minister through formal Statements of Expectations, but also through the power to issue general directions, as currently provided for in the *Great Barrier Reef Marine Park Act 1975* (s. 7(2)). Authority members would be required to perform the functions of the Authority in accordance with any such directions. The specific nature of the Minister's powers to direct the Authority is discussed below.

In response to Statements of Expectations and other directions, the Authority members would be responsible for developing strategies and initiatives for performing the functions of the Authority consistently with the government's expectations. These strategies and the initiatives and activities proposed should be outlined in a Statement of Intent provided to the Minister and made publicly available.

The Authority would have the power to do all things necessary or convenient in connection with the performance of the functions of the Authority. This would include the capacity to acquire, hold and dispose of assets and to enter into contracts.

The powers of the Authority would be performed collectively. Any exercise of power would require the support of a majority of members, with the Chairperson having a casting vote where required.

In performing their functions, Authority members should be required to act in the best interests of the Authority. Members should also not be permitted to engage in employment that conflicts or could conflict with the proper performance of the member's duties without approval from the Minister. This reinforces the intention that the role of Authority members is to work collaboratively, rather than acting in a representational manner.

As with current arrangements, the Authority should be supported by staff employed under the *Public Service Act 1999*. These staff, along with the Chairperson of the Authority, should constitute a statutory agency for the purposes of that Act.

The role and powers of the Minister

The role of the Minister in relation to the Authority is to establish the overarching expectations of government for the operations of the Authority and to oversee performance.

In performing this role, the Minister should preserve a level of independence for the Authority commensurate with the desire to promote objective, scientific and expertise-based management of the Great Barrier Reef. Accordingly, the Review Panel considers it appropriate, as with current arrangements, that the Authority act independently, subject to any general directions of the Minister that are consistent with the *Great Barrier Reef Marine Park Act 1975*.²² Such general directions could include, for example:

- the outcomes and outputs the Authority is expected to deliver
- challenges and priority issues the Authority is expected to progress
- the broad objectives that should guide the work of the Authority
- general government policies that the Authority should apply in its operations, for example, policies relating to the management of public monies
- government policies the Authority is expected to work to implement, for example, Australia's Oceans Policy.

The Review Panel **recommends** that clarity on such issues be primarily achieved through Statements of Expectations, made by the Minister to the Authority. These statements are recommended by the Uhrig review as a means of providing greater structure, formality and transparency in the setting of government expectations of the authority and the oversight of performance. Statements of Expectations would outline policies and objectives relevant to the Authority and the expectations of the government as to how the Authority will conduct its operations. The Authority would respond with a 'Statement of Intent' identifying actions and key performance indicators agreed with the Minister. These statements should be public documents.

²² The GBRMP Act (s. 7) currently provides the Minister with the capacity to make such directions.

The Minister should also retain power to make other general directions. Any such directions should be reported in the Annual Report, as is currently required by the *Great Barrier Reef Marine Park Act 1975* (s. 7 (2)).

In issuing Statements of Expectations and making general directions, the Minister should not have the power to issue directions in relation to specific issues, such as decisions to issue permits and to specify the conditions attached. The Minister also should not have the capacity to issue directions in relation to areas in which the Authority is explicitly given legislative independence. For example, the Minister should not be able to provide direction to the Authority on which areas should be declared as part of the Marine Park, but would continue to be responsible for advising the Governor-General on this issue.

To enable the Minister to effectively oversee the performance of the Authority, the Minister should be informed of the Authority's operations through regular communication, particularly in relation to any significant issues. The Minister should also have the power to obtain such reports, documents and information in relation to the operations of the Authority as required.

Measurable and verifiable key performance indicators should be developed by the Authority members as part of the Statement of Intent made in response to the Statement of Expectations. The Minister and the Authority members should meet at least annually to discuss progress against the key performance indicators, targets and other relevant matters.

In holding the Authority accountable for performance, the Minister would first discuss performance directly with the Chairperson, may include the other Authority members, and may seek a submission detailing proposed remedial action.

The Department would support and advise the Minister in performing the above roles. Accordingly, the Department should be kept aware of all relevant issues concerning the Authority. The issue of linkages between the Authority and the Department is discussed in Chapter 9.

The chief executive officer

The *Great Barrier Reef Marine Park Act 1975* does not currently provide for appointment of a chief executive officer. This role is instead performed by the Chairperson of the Authority as the only full-time member. Furthermore, for the purposes of the *Public Service Act 1999*, the Chairperson and employees together constitute a statutory agency, of which the Chairperson is the head.

A number of submissions to the Review suggested that the roles of chief executive officer and Chairperson of the Authority be separate to enhance the role of the Authority as a source of accountability.

Under an executive management approach, there is limited demarcation between those establishing strategy and those implementing it. Strategy and management are instead the responsibility of the members collectively, with the chief executive officer performing a hands-on role and assuming legislative responsibilities on behalf of the other members.

Importantly also, separating the roles of chief executive officer and Chairperson can lead to a situation where the chief executive officer has unclear and potentially conflicting responsibilities and accountability to Authority members on the one hand and the Minister on the other.

Also the *Financial Management and Accountability Act 1997* and the *Public Service Act 1999* vest the chief executive officer with the financial and resource management powers necessary to run the agency. These powers should also be vested in the Authority through the chief executive officer also being a member (Chairperson).

In light of these considerations, the Review Panel **recommends** that the Chairperson of the Authority perform the role of chief executive officer. This role would encompass the position of chief executive officer for the purposes of the *Financial Management and Accountability Act 1997* and agency head for the

purposes of the *Public Service Act 1999*. The Chairperson would also administer the day-to-day affairs of the Authority, arrange support for the Authority and perform functions of the Authority delegated to the Chairperson by the members.

In performing the role of chief executive officer for the purposes of the *Financial Management and Accountability Act 1997* and agency head for the purposes of the *Public Service Act 1999*, the Chairperson is responsible, under those Acts, to the Minister. To avoid conflicts between these responsibilities and the Chairperson's responsibilities to the other Authority members, the Chairperson should not be subject to direction by the other members in performing functions under those Acts.

12.3 Financial management and accountability

Commonwealth statutory authorities are subject to one of two legislative frameworks for financial management and accountability—the *Financial Management and Accountability Act 1997* or the *Commonwealth Authorities and Companies Act 1997*.

The *Financial Management and Accountability Act 1997* provides a framework for the management of public money and assets. It specifies required financial management practices and provides for accountability to the Minister for Finance and Administration and the Minister responsible for the authority in much the same way that management of a private company is accountable to the board.

The *Commonwealth Authorities and Companies Act 1997* provides a framework similar to that imposed on private companies under the *Corporations Act 2001*. Under this framework, directors and managers are responsible for managing the authority's money and resources in the best interests of the authority. Management is generally free to determine the financial management practices it employs and is accountable to the Minister in much the same way a private company is accountable to its shareholders.

The Uhrig review considers the application of these financial management frameworks to statutory authorities. A key recommendation of the Review, endorsed by the Australian Government, is that financial frameworks should be applied based on the characteristics of the authority.

Where an authority is predominantly commercial in nature, the *Commonwealth Authorities and Companies Act 1997* may be appropriate, as it provides greater flexibility for the authority to manage its money and assets in a manner responsive to the demands of the market.

Where an authority is using public money to carry out functions on behalf of government, the *Financial Management and Accountability Act 1997* is appropriate, as it provides a framework for the efficient, effective and ethical expenditure of public money. The *Financial Management and Accountability Act 1997* is also more appropriate where the authority is using the government's coercive powers to collect public money (for example, a levy) as the Act provides a framework for the collection and administration of such funds.

The Authority is currently subject to the *Commonwealth Authorities and Companies Act 1997*. However, its role is to undertake functions on behalf of the government. Only a small portion of these functions are done on a commercial basis, specifically the operation of the Reef HQ aquarium and education facility. The revenue raised from these activities is less than the cost of providing the service.

The Authority is primarily funded through government appropriation. In its budget for the 2005–06 financial year, \$22.8 million of the Authority's \$38.1 million budget was derived through appropriation from the Australian Government. Of the \$22.8 million, \$7.4 million represents money collected by the Authority on behalf of the Australian Government through the Environmental Management Charge. Of the remaining funding, \$4.8 million will be derived through a Queensland Government appropriation for its share of day-to-day management costs and \$8 million through grants provided under the Australian Government's Natural Heritage Trust programme. Only \$2.6 million is expected to be raised through the commercial operation of Reef HQ.

In light of these factors, it would seem appropriate that the Authority be subject to the *Financial Management and Accountability Act 1997*, rather than the *Commonwealth Authorities and Companies Act 1997*.

One consideration in making this recommendation is the arrangements with Queensland for joint day-to-day field management of the Marine Park. Under these arrangements, which have their basis in a series of intergovernmental agreements, day-to-day management is funded equally by the Australian and Queensland governments. These funds are managed in accordance with a financial framework designed to meet the needs of both governments. There are a number of mechanisms available under the *Financial Management and Accountability Act 1997* that would allow these joint financial management arrangements to be continued.

A further consideration with moving to the *Financial Management and Accountability Act 1997*, raised in submissions to the Review, is whether it would affect the independence of the Authority.

Authorities under the *Financial Management and Accountability Act 1997* are required to employ specified financial management practices, whereas under the *Commonwealth Authorities and Companies Act 1997*, authorities have greater scope to determine the practices put in place. However, this will not affect the independent operation and objectivity of the Authority in the performance of its statutory functions. Indeed, the Authority already employs most of the financial management practices required under the *Financial Management and Accountability Act 1997*. For example, it has an internal audit committee, a fraud control plan that complies with the Finance Minister's guidelines and employs the Commonwealth Procurement Guidelines.

The application of a particular financial management framework also has no effect on the operational independence from the Minister of an authority. This independence is instead contingent upon the powers of the Minister to intervene in the operations of the authority, as set out in the enabling legislation.

Specifically in relation to financial management, the *Great Barrier Reef Marine Park Act 1975* (s. 56) currently requires the Authority to obtain the approval of the Minister prior to entering into a contract exceeding \$150 000 in value or a lease of greater than 10 years in duration. Should the Authority move to the *Financial Management and Accountability Act 1997* framework, this provision would no longer be required, as the Act provides a more robust and comprehensive framework for the efficient, effective and ethical use of public money. Therefore, moving to the *Financial Management and Accountability Act 1997* would in fact increase the independence of the Authority.

For the above reasons, the Review Panel **recommends** that the Authority move from the *Commonwealth Authorities and Companies Act 1997* to the *Financial Management and Accountability Act 1997* as a 'prescribed agency'.

13. The regulatory framework

13 The regulatory framework

This chapter considers the regulatory powers and processes that provide the basis for protection and management of the Great Barrier Reef by the Authority and others.

A review of the regulatory framework is timely. The *Great Barrier Reef Marine Park Act 1975*, which provides the primary basis for the regulatory framework, is now 30 years old. While the Act has aged well, pressures on the Great Barrier Reef and management priorities have changed over time and it is important for the Act to provide the management and regulatory tools necessary for the efficient and effective management of the Great Barrier Reef into the future.

A review of the regulatory framework is also timely given the introduction of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This Act is the Australian Government's primary legislation for environmental regulation. Among other things, it requires that activities having significant impacts on 'matters of national environmental significance', such as world heritage, migratory species and the Commonwealth marine environment, be subject to environmental impact assessment and approval. It also regulates activities affecting threatened species and provides for the creation and management of Commonwealth Reserves.

The *Great Barrier Reef Marine Park Act 1975* covers a similar range of issues to the EPBC Act, but specifically in relation to the Great Barrier Reef Region. Among other things, it provides for the establishment of the Marine Park and the regulation of activities within the Park through zoning plans and plans of management, regulations, a permit system and management of environmental impacts.

A key difference between the two Acts is their coverage within the Great Barrier Reef Region. The *Great Barrier Reef Marine Park Act 1975* applies uniformly to both Queensland coastal waters and Commonwealth waters within the entire Great Barrier Reef Region and to the management of environmental impacts within the Region.

The EPBC Act, on the other hand, applies predominantly to Commonwealth land and waters, although some provisions These are provisions that regulate issues having a significant impact on 'matters of national environmental significance' (which include the world heritage values of World Heritage Areas). Another key difference is that the *Great Barrier Reef Marine Park Act 1975* reflects and implements a cooperative approach to management between the Australian and Queensland governments that is underpinned by an intergovernmental agreement (the Emerald Agreement).

For these reasons, the Review Panel considers it is appropriate to maintain a separate Act in relation to the Great Barrier Reef. However, it is important to ensure that this Act and the EPBC Act do not unnecessarily duplicate each other and operate in a cohesive and integrated manner. It is also important to ensure that the *Great Barrier Reef Marine Park Act 1975* is consistent with current Australian Government policies and approaches to environment protection, as reflected in the EPBC Act. At present, the two Acts are generally equivalent at a framework level, but differ at a more detailed level.

The following chapter provides recommendations directed at achieving the above outcomes. It is also noted that the Minister for the Environment and Heritage has announced that he is considering amendments to the EPBC Act to be introduced into the Parliament during 2006. While the Minister has indicated the same basic framework and approach of the EPBC Act will be maintained, some of the processes will be streamlined to make them more efficient and effective. In some cases, as noted in this chapter, the proposed changes will assist in removing potential duplication between the EPBC Act and the *Great Barrier Reef Marine Park Act 1975*.

Beyond this, there are a number of other more general considerations and objectives in reviewing the regulatory framework.

Firstly, it is important to identify and address regulatory 'red tape', overlap and duplication, notably that arising from the operation of the *Great Barrier Reef Marine Park Act 1975* and other Commonwealth and Queensland legislation. A number of cooperative measures with the Queensland Government and relevant Australian Government agencies are already in place to address this issue. These arrangements are generally working effectively and should be maintained and where necessary, enhanced.

Secondly, it is important to consider mechanisms for enhanced transparency, accountability and public participation in planning, regulatory and management activities. A number of submissions to the Review raised concerns relevant to these issues, notably in relation to the processes for the development of zoning plans.

Thirdly, the regulatory framework needs to be considered in the context of reviewing governance arrangements. To this end, the role of the regulatory framework in providing clarity of responsibilities and expectations of performance, transparency and accountability must be considered.

This chapter recommends a number of changes to the regulatory framework in light of the above considerations. Given the Terms of Reference of the current Review, the recommendations are focused on changes to the general framework for regulation and management. The Review Panel notes that these general recommendations will require more specific consideration and development. Furthermore, there may also be some more detailed and minor legislative changes required that have not been considered by the Review Panel. These issues should be considered in implementing the outcomes of this Review.

13.1 The objectives of regulation

The *Great Barrier Reef Marine Park Act 1975* should clearly and transparently state the objectives the Authority is expected to pursue in performing regulatory functions and in generally administering the Act. The Authority should be accountable for performance against those objectives.

The most common way of achieving this transparency is by including regulatory objectives in the relevant legislation, for example, in an objects section. The *Great Barrier Reef Marine Park Act 1975* currently contains such a section, although it is limited in detail and defines the function of the Act, rather than its objects. It reads:

The object of the Act is to make provision for and in relation to the establishment, control, care and development of a marine park ...

The Review Panel **recommends** that a more comprehensive objects section be included in the Act. This section should recognise the protection of the Great Barrier Reef as an overarching objective. Subsidiary objectives should include providing for a range of uses consistent with the principles of ecologically sustainable development, fulfilling Australia's obligations under the World Heritage Convention and other international conventions as they relate to the Great Barrier Reef and facilitating cooperative management with Queensland and local governments, communities, Indigenous people, business and industry.

The Review Panel also **recommends** that the Authority be explicitly required to take into account specified objectives when performing regulatory functions. For example, the Authority could be required to take into account the principles of ecologically sustainable development and to apply the precautionary principle, as defined in the *Environment Protection and Biodiversity Conservation Act 1999*, in making certain decisions under the *Great Barrier Reef Marine Park Act 1975*. Recommendations to this effect are provided below, in relation to specific regulatory functions.

13.2 Creating the Marine Park

A key role of the Authority is to make recommendations to the Minister regarding the areas within the Great Barrier Reef Region (as defined in the Act) that should be declared to be part of the Marine Park. The Minister then advises the Governor-General who, under the *Great Barrier Reef Marine Park Act 1975* (s. 31), may proclaim an area to be a part of the Marine Park. The Governor-General may also make a proclamation revoking or amending the Marine Park, but there must first be a supporting motion passed by both Houses of Parliament.

The Review Panel considers that these processes are appropriate and generally consistent with current policy and practice. However, to enhance transparency and public participation, it is suggested that the Authority be required to prepare a report on any proposal to extend or amend the Marine Park and to consult on that proposal. Such changes would also bring the *Great Barrier Reef Marine Park Act 1975* into line with the process for creating, amending and revoking Commonwealth Reserves under the *Environment Protection and Biodiversity Conservation Act 1999*.

A number of submissions to the Review proposed that the area over which the Marine Park may be declared (the Great Barrier Reef Region) be extended to take in areas in the Coral Sea to the east of the Park. While it is recognised that this region contains areas of ecological significance, it is noted that they are separated from the Great Barrier Reef by an area of deep water including the Queensland Trough and form a largely distinct ecosystem. Accordingly, the Review Panel does not consider it appropriate to extend the Great Barrier Reef Region as suggested. Instead, where warranted, protection should be provided through the creation of Commonwealth Reserves under the *Environment Protection and Biodiversity Conservation Act 1999*, as is already the case in relation to two areas within the Coral Sea region (the Coringa–Herald and Lihou Reef National Nature Reserves).

13.3 Zoning plans

Zoning plans are the primary tool for management of the Marine Park. They identify the management objectives of particular areas or ‘zones’ of the Park and specify activities that can be undertaken ‘as of right’ and those that require a permit.

The Authority is responsible for developing zoning plans. A procedure for doing so is set out in the *Great Barrier Reef Marine Park Act 1975*. This procedure specifies the factors the Authority must consider in developing a zoning plan and requires the Authority to consult publicly, firstly on the intention to create a zoning plan and secondly on a draft zoning plan. Once developed, plans are approved by the Minister and tabled in Parliament, where they may be disallowed by a motion of either House.

A large number of submissions to the Review related to the development of the 2003 Zoning Plan. The issues raised in such submissions are discussed in Chapter 10. This chapter also makes a number of **recommendations** on enhancements to the process for the development of zoning plans, which include:

- requiring the Minister to approve the commencement of any process to amend the current zoning plan
- requiring the Authority to prepare a report drawing on relevant scientific and socio-economic research explaining why zoning needs to be reviewed. This report would be publicly released at the first consultation phase along with information on the proposed process
- requiring the Authority to develop ‘Operational Principles’ setting out the general policy parameters and objectives on which the development of the zoning will proceed. These Operational Principles would be public and approved by the Minister. Once approved, the Authority would be required to have regard to the Operational Principles in developing zoning
- extending the minimum permissible period for public consultation from one month to three.

The Review Panel **recommends** that, in addition to the recommendations in Chapter 10, there should be a clear framework of objects and considerations that the Authority is expected to pursue in developing zoning. To this end, the Review Panel **recommends** that current objectives specified in the *Great Barrier Reef Marine Park Act 1975* (s. 32) be enhanced to provide greater specificity and a more contemporary framework. As part of this enhancement, cross-linkages to the *Environment Protection and Biodiversity Conservation Act 1999* should be built in. In particular, each zone type should be assigned an IUCN protected areas category for national and international accounting purposes. Similarly, the Authority should be required to have regard to the Australian IUCN Reserve Management Principles and any relevant recovery, threat abatement and/or wildlife conservation plans made under the *Environment Protection and Biodiversity Conservation Act 1999*.

Amending and reviewing the zoning plan

Under the *Great Barrier Reef Marine Park Act 1975*, amending a zoning plan essentially requires a new zoning plan to be created and therefore the whole of the plan to be reviewed. It has been suggested in submissions to the Review that there is a need for a more flexible amendment process in order to allow for the correction of errors and amendments to parts of the plan.

The Review Panel **recommends** that it be possible to amend the plan for the purpose of correcting errors, provided legal drafting can ensure that only 'errors' of a technical and insubstantial nature can be corrected, for example, incorrectly transcribed geographic coordinates. No consultation requirements should apply to such amendments. Such amendments should be disallowable by Parliament.

In terms of amending parts of the plan, the Review Panel considers that it is important for zoning to remain constant for a reasonable period in order to realise the benefits of zoning and provide stability for the community and business. Additionally, the Review Panel is concerned that, should changes to parts of the plan be permitted, there may be a gradual decline in protection over time. However, it is noted that it may be possible to build in protections against this, for example, by requiring amendments to be done at a bioregional level and with regard to the whole of the zoning plan.

Given the above and matters discussed in Chapter 10, the Review Panel **recommends** (see also Chapter 10) that the Act provide that a review and amendment of all, or part of, the zoning plan must not be commenced until at least seven years from the date the plan came into effect. Should review and amendment be considered appropriate after this time, the process set out in Chapter 10 should apply. This process should also apply to the development of new zoning in relation to any new areas of the Marine Park established in the future.

13.4 Permitting and environmental impact assessment

The *Great Barrier Reef Marine Park Act 1975* and the 2003 Zoning Plan provide that certain activities may only be undertaken within the Marine Park in accordance with a permission granted by the Authority. The Great Barrier Reef Marine Park Regulations (r. 117) provide, among other things, that the Authority must not grant such a permission unless there has been an assessment of the potential impacts on the Marine Park, users of the Park and the Great Barrier Reef.

The *Environment Protection and Biodiversity Conservation Act 1999* also provides a regime for environmental impact assessment and approval applying within the Great Barrier Reef Region. These requirements can be triggered in relation to proposed activities within the Marine Park that are likely to have significant environmental impacts on 'matters of national environmental significance'. This creates a degree of overlap between the two Acts.

The EPBC Act contains a number of provisions designed to address this overlap. In summary, assessment and approval under the EPBC Act is not required for actions that are taken within the Marine Park and are authorised by a zoning plan, plan of management or a permission, authority, approval or permit issued by the Authority. However, the EPBC Act (s. 160) requires the Authority to 'obtain and consider' advice from the Minister before it gives a permission in relation to actions that are likely to have a significant impact on the environment. Hence, a need for separate consideration by the Authority and the Department remains in some circumstances. Parallel requirements also arise where a proposed activity impacts on areas both within and outside the Marine Park.

To address this duplication and provide a more consistent regulatory environment, the Review Panel **recommends**, subject to more detailed consideration, that the *Environment Protection and Biodiversity Conservation Act 1999* should provide the primary basis for environmental impact assessment and approval of activities within the Marine Park. More specifically, where a proposed activity within the Marine Park is likely to have a significant environmental impact, the assessment and approval requirements of the *Environment Protection and Biodiversity Conservation Act 1999* should apply. An approval under the *Environment Protection and Biodiversity Conservation Act 1999* would then suffice for the purposes of permission requirements under the *Great Barrier Reef Marine Park Act 1975*.

Under these arrangements, the Authority should, in most cases, be delegated responsibility for assessment and approval by the Minister and would perform this task in an integrated and concurrent manner with any related assessment and permitting requirements under the *Great Barrier Reef Marine Park Act 1975*. However, where a proposed activity is primarily outside the Marine Park, carries significant environmental risks and/or requires complex and detailed assessment, it may be more appropriate for the Department to take the lead and/or for approval to be the responsibility of the Minister. In such cases, consultation with the Authority would be appropriate.

These changes would help to provide a more streamlined and consistent regulatory environment in a key area affecting Marine Park users. Furthermore, the changes would ensure that environmental impact assessment and approval processes employed in relation to the Marine Park are modern, comprehensive and robust. The *Environment Protection and Biodiversity Conservation Act 1999* processes establish a clearly defined framework for impact assessment and decision making and provide appropriately for transparency, accountability and opportunities for public participation. These EPBC Act processes and requirements are generally acknowledged as best practice. The *Great Barrier Reef Marine Park Act 1975* and Regulations at present do not contain equivalently comprehensive processes and requirements.

Subject to the above, the Review Panel **recommends** that the Authority continue to be responsible for issuing permissions as required by the *Great Barrier Reef Marine Park Act 1975*, Regulations and the *Great Barrier Reef Marine Park Zoning Plan 2003*. Given the importance of this function to management and users of the Marine Park, it is **recommended** that the basis and procedures for doing so be consolidated within a single part of the *Great Barrier Reef Marine Park Act 1975* or Regulations.

This new part of the Act should describe the permitting and assessment process, including permit application requirements, timelines, factors the Authority must consider in issuing permits, and public notification requirements. The new part should apply to all activities that require permission under the Act, Regulations and 2003 Zoning Plan with the exception of the assessment and accreditation of Traditional Use of Marine Resources Agreements. This process should remain separate, as these Agreements are a new initiative and may need refinement over time.

In order to minimise regulatory 'red tape', the Review Panel **recommends** that different assessment processes be available. Streamlined assessment based on application documentation and undertaken against standardised considerations should be available for activities with minimal risk and impact and/or where the activity does not require in-depth assessment, such as continuation of an existing activity. More intensive assessment requirements should be available where appropriate. However, given the application of the *Environment Protection and Biodiversity Conservation Act 1999* to matters of national environmental

significance, including in the Marine Park, it is not expected that the *Great Barrier Reef Marine Park Act 1975* would contain provision for assessment by public environment report or environmental impact statement.

Finally, the Review Panel **recommends** that in order to promote integration with the *Environment Protection and Biodiversity Conservation Act 1999*, in considering permit applications the Authority should be required to consider (among other things):

- the Australian World Heritage Management Principles as set out in the Environment Protection and Biodiversity Conservation Regulations, to the extent to which they apply to environmental impact assessment and approval
- where relevant, the National Heritage/Commonwealth Heritage Management Principles as set out in the Environment Protection and Biodiversity Conservation Regulations
- any relevant recovery, threat abatement and/or wildlife conservation plans made under the *Environment Protection and Biodiversity Conservation Act 1999*.

13.5 Protected species

Both the *Environment Protection and Biodiversity Conservation Act 1999* and *Great Barrier Reef Marine Park Act 1975* prohibit actions without a permit that (variously) take, kill, harm and/or interfere with specified protected species.

Great Barrier Reef Marine Park Act 1975 provisions apply within the Marine Park, including within Queensland coastal waters up to the low water mark. *Environment Protection and Biodiversity Conservation Act 1999* provisions apply to Commonwealth waters both within and outside the Marine Park, but not to the areas within three nautical miles of the shore. This creates some regulatory overlap and in some cases, duplicative and differing permitting requirements.

Some of this overlap is currently managed by providing that *Environment Protection and Biodiversity Conservation Act 1999* protected species offences, with the exception of those applying to cetaceans, do not apply to activities done in accordance with a permit issued by the Authority. Legislative amendments currently being prepared will extend this exemption to apply to the cetacean provisions of the *Environment Protection and Biodiversity Conservation Act 1999* and to provide that protected species offences do not apply to activities authorised under an accredited Traditional Use of Marine Resources Agreement. The Review Panel supports these proposed changes and notes that the general approach proposed for the Great Barrier Reef Region is consistent with the proposed treatment of Commonwealth Reserves under the *Environment Protection and Biodiversity Conservation Act 1999*.

Notwithstanding the above, one area in which duplicative regulatory requirements remain is in relation to activities occurring both within and outside the Marine Park. To address this, the Review Panel **recommends** that arrangements be put in place to accredit *Great Barrier Reef Marine Park Act 1975* permits for the purpose of the *Environment Protection and Biodiversity Conservation Act 1999* and vice versa. These arrangements should provide, for example, that where an activity affecting protected species is undertaken predominately outside the Marine Park, an *Environment Protection and Biodiversity Conservation Act 1999* permit will satisfy the requirements of the *Great Barrier Reef Marine Park Act 1975*. In such a case, the Authority would be consulted about the granting of the permit, which would expressly indicate the terms and conditions that apply within the Marine Park.

Management of protected species

Both the *Environment Protection and Biodiversity Conservation Act 1999* and the *Great Barrier Reef Marine Park Act 1975* provide for management actions directed at the recovery of protected species. The *Environment Protection and Biodiversity Conservation Act 1999* provides for the creation of recovery, threat abatement and wildlife conservation plans. The *Great Barrier Reef Marine Park Act 1975* provides for plans of management and Special Management Areas.

These management actions, whilst potentially applying to the same species, are different in nature. *Environment Protection and Biodiversity Conservation Act 1999* provisions are concerned with recovery and conservation planning whereas *Great Barrier Reef Marine Park Act 1975* provisions are locally based and practical management actions for the conservation of the species.

As a Commonwealth agency under the *Environment Protection and Biodiversity Conservation Act 1999*, the Authority must not take any action that contravenes a recovery plan or threat abatement plan under that Act and must take all reasonable steps to act in accordance with a wildlife conservation plan. There is nevertheless scope to improve integration and complementarity between protected species management actions under the two Acts. Accordingly, plans relevant to the Marine Park should continue to be developed in consultation between the Department and the Authority. Once developed, plans should provide a framework for management by the Authority, recognising that differences may be required as a result of local application and/or management needs unique to the Great Barrier Reef World Heritage Area.

Accordingly, the Review Panel **recommends** that actions by the Authority such as developing zoning plans and plans of management and undertaking permitting functions should proactively seek to implement *Environment Protection and Biodiversity Conservation Act 1999* plans. This can be achieved by specifically requiring the Authority to have regard to relevant recovery, threat abatement and wildlife conservation plans when undertaking such activities.

13.6 Enforcement and compliance

Enforcement and compliance will be key challenges for effective management of the Great Barrier Reef into the future. At present, however, penalties under the *Great Barrier Reef Marine Park Act 1975* are generally less than under equivalent provisions of the *Environment Protection and Biodiversity Conservation Act 1999* and a number of modern enforcement options, such as civil penalties as an alternative to criminal prosecution, are absent.

The Review Panel **recommends** that investigation, enforcement and offence provisions be reviewed and updated in light of the importance of effective and efficient enforcement in the future and to achieve better consistency with *Environment Protection and Biodiversity Conservation Act 1999* provisions. This review should be done in consultation with the Attorney-General's Department.

Emergency management powers

The Authority's primary means of responding to situations requiring immediate management action is the declaration of Special Management Areas. Emergency Special Management Areas may be declared by the Authority for a maximum of six months duration. Special Management Areas of a longer duration are created by issuing a Regulation.

Problematically, Special Management Areas only allow the Authority to restrict activities in particular areas. They do not empower the Authority to require persons to take specified actions. Furthermore, Special Management Areas can only be created within the Marine Park, not the entirety of the Great Barrier Reef Region.

The Review Panel notes that currently proposed changes to the *Environment Protection and Biodiversity Conservation Act 1999* will broaden the scope of Conservation Orders made under Part 17 of that Act to allow these Orders to be used to protect all matters of national environmental significance. This will enable Conservation Orders to be made to protect the world heritage values of the Marine Park, which will provide a means of prohibiting or restricting activities in defined areas and/or requiring persons to take specified action for the purpose of responding to emergency situations impacting on world heritage values. Such orders should be made by the Minister on the advice of the Authority. The Review Panel considers that these changes will provide appropriate emergency response powers in relation to the Marine Park.

14. Findings and recommendations

14 Findings and recommendations

14.1 Overall findings of the Review

- 1) The Great Barrier Reef is iconic to Australians and internationally. This is recognised in its listing as a World Heritage Area. As a party to the United Nations Convention Concerning the Protection of the World Cultural and Natural Heritage (1972), Australia has acknowledged a 'duty of ensuring the identification, protection, conservation and transmission to future generations of the cultural and natural heritage... [and] ...will do all it can to this end, to the utmost of its resources...'
- 2) Over the last 30 years the *Great Barrier Reef Marine Park Act 1975* has achieved its original objective, as specified in the Act, of 'establishment' of the Marine Park and putting in place an effective operational and institutional management framework to ensure the 'control, care and development' of the Marine Park (s. 5(1)).
- 3) The establishment of the Great Barrier Reef Marine Park applies the concept of a multiple use park in which 'reasonable use' can co-exist with conservation. Australia's 1998 Oceans Policy now provides an overarching framework for ecosystem-based management in Australia's marine areas, as well as for a national representative system of Marine Protected Areas.
- 4) The zoning of the Marine Park provides for a gradation of use from 'General Use' to 'Preservation'. The expansion in protected areas of the Great Barrier Reef Marine Park delivered through the Representative Areas Programme, as well as the protection provided through Queensland marine and national parks, has put in place a level of protection that will place the ecosystem in a strong position to maintain its resilience over the longer term. This has been widely acknowledged as an important achievement for the conservation of marine biodiversity. The introduction of this protection has nevertheless resulted in short-term adjustment pressures that have been quite intense, especially for fishers and associated businesses.
- 5) Effective education about and enforcement of the 2003 Zoning Plan in the future will be essential to ensure the integrity of the multiple use approach and that the benefits of the greater degree of protection now provided are realised.
- 6) The Review Panel is of the view that effective management of the Marine Park over the next 30 years will require improvements to the existing institutional and governance arrangements.
- 7) The Review Panel considers that in the future the pressures on marine resources and ecosystems will increasingly be external to the Marine Park (water quality, climate change, coastal population growth and development) or will cross Park boundaries (protected species and fisheries). It will not be possible to manage these issues solely through the *Great Barrier Reef Marine Park Act 1975* and the Authority. It will therefore be important to have in place governance arrangements that can effectively assess the level of protection required, address competing uses of Marine Park resources and consider onshore and offshore issues that have national and cross-jurisdictional implications.
- 8) The Australian and Queensland governments will need to maintain and strengthen their collaborative working relationship for the effective long-term protection and wise use of the Great Barrier Reef. In particular, governments need to be able to develop the approaches necessary to address issues that affect the Marine Park but which extend beyond the Marine Park boundaries. The Australian and Queensland governments' *Reef Water Quality Protection Plan* is a good example of the type of integrated arrangement that should be more broadly applied.
- 9) The current suite of agreements between governments covering the Great Barrier Reef are high level, fragmented, limited in scope and detail and do not provide an adequate overarching framework for the future. The Review Panel considers that a comprehensive intergovernmental agreement is needed as an essential foundation and framework for good governance and effective collaboration.

- 10) The Authority is a regulatory and advisory body and its operations are predominantly non-commercial. In considering the requirements of the *Review of Corporate Governance of Statutory Authorities and Office Holders* (Uhrig 2003) the Authority fulfils the requirements for being a separate statutory entity with the requirement for collective decision making under a single name. However, the Authority does not fit well under the *Commonwealth Authorities and Companies Act 1997*. It would be more appropriate for the Authority to be subject to the *Financial Management and Accountability Act 1997*.
- 11) The arrangements underpinning the Authority's governance are multi-layered. Some features of the existing arrangements are effective while others are moribund and accountabilities unclear. In particular, the role and responsibilities of the Great Barrier Reef Consultative Committee, the Local Marine Advisory Committees and the Reef Advisory Committees are informal and overlap. It is apparent that the Consultative Committee is not operating effectively and has conflicting accountabilities to the Authority and the Minister. It is also apparent that the Ministerial Council has not always been effective as a forum for policy collaboration and coordination.
- 12) The way that research informs planning processes, performance assessment and management decision making is not sufficiently clear. The individual elements are generally fragmented and have a greater emphasis on the biophysical, with far less attention to the social and economic aspects. The research is predominantly provided by other bodies through networks or partnerships. A regular and reliable means of assessing performance in the long-term protection of the Marine Park in an accountable and transparent manner is required.
- 13) The current operating environment has many facets. There are overlapping policy, management and regulatory responsibilities for marine parks. These vary in scope, approach, objectives and the matter or activity covered and may address one or more of the following: ecosystem management, environment protection, biodiversity conservation, fisheries management, pollution and water quality controls, and heritage management.
- 14) It is appropriate to maintain a separate Act in relation to the Great Barrier Reef. However, it is important to ensure that this Act and the *Environment Protection and Biodiversity Conservation Act 1999* are not unnecessarily duplicative and that they operate in a cohesive and integrated manner. It is also important to ensure that the *Great Barrier Reef Marine Park Act 1975* is consistent with current Australian Government policies and approaches to environment protection, as reflected in the *Environment Protection and Biodiversity Conservation Act 1999*.
- 15) The interaction of the *Great Barrier Reef Marine Park Act 1975* and the *Environment Protection and Biodiversity Conservation Act 1999* is such that both Acts can apply to a single matter within the Marine Park and there are overlaps and gaps that should be addressed. In addition, there is a variety of Commonwealth legislation that applies within and in the areas surrounding the Marine Park, such as the *Sea Installations Act 1987*, for which measures are currently in place to minimise duplication, for example, through delegation of approval authority to the Authority.
- 16) The Authority has a legitimate role in relation to fishing activities as part of its responsibility, as ecosystem manager, to protect the environmental and cultural values of the Marine Park and to provide opportunities for ecologically sustainable use. Under current Offshore Constitutional Settlement arrangements, the Queensland Government is responsible for managing fisheries, including within the Marine Park. The Department is responsible for assessing and approving the fisheries management arrangements put in place by the Queensland Government under the *Environment Protection and Biodiversity Conservation Act 1999*. There is, however, a need for a clearer framework and an integrated approach to ecosystem and fisheries management and to environment protection in the Great Barrier Reef Marine Park and World Heritage Area.

- 16) cont.
 - a) There are at least six legislative instruments that apply both similar and conflicting objectives in relation to fisheries and for which responsibility is separated across agencies and jurisdictions.
 - i) *Great Barrier Reef Marine Park Zoning Plan 2003* (Representative Areas Programme)
 - ii) *Great Barrier Reef Coast Marine Park Zoning Plan 2004* (Qld)
 - iii) *Fisheries (East Coast Trawl) Management Plan 1999*
 - iv) *Fisheries (Coral Reef Fin Fish) Management Plan 2003*
 - v) *Environment Protection and Biodiversity Conservation Act 1999*
 - vi) *Fisheries Management Act 1994* (Qld).
- 17) The *Great Barrier Reef Marine Park Zoning Plan 2003* came into force in July 2004 and implemented the Representative Areas Programme. The development and implementation of this Programme was a significant undertaking for which there was no precedent in terms of scale, scope and process, given the extent of the Marine Park, the number of alternative and competing uses, and the large number of stakeholders.
- 18) The Authority made extensive efforts to achieve effective engagement with stakeholders as part of the Representative Areas Programme with the objective of delivering a balanced outcome. The Programme had a well considered scientific basis. Extensive documentation and web-based information was made available and the Authority held a large number of meetings with stakeholders. The timeframe, process and resources were finite and the Authority stretched to accommodate the volume of consultation and analytical work required, particularly in the final consultation stage.
- 19) The cumulative regional, social and economic impacts of the State zoning and fisheries management plan changes, that occurred over the same period as the 2003 Zoning Plan, were not assessed, nor were other factors impacting on the viability of business (such as fuel prices and high exchange rates). In relation to recreational fishing there was insufficient attention paid to the effects of restrictions on access for recreational fishing, and in particular the effect on associated businesses.
- 20) There were two alternative views expressed by stakeholders regarding the Representative Areas Programme.
 - a) Many viewed the Programme as a significant conservation achievement, were supportive of the scientific underpinning and considered the Authority had handled the rezoning process well. This stakeholder group included the tourism industry, shipping and maritime safety interests, the scientific community, conservation groups, the diving industry, sailboat operators and some local community groups.
 - b) Other stakeholders expressed considerable dissatisfaction with the process, questioned the scientific basis and considered that the Authority was biased against them. The stakeholder group expressing such dissatisfaction did so largely in relation to recreational and commercial fishing and the associated impacts on land-based businesses such as boatyards, bait and tackle suppliers and land-based fish processing and marketing enterprises. The key elements of their representations were:
 - i) perceptions that the objectives and intent of the Representative Areas Programme were not clearly communicated
 - ii) unmanaged expectations about the process and achievable outcomes
 - iii) inadequate consideration of socio-economic factors at a regional and local level, in particular given recent fisheries management changes
 - iv) a lack of transparency about the weighting of factors used in decision making
 - v) disagreement with the scientific basis for the Representative Areas Programme, and for specific zoning decisions

- vi) inadequate arrangements for consultation in some cases and too-short timelines for making submissions
 - vii) perceptions that the Authority failed to provide adequate explanatory feedback in cases where specific zoning suggestions were not able to be accommodated
 - viii) perceptions that there had been inconsistent application of ground rules, lack of natural justice, and in some cases, political interference
 - ix) perceptions that the information that was provided in submissions to the process was used to close favourite fishing areas.
- 21) The concerns expressed by some stakeholders in regard to the Representative Areas Programme point to an underlying need for the zoning plan development process to have a higher degree of transparency and accountability such that:
- a) stakeholders are appropriately informed of the overarching objectives and rationale for the proposals
 - b) there is sufficient time in relation to the complexity of the proposals for stakeholders to prepare comment
 - c) the basis for decisions on alternate use is clear and in the public domain
 - d) the social and economic impacts at a local and regional level and how they interact with State and local government initiatives are understood.

14.2 Recommendations

The recommendations of the Review Panel aim to put in place robust governance, management and legislative frameworks to address the long-term strategic and operational needs of the Great Barrier Reef. The recommendations are directed toward strengthening the future accountability and transparency of the Authority and ensuring that the concerns of stakeholders raised during the course of this Review are addressed in that context. Two critical factors are that the Authority must have the expertise, skills and resources to undertake the tasks it is required to do effectively and that there must be effective collaboration between the Australian and Queensland governments in the management of the Great Barrier Reef.

Role of the Authority

- 1) The Review Panel recommends that consistent with an ecosystem-based approach to management the primary objective of the Authority should be:
 - the long-term protection, wise use, understanding and enjoyment of the Great Barrier Reef.*
- 2) The Review Panel recommends that to achieve this objective, the Authority should focus on day-to-day management and on ensuring that longer-term issues are effectively and accountably addressed. Accordingly, the Authority's main functions should be:
 - a) the management, under a multiple use approach, of the Great Barrier Reef Marine Park ecosystem
 - b) undertaking or facilitating research, monitoring and reporting to inform management, policy and accountability, which would include:
 - i) monitoring and assessing the condition of the Marine Park, having regard to the objectives of protection and wise use of the resource
 - ii) identifying long-term research needed to inform decisions by government and understanding by the public
 - iii) regularly and publicly reporting on the management of the Marine Park and the outlook in the context of risks and pressures.

- 3) The Review Panel recommends that the Authority's functions set out in the current Act (ss. 7 and 8) should continue, in particular:
 - a) advising and making recommendations to the Minister in relation to the care and development of the Marine Park, including the areas that should be declared to be a part of the Park
 - b) developing zoning plans and plans of management
 - c) managing the Marine Park cooperatively with the Queensland Government. This includes performing permitting and approval functions and enforcing the Act, Regulations and zoning plan
 - d) carrying out or arranging research relevant to the Marine Park
 - e) providing or arranging for the provision of education, advisory and information services relating to the Marine Park.

Agreement between governments and relationship with Queensland

- 4) The Review Panel recommends the collaborative arrangements between the Australian and Queensland governments in management of the Great Barrier Reef should be enhanced by:
 - a) establishing a comprehensive intergovernmental agreement that:
 - i) has as its clear objective facilitating the integrated and collaborative management of marine and land environments so as to provide for the long-term protection and wise use of the Great Barrier Reef
 - ii) clearly describes the nature, functions, powers, accountabilities, operational protocols and interrelations between the Ministerial Council, the Authority and the Department
 - iii) confirms that Queensland will continue to be responsible for day-to-day management of the Marine Park, subject to the Authority, with the detailed arrangements for day-to-day management in separate agreements
 - b) strengthening the Ministerial Council as a forum through:
 - i) a clear charter for joint policy development and policy coordination in relation to both onshore and offshore issues affecting the protection and use of the Marine Park and World Heritage Area
 - ii) the role of providing broad oversight and direction of day-to-day field management
 - iii) a standing committee of officials established to support the Ministerial Council to identify issues requiring joint policy development or policy coordination and, subject to the direction of the Council, to progress these issues through steering committees with the appropriate responsibilities and expertise
 - iv) responsibility for the *Reef Water Quality Protection Plan*
 - v) a clear role of improving collaboration and coordination of regulatory and management activities that affect fisheries and of other substantive matters such as the management of islands within the marine parks. The Council may wish to develop an approach similar to that used to manage water quality (the *Reef Water Quality Protection Plan*) in relation to fisheries issues.

Structure of the Authority

- 5) The Review Panel recommends that the Authority continue as a statutory authority and a body corporate.

- 6) The Review Panel recommends that the Authority be constituted consistently with the Uhrig review executive management structure, with an overarching governance role for the Minister.
 - a) The members of the Authority, as statutory officeholders, should be appointed for their relevant expertise and independence. Members should not be representational.
 - b) The Authority should comprise a Chairperson and a minimum of two and a maximum of four other members. The Chairperson should be appointed on a full-time basis, with all other appointments part-time.
 - c) One member, not being the Chairperson, should be nominated by the Queensland Government in consultation with the Australian Government.
 - d) The nomination of other members should be the responsibility of the Australian Government, in consultation with the Queensland Government.
 - e) The appointment of members should be the responsibility of the Governor-General on the advice of the Minister.
 - f) Members should be appointed for a term of up to five years, with the opportunity for reappointment.
 - g) Remuneration and resignation provisions should remain as currently provided for in the *Great Barrier Reef Marine Park Act 1975*.
- 7) The Review Panel recommends that the Chairperson of the Authority perform the role of chief executive officer which would involve responsibility for:
 - a) the role of chief executive for the purposes of the *Financial Management and Accountability Act 1997*
 - b) the role of agency head under the *Public Service Act 1999*
 - c) day-to-day administration of the Authority
 - d) arranging support for the Authority in the discharge of its duties
 - e) undertaking specific functions of the Authority delegated by the members.
- 8) The Review Panel recommends that the Authority be supported by staff employed under the *Public Service Act 1999*. These staff, along with the chief executive officer, should constitute a 'statutory agency' for the purposes of that Act.
- 9) The Review Panel recommends that the Authority move from being subject to the *Commonwealth Authorities and Companies Act 1997* to the *Financial Management and Accountability Act 1997* as a 'prescribed agency'.
- 10) The Review Panel recommends that, to avoid conflicts, the chief executive officer should not be subject to direction by the members in relation to the performance of functions, or exercise of powers, under the *Financial Management and Accountability Act 1997* and the *Public Service Act 1999*.

Role of the Minister and the Department

- 11) The Review Panel recommends a principles approach to policy responsibilities and the relationship of the Authority to the Department, other portfolio agencies and the Minister. The principles proposed are based on respective roles, legal authority and whether the issues are local, State, Commonwealth, national or a combination.
 - a) The Authority should have responsibility for:
 - i) those functions provided for in the *Great Barrier Reef Marine Park Act 1975* where the activity to be regulated or managed occurs within the boundaries of the Marine Park
 - ii) operational policy or guidelines, that is, policies related to the administration of an established government policy, regulatory regime and/or programme.

- b) A whole of portfolio approach, involving the Authority, the Department and relevant portfolio agencies, should be employed where:
 - i) the matter transcends Marine Park boundaries
 - ii) there is a need for an equivalent and consistent approach in areas adjacent to the Marine Park boundary
 - iii) a decision by the Australian Government is required.
 - c) A whole of portfolio and/or whole-of-government approach involving the Authority, the Department and other relevant Australian Government agencies should be taken where:
 - i) application of the matter, or its impacts, are external to the Marine Park
 - ii) there are national or cross-jurisdictional policy implications or issues of precedent
 - iii) there is a major budget impact such as structural adjustment assistance
 - iv) there is a need for consequential changes in policy, legislation and regulation by the Department or other Australian Government agencies.
- 12) The Review Panel recommends that, to improve the interaction between the Department and the Authority, senior management of the Authority, the Department and other relevant portfolio agencies should meet at least twice annually to systematically review research, policy, operational and budget issues.
- 13) The Review Panel recommends that, to provide structure, clarity and transparency in the setting of government expectations and the oversight of performance, the Minister issue a regular Statement of Expectations and that the Authority respond with a Statement of Intent.

Transparency, accountability and engaging with stakeholders

Outlook Report

- 14) The Review Panel recommends that there be a regular and reliable means of assessing performance in the long-term protection of the Marine Park in an accountable and transparent manner. This should be delivered through a statutory requirement for a periodic *Great Barrier Reef Marine Park Outlook Report*.
- a) The *Outlook Report* should provide a regular report on the management of the Marine Park and the overall condition of the ecosystem, as well as a risk-based assessment of the longer-term outlook.
 - b) The *Outlook Report* should include analyses of:
 - i) the ongoing commercial and non-commercial use of the Marine Park
 - ii) trends over time against baseline and benchmark data, including commercial and recreational use, biodiversity, ecosystem health and resilience and social and economic systems
 - iii) the condition of the ecosystem, including health, resilience and biodiversity
 - iv) the effect of management measures, including zoning plans and plans of management
 - v) risks and pressures on the ecosystem, including those external to the Marine Park
 - vi) biophysical, social and economic regional factors
 - vii) the outlook for the Marine Park based on quantitative and qualitative data.
 - c) The *Outlook Report* should be prepared by the Authority and be peer reviewed by an appropriately qualified expert panel appointed by the Minister.
 - d) Publication should be on a five-yearly basis, this being a suitable interval for a report of this scope and having regard to the response times of the biological and human systems being assessed.

- e) Publication of the *Outlook Report* and tabling in Parliament is proposed to ensure full accountability in the public domain.
- f) The *Outlook Report* should be a key input for any future changes to zoning plans and the consideration of broader issues by governments.

Advisory committees

- 15) The Review Panel recommends that the Consultative Committee be reconstituted as an Advisory Board to the Minister for the Environment and Heritage.
 - a) The Advisory Board should be non-statutory with terms of reference issued by the Minister.
 - b) The Advisory Board would provide the Minister with a means to access advice on specific issues related to Marine Park protection and use, with members being drawn from business, community, Indigenous, environmental and other relevant bodies.
 - c) The Advisory Board would provide advice on particular matters as requested by the Minister, for example coastal development and Indigenous use of the Marine Park.
 - d) Appointments to the Advisory Board should continue to be the responsibility of the Minister.
 - e) The Authority should have only observer status on the Advisory Board.
 - f) The Department should provide secretariat support to the Advisory Board.
 - g) The Advisory Board would be expected to meet twice annually.
- 16) The Review Panel recommends that the Local Marine Advisory Committees and Reef Advisory Committees should be formally constituted as committees reporting to the Authority, but a statutory basis is not necessary.
 - a) The Authority should establish clear terms of reference and appointment processes for the committees.
 - b) The terms of reference should establish that the role of the Local Marine Advisory Committees is to provide area-based advice to the Authority, and the role of the Reef Advisory Committees is to provide issues-based advice on operational issues.
 - c) Appointment and dismissal of committee members should be the responsibility of all members of the Authority collectively rather than the Chairperson alone.
 - d) To promote transparency and accountability, the terms of reference and appointment processes for the committees should be publicly available.
 - e) The Authority could also publish minutes of committee meetings and copies of advice from the committees on its website.

Zoning plan process

- 17) The Review Panel recommends that the zoning plan process be made more transparent and accountable by enhancing the process for developing zoning plans through changes to the regulatory framework (see Recommendations 19 to 21) and in administrative arrangements:
 - a) The Act and associated Regulations should provide that a review and amendment of all, or part of, the zoning plan should not be commenced until at least seven years from the date the plan came into effect. Such a review is not required after seven years, but may be commenced at any time after seven years.
 - b) The Minister should be required to approve the commencement of a process to review and amend the zoning plan. This decision should be made on the advice of the Authority, as well as the periodic *Outlook Report* (Recommendation 14) and other relevant information.

- c) At the first consultation phase (on the intention to create/amend a zoning plan), the Authority should release a report, drawing on relevant scientific and socio-economic research, explaining why zoning needs to be reviewed.
- d) Information on the proposed process for amending the zoning plan should also be released at this time. The Minister would have the power to issue directions to the Authority in relation to the process.
- e) The development of zoning should be based on a set of published Operational Principles approved by the Minister.
 - i) These principles would set out the policy parameters and objectives on which the development of the zoning plan will proceed.
 - ii) The Operational Principles should be supported by a robust and publicly available explanation of their scientific and policy rationale.
 - iii) The Authority should be required to have regard to the Operational Principles in developing the zoning plan.
- f) The current statutory requirements for two public consultation phases, one on the intention to create a zoning plan and another on a draft plan, should be retained.
- g) The minimum period for public comment at each stage should be extended from one month to three. Socio-economic analysis should be undertaken and made available prior to consultation and be updated as the zoning plan is developed and refined.
- h) The current arrangements for Ministerial approval of the final zoning plan should remain. In particular, the Minister should only have the power to suggest changes to the Authority for consideration.
- i) Should the Minister's suggested changes not be incorporated into the final plan delivered by the Authority to the Minister, the Minister may amend the plan, but must report any such changes to Parliament at the time the plan is tabled.
- j) To ensure that the outcome of the zoning plan process is both transparent and accountable it is recommended that, following acceptance by the Minister and Parliament, the Authority make information available to stakeholders on the rationale for the final zoning plan and in particular the reason for changes between the draft and final plans. This could include the publication of a synopsis of the process and its outcomes.

Updating the Act and streamlining regulation

Consistency between the Great Barrier Reef Marine Park Act 1975 and the Environment Protection and Biodiversity Conservation Act 1999

- 18) The Review Panel recommends that the *Great Barrier Reef Marine Park Act 1975* and the *Environment Protection and Biodiversity Conservation Act 1999* should not unnecessarily duplicate each other and should operate in a cohesive and integrated manner. The *Great Barrier Reef Marine Park Act 1975* should be made consistent with current Australian Government policies and approaches to environment protection, as reflected in the *Environment Protection and Biodiversity Conservation Act 1999*. This should be achieved through the following means:
 - a) The *Great Barrier Reef Marine Park Act 1975* should include a more comprehensive objects section that recognises the conservation and protection of the Great Barrier Reef as an overarching objective. Subsidiary objectives should include providing for a range of uses consistent with the principles of ecologically sustainable development, fulfilling Australia's obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage as it relates to the Great Barrier Reef, and facilitating cooperative management with Queensland and local governments, communities, Indigenous people, business and industry.

- b) The Authority should be explicitly required to take into account specified objectives when performing regulatory functions, for example, to take into account the principles of ecologically sustainable development and to apply the precautionary principle, as defined in the *Environment Protection and Biodiversity Conservation Act 1999*, in making certain decisions under the *Great Barrier Reef Marine Park Act 1975*.

Zoning plans

- 19) The Review Panel recommends that Recommendation 17 (a), (e), (f), (g), (h), and (i) on the development of zoning plans be included in the Act and associated Regulations.
- 20) The Review Panel recommends that, in addition to Recommendations 17, 19 and 21, there should be a clear framework of objects and considerations the Authority is expected to pursue in developing zoning.
 - a) The current objectives specified in the *Great Barrier Reef Marine Park Act 1975* (s. 32) should be enhanced to provide greater specificity and a more contemporary framework.
 - b) Cross-linkages to the *Environment Protection and Biodiversity Conservation Act 1999* should be incorporated.
 - i) Consistent with the *Environment Protection and Biodiversity Conservation Act 1999* each zone type should be assigned an IUCN protected areas category for national and international accounting purposes and the Authority should be required to have regard to the Australian IUCN Reserve Management Principles and any relevant recovery, threat abatement and/or wildlife conservation plans made under the *Environment Protection and Biodiversity Conservation Act 1999*.
- 21) The Review Panel recommends that it be possible to amend the zoning plan for the purpose of correcting errors, provided legal drafting can ensure that only errors of a technical and insubstantial nature can be corrected, for example, incorrectly transcribed geographic coordinates. No consultation requirements should apply to such amendments. Such amendments should be disallowable by Parliament.

Permitting and environmental impact assessment

- 22) The Review Panel recommends that, to address duplication and provide a more consistent regulatory environment, the *Environment Protection and Biodiversity Conservation Act 1999* should provide the primary basis for environmental impact assessment and approval of activities within the Marine Park.
 - a) Where a proposed activity within the Marine Park is likely to have a significant environmental impact, the assessment and approval requirements of the *Environment Protection and Biodiversity Conservation Act 1999* should apply. An approval under the *Great Barrier Reef Marine Park Act 1975* would then suffice for the purposes of permission requirements under the *Great Barrier Reef Marine Park Act 1975*.
 - i) The Authority should be delegated responsibility for assessment and approval by the Minister in most cases. However, in some cases, for example where a proposed activity is primarily outside the Marine Park, carries significant environmental risks and/or requires complex and detailed assessment, it may be more appropriate for the Department of the Environment and Heritage to take the lead and/or for approval to be the responsibility of the Minister.

- 23) Subject to the above, the Authority should continue to be responsible for issuing permissions as required by the *Great Barrier Reef Marine Park Act 1975*, Regulations and zoning plan. Given the importance of this function to management and users of the Marine Park, it is recommended that the basis and procedures for issuing permissions be consolidated within a single part of the Act or Regulations.
- a) This new part should describe permitting and assessment processes, including permit application requirements, timelines, factors the Authority must consider in issuing permits, and public notification requirements. The part should apply to all activities that require permission under the Act, Regulations and zoning plan with the exception of the assessment and accreditation of Traditional Use of Marine Resources Agreements. This process should remain separate as the Agreements are a new initiative and may require refinement over time.
 - b) Varying assessment processes should be available in order to minimise the regulatory 'red tape'. Streamlined assessment based on application documentation and undertaken against standardised considerations should be available for activities with minimal risk and impact and/or where the activity does not require in-depth assessment, such as continuation of an existing activity. More intensive assessment requirements should be available where appropriate. Given the application of the *Environment Protection and Biodiversity Conservation Act 1999* to matters of national environmental significance, including in the Marine Park, it is not expected that the *Great Barrier Reef Marine Park Act 1975* would contain provision for assessment by public environment report or environmental impact statement.
 - c) In order to promote integration with the *Environment Protection and Biodiversity Conservation Act 1999*, in considering permit applications the Authority should be required to consider (among other things):
 - i) the Australian World Heritage Management Principles as set out in the Environment Protection and Biodiversity Conservation Regulations, to the extent to which they apply to environmental impact assessment and approval
 - ii) where relevant, the National Heritage/Commonwealth Heritage Management Principles as set out in the Environment Protection and Biodiversity Conservation Regulations
 - iii) any relevant recovery, threat abatement and/or wildlife conservation plans made under the *Environment Protection and Biodiversity Conservation Act 1999*.

Protected species

- 24) The Review Panel supports the proposed amendments to the *Environment Protection and Biodiversity Conservation Act 1999* currently being developed. Among other things, these changes will extend to the cetacean provisions of the Act the current exemption from protected species offences for activities done in accordance with a permit issued by the Authority. These amendments will also provide that protected species offences do not apply to activities authorised under an accredited Traditional Use of Marine Resources Agreement.
- 25) The Review Panel recommends that, to address remaining duplicative regulatory requirements (for activities occurring both within and outside the Marine Park), arrangements be put in place to accredit *Great Barrier Reef Marine Park Act 1975* permits for the purpose of the *Environment Protection and Biodiversity Conservation Act 1999* and vice versa. These arrangements should provide, for example, that where an activity affecting protected species is undertaken predominantly outside the Marine Park, an *Environment Protection and Biodiversity Conservation Act 1999* permit will provide the basis for the granting of a permission under the *Great Barrier Reef Marine Park Act 1975*, Regulations and zoning plan.
- 26) The Review Panel recommends that actions by the Authority such as developing zoning, plans of management, Special Management Areas and permitting, be consistent with and proactively seek to

implement *Environment Protection and Biodiversity Conservation Act 1999* protected species plans. The Review Panel recommends that this be achieved by requiring the Authority to have regard to relevant recovery, threat abatement and wildlife conservation plans when undertaking such activities.

Enforcement and compliance

- 27) The Review Panel recommends that the investigation, enforcement and offence provisions of the *Great Barrier Reef Marine Park Act 1975* be reviewed and updated in light of the importance of effective and efficient enforcement in the future and to achieve better consistency with *Environment Protection and Biodiversity Conservation Act 1999* provisions. This review should be done in consultation with the Attorney-General's Department.

Emergency management powers

- 28) The Review Panel supports proposed amendments to the *Environment Protection and Biodiversity Conservation Act 1999* that will allow Conservation Orders under Part 17 of the Act to be made to protect all matters of national environmental significance. This change will establish appropriate emergency management powers applying to the Great Barrier Reef. Orders should be made by the Minister on the advice of the Authority.

REFERENCES

References

- Access Economics 2005, *Measuring the Economic & Financial Value of the Great Barrier Reef Marine Park—Report by Access Economics Pty Limited for the Great Barrier Reef Marine Park Authority*, Great Barrier Reef Marine Park Authority, Australian Government, Townsville.
- American Association for the Advancement of the Sciences 2001, *Scientific Consensus Statement on Marine Reserves and Marine Protected Areas*, National Center for Ecological Synthesis and Analysis, University of California, California.
- Association of Australian Ports and Marine Authorities (AAPMA 2005), *2004–05 Trade Statistics*, accessed at www.aapma.org.au/tradestats on 30 March 2006.
- Australian Government 2004, *Marine Protected Areas and Displaced Fishing: A Policy Statement*, available at <http://www.deh.gov.au/coasts/mpa/displaced-fishing.html>, accessed on 30 March 2006.
- Australian Government 2005, *Securing our Fishing Future*, available at <http://www.ffa.gov.au>, accessed on 30 March 2006.
- Australian Marine Sciences Association 2002, *Position Statement on Marine Protected Areas*, Australian Marine Sciences Association Bulletin 159 July 2002, accessed at www.amsa.asn.au/PDF-files/Submissions/Marine-Protected-Areas.pdf on 30 March 2006.
- Australian National Audit Office (ANAO) 1988, *Commonwealth Management of the Great Barrier Reef*, The Auditor-General Audit Report No. 33 1998, Australian National Audit Office, Canberra.
- Australian National Audit Office (ANAO) 2003, *Commonwealth Management of the Great Barrier Reef Follow-up Audit*, The Auditor-General Audit Report No. 8 2003–04 Australian National Audit Office, Canberra.
- Australian and New Zealand Environment and Conservation Council (ANZECC) 1999, *Strategic Plan of Action for the National Representative System of Marine Protected Areas: A Guide for Action by Australian Governments*, Department of the Environment and Heritage, Canberra.
- Australian State of the Environment Committee 2001, *Australian State of the Environment Report 2001*, Independent Report to the Minister for the Environment and Heritage, CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.
- Birtles R.A., Valentine P.S., Curnock M., Arnold P., Dunstan A. 2002, *Incorporating Visitor Experiences into Ecologically Sustainable Dwarf Minke Whale Tourism in the Northern Great Barrier Reef*, CRC Reef Technical Report no. 42, CRC Reef Research Centre, Townsville.
- Blamey R. and Hundloe T. 2003, *Characteristics of Recreational Boat Fishing in the Great Barrier Reef Region: Report to the Great Barrier Reef Marine Park Authority*, Great Barrier Reef Marine Park Authority, Townsville.
- Brown R. 1997, *Independent Review of the Great Barrier Reef Marine Park Authority: Report submitted to the Hon. Senator Robert Hill, Minister for the Environment*, R. Brown and Associates, Brisbane.
- Bureau of Rural Sciences 2003, *Implementing the Representative Areas Program in the Great Barrier Reef Marine Park: Assessment of the Potential Social Impacts on Commercial Fishing and Associated Communities*, Department of Agriculture, Fisheries and Forestry, Canberra.
- Bureau of Rural Sciences (BRS) 2004, *Fisheries Status Reports 2004*, Department of Agriculture, Fisheries and Forestry, Canberra.
- Bureau of Tourism Research (BTR), Bailey G., Riely D., Heaney L., Barry T. and Salma U. 2003 *Assessment of Tourism Activity in the Great Barrier Reef Marine Park Region*, Bureau of Tourism Research, Canberra.

- Clark J.R., B. Causey, and Bohnsack J.A. 1989 *Benefits from Coral Reef Protection: Looe Key Reef, Florida*, 6th Symposium on Coral and Ocean Management, Charleston, South Carolina, USA.
- Committee of Inquiry into the National Estate 1974, *Report on the National Estate*, Australian Government Publisher, Canberra.
- Dalton V. 2003, *Day-to-Day Management Review*, Great Barrier Reef Marine Park Authority, Townsville.
- Davis K.L.F., Russ G.R., Williamson D.H., Evans R.D. 2004, 'Surveillance and poaching on inshore reefs of the Great Barrier Reef Marine Park', *Coastal Management* 32(4): 373–387.
- Department of the Environment and Heritage (DEH) 2001, *Guidelines for the Ecologically Sustainable Management of Fisheries*, Canberra.
- Department of the Environment and Heritage (DEH) 2004, *Assessment of the Queensland East Coast Otter Trawl Fishery—Environmental Assessment under the Environment Protection and Biodiversity Conservation Act 1999*, Canberra.
- Department of the Environment and Heritage (DEH) 2005, *Australia's Response to Climate Change*, Department of the Environment and Heritage, Canberra.
- Fabricius K.E. 2005, 'Effects of terrestrial runoff on the ecology of corals and coral reefs: review and synthesis', *Marine Pollution Bulletin* 50: 125–146.
- Furnas M. 2003, *Catchments and Corals: Terrestrial Runoff to the Great Barrier Reef*, Australian Institute of Marine Science, Townsville.
- Futureye Pty Ltd. (Futureye) Teh-White K., Houston S., Baxter C., Levine J. and White P. 2005, *Great Barrier Reef Marine Park Authority: Enhanced Community Partnerships*, Futureye Pty Ltd., Melbourne.
- Gilbert, M. 2001, *Population and major land use in the Great Barrier Reef catchment area: and temporal trends*, Great Barrier Reef Marine Park Authority, Townsville.
- Global Coral Reef Monitoring Network (GCRMN) 2004, *Status of Coral Reefs of the World: 2004*, Wilkinson, C. (ed.), Australian Institute of Marine Science, Townsville.
- Graham, N.A.J., Evans, R.D., Russ, G.R. 2003, 'The effects of marine reserve protection on the trophic relationships of reef fishes on the Great Barrier Reef', *Environmental Conservation* 30(2): 200–208.
- Great Barrier Reef Marine Park Authority (GBRMPA) 1994, *The Great Barrier Reef, Keeping it Great: A 25 Year Strategic Plan of the Great Barrier Reef World Heritage Area*, Great Barrier Reef Marine Park Authority, Townsville.
- Great Barrier Reef Marine Park Authority (GBRMPA), World Bank & IUCN 1995, *A Global Representative System of Marine Protected Areas*, available from the Department of the Environment and Heritage at <http://www.deh.gov.au/coasts/mpa/nrsmpa/global/>.
- Great Barrier Reef Marine Park Authority (GBRMPA) 1998, *Preliminary Study of Potential Impacts on the Great Barrier Reef World Heritage Area from Coastal Urban Development*, Great Barrier Reef Marine Park Authority, Townsville.
- Great Barrier Reef Marine Park Authority (GBRMPA) 2002, *Great Barrier Reef Catchment Water Quality Action Plan, A Report to Ministerial Council on Targets for Pollutant Loads*, Great Barrier Reef Marine Park Authority, Townsville.
- Great Barrier Reef Marine Park Authority (GBRMPA) 2003a, *Great Barrier Reef Marine Park: Basis for Zoning Decisions Report*, Consultation Draft, Great Barrier Reef Marine Park Authority, Townsville.
- Great Barrier Reef Marine Park Authority (GBRMPA) 2003b, *Audit of the Management of the Queensland East Coast Trawl Fishery in the Great Barrier Reef Marine Park*, Report prepared by Dorothea Huber, Senior Project Manager, Fisheries Issues Group, Great Barrier Reef Marine Park Authority, Townsville.

- Great Barrier Reef Marine Park Authority (GBRMPA) 2003c, Summary Report of the Social and Economic Impacts of the Rezoning of the Great Barrier Reef Marine Park, Great Barrier Reef Marine Park Authority, Townsville.
- Great Barrier Reef Marine Park Authority (GBRMPA) 2005a, Report on the *Great Barrier Reef Marine Park Zoning Plan 2003*, Great Barrier Reef Marine Park Authority, Townsville.
- Great Barrier Reef Marine Park Authority (GBRMPA) 2005b, *Research Needs for the Protection and Management of the Great Barrier Reef Marine Park 2005*, Great Barrier Reef Marine Park Authority, Townsville.
- Great Barrier Reef Protection Inter-departmental Science Panel 2002, *A Report on the Study of Land Sourced Pollutants and Their Impacts on Water Quality In and Adjacent to the Great Barrier Reef*, Department of the Environment and Heritage, Canberra.
- Great Barrier Reef and Torres Strait Shipping Management Group 2003, *Great Barrier Reef & Torres Strait Shipping Impact Study*, Australian Maritime Safety Authority, Canberra.
- Great Barrier Reef Shipping Review Steering Committee 2001, *Review of Ship Safety and Pollution Prevention Measures in the Great Barrier Reef*, Australian Maritime Safety Authority, Canberra.
- Hoegh-Guldberg O. 2004, 'Coral reefs in a century of rapid environmental change', *Symbiosis* 37: 1–31.
- Hughes T.P., Baird A.H., Bellwood D.R., Card M., Connolly S.R., Folke C., Grosberg R., Hoegh-Guldberg O., Jackson J.B.C., Kleypas J., Lough J.M., Marshall P., Nyström M., Palumbi S.R., Pandolfi J.M., Rosen B., Roughgarden J. 2003, 'Climate change, human impacts, and the resilience of coral reefs', *Science* 301: 929–933.
- Hunt C. 2005a, *Estimating the Impact on Recreational Fishing-dependent Businesses of the Great Barrier Reef Marine Park Rezoning*, A Report for the Department of the Environment and Heritage, Canberra.
- Hunt C. 2005b, *Estimating the Impact on Land Based Businesses of the Representative Areas Program and of Fishery Management Changes in the Great Barrier Reef Marine Park*, A Report for the Department of the Environment and Heritage, Canberra.
- Intergovernmental Panel on Climate Change 2001, *Climate Change 2001: Synthesis Report. A Contribution of Working Groups I, II, and III to the Third Assessment Report of the Intergovernmental Panel on Climate Change* [Watson, R.T. and the Core Writing Team (eds.)], Cambridge University Press, Cambridge, United Kingdom.
- IUCN (The World Conservation Union) 2003, *Fifth World Parks Congress: Recommendations*, available at <http://www.iucn.org/themes/wcpa/wpc2003/index>, accessed on 30 March 2006.
- Lawrence D., Kenchington R. and Woodley S. 2002, *The Great Barrier Reef Finding the Right Balance*, Melbourne University Press, Melbourne.
- Lough J.M., *Coral bleaching: thermal stress indices*, Australian Institute of Marine Science, www.aims.gov.au, accessed on 25 August 2006.
- Mapstone B.D., Davies C.R., Little L.R., Punt A.E., Smith A.D.M., Pantus F., Lou D.C., Williams A.J., Jones A., Ayling A.M., Russ G.R., McDonald A.D. 2004, *The Effects of Line Fishing on the Great Barrier Reef and Evaluations of Alternative Potential Management Strategies*, CRC Reef Technical Report no. 52, CRC Reef Research Centre, Townsville.
- Marsh H., Lawler I. 2001, *Dugong Distribution and Abundance in the Southern Great Barrier Reef Marine Park and Hervey Bay: Results of an Aerial Survey in October–December 1999*, GBRMPA Research Publication no. 70 (Part 2), Great Barrier Reef Marine Park Authority, Townsville.
- McCulloch M.T., Fallon S., Wyndham T., Hendy E.J., Lough J.M., Barnes D.J. 2003, 'Coral record of increased sediment flux to the inner Great Barrier Reef since European settlement', *Nature* 421: 727–730.

- National Recreational and Indigenous Fishing Survey 2003, Henry G.W. and Lyle J.M. (eds.), Australian Government Department of Agriculture, Fisheries and Forestry, Canberra.
- Natural Resource Management Ministerial Council (NRMMC) 2003, *Framework for a National Cooperative Approach to Integrated Coastal Zone Management*, accessed at <http://www.deh.gov.au/coasts/publications/framework/index.html> on 4 April 2006.
- Owen S. and Hansen G. 1994, *Review of the Environmental Management Charge*, Great Barrier Reef Marine Park Authority, Townsville.
- PDP Australia 2003, *An Economic and Social Evaluation of Implementing the Representative Areas Program by Rezoning the Great Barrier Reef Marine Park: Report on the Revised Zoning Plan*, PDP Australia, Sydney.
- Pearce P., Moscardo G., Woods B. 1997, 'Understanding the tourist market', in: *The Great Barrier Reef: Science, Use and Management; A National Conference: Proceedings, 25–29 November 1996, James Cook University, Townsville, Australia*, Great Barrier Reef Marine Park Authority, Townsville, Volume 1, 343–352.
- Poiner I., Glaister J., Pitcher R., Burridge C. and Wassenberg T. 1998, *Final Report on Effects of Trawling in the Far Northern Section of the Great Barrier Reef Marine Park: 1991–1996*, CSIRO Division of Marine Research, Cleveland, Queensland.
- Polunin N.V.C. and Roberts C.M. 1993, 'Greater biomass and value of target coral reef fishes in two small Caribbean marine reserves', *Marine Ecology Progress Series* 100: 167–176.
- Pulsford, J. S. 1996, *Historical nutrient usage in coastal Queensland river catchments adjacent to the Great Barrier Reef Marine Park*, Research Publication no. 40, Great Barrier Reef Marine Park Authority, Townsville
- Productivity Commission 2003, *Industries, Land Use and Water Quality into the Great Barrier Reef Catchment*, Research Report, Canberra.
- Queensland Government 2005, *2004 Annual Status Report: Queensland East Coast Trawl Fishery*, Department of Primary Industries and Fisheries, Brisbane.
- Roberts C.M. and Polunin N.V.C. 1994, 'Hol Chan: demonstration that marine reserves can be remarkably effective', *Coral Reefs* 13: 90.
- Sturgess G.L. 1999, *The Great Barrier Reef Partnership: Cooperation in the Management of a World Heritage Area; A Report into the Review of the Relationships of the Commonwealth and Queensland Governments in Respect of the Great Barrier Reef*, Queensland Government, Brisbane.
- Sweatman H., Abdo D., Burgess S., Cheal A., Coleman G., Delean S., Emslie M., Miller I., Osborne K., Oxley W., Page C., Thompson A. 2004, *Long-term Monitoring of the Great Barrier Reef*, AIMS Status Report no. 6, Australian Institute of Marine Science, Townsville.
- Tourism Review Steering Committee 1997, *Review of the Marine Tourism Industry in the Great Barrier Reef World Heritage Area*, Great Barrier Reef Marine Park Authority, Townsville.
- Tourism and Recreation Reef Advisory Committee 2002, *A Co-operative Framework for the Sustainable Use and Management of Tourism and Recreation Opportunities in the Great Barrier Reef Marine Park*, Great Barrier Reef Marine Park Authority, Townsville.
- Whitehouse J.F. 1993, *Managing Multiple Use in the Coastal Zone: A Review of the Great Barrier Reef Marine Park Authority*, Australian Government Publishing Service, Canberra.
- Williams D. McB., Roth C.H., Reichelt R.E., Ridd P.V., Rayment G., Larcombe P., Brodie J., Pearson R., Wilkinson C., Talbot F., Furnas M., Fabricius K., McCook L., Hughes T.P., Hoegh-Guldberg O. and Done T. 2002, *The Current Level of Scientific Understanding on Impacts of Terrestrial Run-off on the Great Barrier Reef World*

Heritage Area, CRC Reef Research Centre, Townsville.

Williamson D. 2000, *An Assessment of the Effectiveness of Management Zoning in Protecting Reef Fish Stocks of the Palm Islands and the Whitsunday Islands, Central Section, Great Barrier Reef*. Unpublished report, Department of Marine Biology & Aquaculture, James Cook University.

World Resources Institute, International Center for Living Aquatic Resources Management, World Conservation Monitoring Centre, United Nations Environment Programme, [Bryant D., Burke L., McManus J. and Spalding M.] 1998, *Reefs at Risk: A Map-based Indicator of Potential Threats to the World's Coral Reefs*

Uhrig J. 2003, *Review of Corporate Governance of Statutory Authorities and Office Holders*, Australian Government, Canberra.

APPENDICES

APPENDIX A

Terms of Reference for the Review

Background

The Great Barrier Reef Marine Park Authority (the Authority) was established under the *Great Barrier Reef Marine Park Act 1975* (the GBRMP Act) to manage the Marine Park, advise the Minister in relation to the Marine Park, conduct research and provide educational, advisory and informational services relating to the Marine Park. The Authority consists of a full-time chairman and three part-time members. The staff and chairman of the Authority constitute a statutory authority.

The Government made an election commitment to review the Act to improve the performance of the Authority, its office holders and its accountability frameworks. These terms of reference address the election commitment.

The Government is also conducting a review of corporate governance of all statutory authorities and office holders—the Uhrig review. Mr John Uhrig AC, conducted a review of eight statutory authorities and developed a set of corporate governance principles which are to be applied to all statutory authorities. The Authority is subject to the Uhrig corporate governance principles.

The findings of this review will also inform the implementation of the Uhrig outcomes in relation to the Authority.

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the Australian Government's primary legislation for environmental regulation. The review provides an opportunity to examine the GBRMP Act in light of the EPBC Act with a view to modernising the GBRMP Act to ensure consistency between the two Acts.

The review will be chaired by the Secretary of the Department of the Environment and Heritage, Mr David Borthwick, assisted by Ms Barbara Belcher, Department of the Prime Minister and Cabinet and Mr Jonathan Hutson, Department of Finance and Administration, reporting to the Minister for the Environment and Heritage, Senator the Hon Ian Campbell.

Public submissions are invited, with a closing date of 30 September 2005.

Scope of the Review

1. The review will focus on:
 - the role of office holders;
 - the functions of the Authority;
 - accountability frameworks; and
 - consultation mechanisms.
2. The review will provide advice, in light of the Uhrig principles, on:
 - the appropriateness of current arrangements;
 - the efficiency and effectiveness of current consultation mechanisms;
 - any changes to improve the corporate governance arrangements of the Authority;
 - any adjustment of the function of the Authority;
 - improving consistency between the GBRMP Act and the EPBC Act; and
 - any legislative amendments required to make such changes.

APPENDIX B

The Review secretariat

Department of the Environment and Heritage

Dr Diana Wright, First Assistant Secretary

Ms Bettina Söderbaum

Mr Travis Bover

Ms Claire Howlett

APPENDIX C

Public submissions to the Review

M Fellows
Grace
L Teitzel, Lucinda Lures
R Lowden
Simon Coolican, Cairns Seafood Marketing Agency
W Starck
R Aiello, Ecotourism consultant
B Leptig
M Gerhardt
Dr Don Kinsey AM
B Harvey
Association of Marine Park Tourism Operators
Mission Beach Marine Advisory Committee
M&W Williams
B Scott
P Bowman, Bunker Fisheries
Queensland Seafood Marketers' Association
J Naylor
R Baker
N Hanke
P Todd, Aqua-Cat Charters
G Matthews
Wildlife Protection Association of Australia
D Tarte
A McIver
K Kristensen
R Moore
J Wolstenholme
A&J Holland
J Beu
C McFarlane
T Charters
Ecotourism Australia
J Maddams
J Crawford
M&B Buckingham, Siren Seafoods
K Sampson
M McCormick, James Cook University
W Williams
J Leis
F Wood
P Rixon
I Spadbrow
K&J Harris

Sunfish Tablelands Branch
 A Dunstan
 Professor FH Talbot (Macquarie University)
 A&P Bradshaw
 National Parks Association of Queensland
 Great Barrier Reef Marine Park Authority
 I McCallan
 Australian Coral Reef Society
 S Bullock
 Mayor Giandomenico (Hinchinbrook Shire)
 K Kavanagh
 Australian Museum
 K Martin
 Environmental Defenders' Office
 Williamson
 Bundaberg Skindivers Club
 P Wright
 C McGrath
 Great Barrier Reef Research Foundation
 M Gardner
 World Wildlife Fund
 P Filmer-Sankey
 M Rowell MP (State Member for Hinchinbrook)
 GWP Little, Buck's Seafood
 G Winsen
 JB Sheldon
 D Robinson
 T Baker, Quicksilver
 Australian Government Department of Defence
 Great Barrier Reef Tuna
 W Bayne, Mitchell's Marine
 T McLean, Boat Scene Pty Ltd
 M Clink, Boat Scene Pty Ltd
 M Willis and D Turcotte
 DA Pope (QSIA Branch 10 Chairman)
 Senator the Hon R Boswell
 Cape York Marine Advisory Group
 L Burke
 K Thomas, Big Cat Green Island Cruises
 RH Ellis
 Sunfish North Queensland
 Pew Fellows in Marine Conservation (x20)
 Campaign Submission - Australian Marine Conservation Society
 Campaign Submission - Australian Marine Park Tourism Operators members
 Campaign Submission - World Wildlife Fund
 Campaign Submission - Day tour visitors
 Campaign Submission - Dive Queensland employees
 P&M Loveday, Loveday Fisheries
 J Neville

B Lee
M Dengage
J Olsen
P Sutton, Torres Pilots Pty Ltd
P Waters
Australian Institute for Marine Science
Queensland Yacht Charters
Community for Coastal and Cassowary Conservation
R Hansen
J Baker, Chief Scientific Adviser, QDPI&F
M&R Millward
J Thomas
G Nairn, Great Barrier Reef Cruises
Queensland Seafood Industry Association
M Goldie, Explorer Ventures
Futureye
P&P Pike
R de Vries
R Erskine, Erskine Tackle Shop
National Parks Australia Council
Queensland Tourism Industry Council
D Reid
R Kelley
R Pears
E Dinsdale
C Boland
B Danastas
C Stephen, Mike Ball Dive Expeditions
Australian Underwater Federation
Cod Hole and Ribbon Reef Operators Association
B Mapstone
National Parks Association of NSW
J Saverin & K Guthrie, Oaksea Pty Ltd
Conservation Councils - Qld, WA, South-East Region and Canberra and Tasmania
P Doherty
G Scott
Gecko - Gold Coast and Hinterland Environment Council
S Woodley (Conservation RAC)
Prof H Marsh (JCU)
Prof T Hughes, ARC Centre for Excellence for Coral Reef Studies
T Ward
Ecofish
A Harvey, CEO, Shire of Hinchinbrook
GPT Management Holdings, T Jonsson
P Fischer, Taka Dive Adventures
C Smalley
Whitsunday Bareboat Operators Association
G Unicom
J Millward, Sunlover Cruises

The Fishing Party
R Babcock
A Hay
G Hunt, Synergy Reef Sailing
Queensland Conservation Councils
P Mather AO (Qld Museum)
Associate Professor B Willis (James Cook University)
G Hunt, Voyages Hotels and Resorts
A Cousland
B McNeven
B Kennedy, SOS Burdekin
The Nature Conservancy
Tourism Tropical North Queensland
Nature Conservation Council of NSW
Associate Professor G Russ (James Cook University)
Australian Marine Conservation Society
M Burns
O Hoegh-Guldberg, Centre for Marine Science, University of Queensland
St Helens Bush and Beach Association
P Holmes, Javelin Boats
The Whitsunday Crew
Eastern Pelagic Fishing Group
R Anderson, M&G Stevenson, QSIA Branch 14
Australian Marine Sciences Association
Association of Marie Park Tourism Operators - Southern Group
N Williams
M Crimp, Indian Pacific Pearls
R Lacco, Opal Marine
W Robinson, Schulz Fisheries
The Wilderness Society
Magnetic Island Community Development Association
M Mansfield
V Lukoschek
M Creta
J Foley, Nairana Pty Ltd
J Davidson
RW Bennett
A Griggs
N Green
D Lewis
Whitsunday Charter Boat Industry Association
P Carden
B Barnett, Tyto Consulting
B Cunningham
D Glasson
R&L Gibson
Wildlife Preservation Society of Qld
Australian Maritime Safety Authority
M Gardner

J&W Wintour
D Wintour
O Komsic
S Waring, Tusa Dive
R Reichelt
Queensland Government
Tourism and Transport Australia
Ocean Watch
Queensland Aquaculture Industries Federation
Wildlife Preservation Society of Australia
Bluefin Seafoods Pty Ltd
Captain Cook Cruises
Diversion Dive Travel
Hassan Family Trust
Johnstone Ecological Society
Shipping Australia Ltd
Professor B Moulden (Vice-Chancellor, James Cook University)
B Gamlim
R Elmer
Townsville Enterprise
N Dawson
S Hanson, ABIT Pty Ltd
R Kenchington
T Fontes
Sunfish Queensland
H Burgess
P Boundy
CA Mitchell
A Welk
Mackay Local Marine Advisory Committee
J Thorogood
Australian Conservation Foundation
Far North Queensland Natural Resources Management
The Hon Warren Entsch MP
RS Earle
Burnett Marine Advisory Committee
Australian Government Department of Industry, Tourism and Resources

APPENDIX D

Consultation meetings held as part of the Review

Reef Advisory Committees

- Mr Peter Frawley, Chair, Tourism and Recreation Reef Advisory Committee
- Ms Diane Tarte, Chair, Fisheries Reef Advisory Committee
- Mr Noel Dawson, Chair, Water Quality Reef Advisory Committee
- Mr Simon Woodley, Conservation Reef Advisory Committee

Local Marine Advisory Committees (LMACs)

- Mr Peter Wright, Acting Chair and Mr Paul Freeman, Secretary, Douglas LMAC
- Mr Bob Rossi, Chair and Mr Tim Anderson, Deputy Chair, Cairns LMAC
- Mr Bill Shannon, Chair and Mr Dave Nissen, Member, Mission Beach LMAC
- Mr Bill Whiteman, Chair and Mr David Perkins, Member, Hinchinbrook LMAC
- Mr Steve McGuire, Chair and Ms Lisa Gershwin, Member, Townsville LMAC
- Mr Tony Fontes, Chair, Whitsunday LMAC
- Mr Les Todd, Member and Mr Joe Patterson, Member, Mackay LMAC
- Mr Graham Scott, Chair, Capricorn Coast LMAC
- Mr Warwick Sheldon, Chair and Ms Anna Hitchcock, Member, Gladstone LMAC
- Mr Ray Duffy, Chair and Mr Ray Heale, Member, Burnett LMAC
- Mr Ian McCollum, Chair, Cape York Marine Advisory Group

Commercial fishing

- Mr John Olsen, Ms Karin Schiller, Mr Neil Green, Mr Martin Bowerman, Mr Tor Hundloe, Queensland Seafood Industry Association
- Mr Lyle Squire, Mr Rob Lowden, Mr Shaun Hanson, Mr Gary Wicks, Ms Anne English, Mr Denis Ballam, Ecofish

Seafood processing and marketing

- Mr Jim Fogarty, Mr Peter Packman, Mr Sid McKeown, Mr Ted Whittingham, Mr Graham Carraciolo and Mr Martin Perkins, Queensland Seafood Marketers' Association

Recreational fishing

- Mr Bill Turner and Mr David Bateman, Sunfish Queensland
- Mr Brian Pickup, Ms Cheryl Picker, Mr Arthur Dobe and Mr Brad Baker, Sunfish North Queensland
- Mr Kevin Collins, Mr Wayne Bayne and Mr Alex Witten, The Fishing Party Queensland

Tourism organisations

- Mr Daniel Gschwind, Queensland Tourism Industry Council
- Mr Col McKenzie and Mr David Hutchen, Association of Marine Park Tourism Operators
- Mr Peter Boundy, Dive Queensland

Queensland Government

- Dr Leo Keliher, Ms Liz Young and Ms Andrea Leverington, Queensland Department of Premier & Cabinet

Conservation organisations

- Mr Ray Nias and Mr Richard Leck, World Wildlife Fund
- Ms Kate Davey, Australian Marine Conservation Society

Research and academic organisations

- Dr Russell Reichelt, Cooperative Research Centre for the Great Barrier Reef World Heritage Area
- Professor Helene Marsh, James Cook University
- Dr Ian Poiner, Australian Institute of Marine Science
- Professor Michael Kingsford, Australian Coral Reef Society
- Professor Richard Kenchington, Centre for Maritime Policy, University of Wollongong

Great Barrier Reef Marine Park Authority

- Hon. Virginia Chadwick, Mr Terry Wall, Dr Evelyn Scott and Ms Fay Barker, Great Barrier Reef Marine Park Authority members
- Hon. Virginia Chadwick, Mr Andrew Skeat and Mr John Tanzer, Great Barrier Reef Marine Park Authority Executive Management Team

Shipping and ports

- Mr Barry Holden and Mr Larry Hore, Townsville Port Authority
- Mr Clive Davidson, Chief Executive Officer, Australian Maritime Safety Authority

Federal Parliamentarians

- The Hon Warren Entsch MP, Member for Leichhardt
- Senator the Hon Ron Boswell
- The Hon De-Anne Kelly MP, Member for Dawson
- Mr Peter Lindsay MP, Member for Herbert
- Senator Barnaby Joyce
- Senator the Hon Ian Macdonald
- Mr Paul Neville MP, Member for Hinkler
- Senator Nigel Scullion

Other

- Dr Wendy Craik, Chief Executive Officer, Murray–Darling Basin Commission
- Mr Geoff Gorrie, former Deputy Secretary, Department of Agriculture, Fisheries and Forestry

APPENDIX E

The Emerald Agreement of 1979

The Great Barrier Reef

The basic idea is to secure agreement on the main elements of a negotiation on the basis that the *Great Barrier Reef Marine Park Act [1975]* the Region remain unchanged.

The negotiating scenario

1. *Establishment of a Queensland-Commonwealth Council on the Great Barrier Reef Region*

It is recommended that a Council of four Ministers (two from each side) representing tourism, marine parks, science and environment, be established under an exchange of letters between the Premier and the Prime Minister. The Council would include in its functions the processing of recommendations to Governments by the Barrier Reef Authority. The Council would be convened by the Commonwealth at the request of either party. Note: Ministers responsible for mining would not be members of the Council.

2. *The Capricornia Section*

It is envisaged that the Capricornia section will be the first area to be considered for declaration as a marine park, and the Council will take early steps to address this matter.

3. *Management of the Marine Park within the Region*

The Act provides for the Authority to make arrangements with the State for the management of any declared marine park. It is recommended that subject to the Authority Queensland be assigned the day-to-day management role and that the necessary preparatory steps to be taken for arrangements to be put in place, on a basis to be agreed by the Ministerial Council.

4. *Territorial Seas in the Region*

The legal arrangements for the implementation of the Premiers' Conference decision on Seas and Submerged Lands be subject to the following:

- a) the *Great Barrier Reef Marine Park Act [1975]* and the boundaries of the Great Barrier Reef Region to remain unchanged;
- b) the Prime Minister's statement of 4 June 1979 concerning the Great Barrier Reef;
- c) the day-to-day management to be undertaken by officers of the Queensland National Parks and Wildlife Service, who, in discharging these responsibilities, will be subject to the Great Barrier Reef Marine Park Authority;
- d) relevant State legislation to be brought into line with the *Great Barrier Reef Marine Park Act [1975]*.

5. Subject to the above, the arrangements with Queensland in relation to the territorial sea which will flow from the agreements of the June 1978 Premiers' Conference will be on the same basis as the arrangements to be entered into in respect of other States.

6. *Scientific Research*

The Ministerial Council would be asked to endorse and monitor the progress of the proposed programs of scientific research in the Barrier Reef region and to ensure that it be established on a timetable and framework acceptable to both Governments.

7. *Joint Press Statement*

As a first step in the implementation of these co-operative arrangements it is proposed that a joint press statement should be issued along the lines of the draft attached.

APPENDIX F

Legislation, Regulations and conventions relevant to management of the Great Barrier Reef

Commonwealth legislation and Regulations

Great Barrier Reef Marine Park Act 1975

Great Barrier Reef Marine Park (Environmental Management Charge-Excise) Act 1993

Great Barrier Reef Marine Park (Environmental Management Charge-General) Act 1993

Great Barrier Reef Marine Park Regulations 1983

Great Barrier Reef Region (Prohibition of Mining) Regulations 1999

Great Barrier Reef Marine Park (Aquaculture) Regulations 2000

Environment Protection and Biodiversity Conservation Act 1999

Environment Protection (Sea Dumping) Act 1981

Historic Shipwrecks Act 1976

Protection of the Sea (Prevention of Pollution from Ships) Act 1983

Sea Installations Act 1987

Queensland legislation

Marine Parks Act 1982

Marine Parks Act 2004

Environmental Protection Act 1994

Fisheries Act 1994

Coastal Protection and Management Act 1995

Integrated Planning Act 1997

Native Title (Queensland) Act 1993

Nature Conservation Act 1992

Transport Operations (Marine Pollution) Act 1995

Transport Operations (Marine Safety) Act 1994

International conventions

Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972

Convention on Biological Diversity, 1992

Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973

Convention on the Conservation of Migratory Species of Wild Animals, 1979

Convention on Wetlands of International Importance Especially as Waterfowl Habitats, 1971

Convention for the Prevention of Pollution from Ships, 1973

United Nations Convention on the Law of the Sea, 1982

United Nations Framework Convention on Climate Change, 1992

APPENDIX G

Government agencies of relevance to management of the Marine Park

As at August 2006

Australian Government agencies

- Department of Families, Community Services and Indigenous Affairs
- Australian Customs Service
- Australian Fisheries Management Authority
- Australian Institute of Marine Science
- Australian Maritime Safety Authority
- Australian Quarantine and Inspection Service
- Commonwealth Scientific and Industrial Research Organisation
- Department of Defence
- Department of Industry, Tourism and Resources
- Department of the Environment and Heritage

Queensland Government agencies

- Department of Local Government, Planning, Sport and Recreation
- Department of Natural Resources, Mines and Water
- Department of State Development, Trade and Innovation
- Education Queensland
- Queensland Department of Primary Industries and Fisheries
- Environmental Protection Agency/Queensland Parks and Wildlife Service
- Queensland Transport
- Tourism Queensland

APPENDIX H

Biophysical Operational Principles for the Representative Areas Programme

As recommended by the Scientific Steering Committee for the Representative Areas Programme

The Scientific Steering Committee

The independent Scientific Steering Committee (SSC) to the Representative Areas Programme (RAP) provides advice on scientific issues, programming and priorities to assist the Great Barrier Reef Marine Park Authority (GBRMPA) to achieve the best possible outcomes. The membership of RAP's SSC was decided by the GBRMPA after consultation with over 70 of Australia's top scientists with expertise in the GBR region.

Background and context for these recommendations

The SSC believes that the existing network of Green Zones (no-take areas)²³ in the Great Barrier Reef Marine Park (GBRMP) is insufficient to maintain the biological diversity and ecological integrity of the Great Barrier Reef (GBR) into the future. The reasons are that:

- less than 5 per cent of the Marine Park is currently in no-take areas;
- the existing areas are largely confined to coral reefs or the remote far north of the Marine Park; and
- the coverage of no-take areas in many of the 70 bioregions in the Great Barrier Reef World Heritage Area (GBRWHA) is minimal or non-existent.

The GBRMPA shares this concern and is rezoning the entire Marine Park through RAP. This rezoning will result in more no-take areas that will help:

- maintain biological diversity at the levels of ecosystem, habitat, species, population and genes;
- allow species to evolve and function undisturbed;
- provide an ecological safety margin against human-induced disasters;
- provide a solid ecological base from which threatened species or habitats can recover or repair themselves; and
- maintain ecological processes and systems.

As part of the RAP, new no-take areas or Green Zones will be created and existing Green Zones may be expanded to achieve greater protection of biodiversity. The existing range of multiple-use zones will remain (ranging from 'General Use Zones' where most reasonable activities are allowed, through the new 'National Park Zones' [also known as Green Zones or 'no-take' areas], to small areas of 'Preservation Zone' which are 'no-go' areas).

²³ Green Zones (no-take areas) within the GBR Marine Park are equivalent to the existing 'National Park Zones' (Cairns & Far North Sections) and 'Marine National Park B Zones' (Central & Mackay-Capricorn Sections) in which activities such as boating, diving and snorkelling are permitted, but the taking of plants, animals and marine products is prohibited.

The Representative Areas Programme has several phases:

- **classification** – map the marine diversity in the Great Barrier Reef World Heritage Area into bioregions;
- **review** – determine the **extent** to which the existing zoning protects the biodiversity shown by the bioregions;
- **identification** – identify networks of candidate areas which will achieve the biological objectives of RAP; and
- **selection** – select from amongst **the** options of candidate areas to maximise beneficial and minimise detrimental impacts whilst considering social, economic, cultural and management implications (Day et al, in press).

Origin and justification of the biophysical operational principles

The following biophysical operational principles are recommended by the SSC to guide the establishment of a new network of no-take areas that could achieve the objectives of RAP. These principles will guide reserve design processes in RAP. The SSC recognises that other processes in RAP will address the cultural, social and economic dimensions of the programme and that these may influence the degree to which the GBRMPA is able to achieve, in full, its recommendations. An independent Social, Economic and Cultural Steering Committee has developed operational principles for assessing social, economic, cultural impacts and management feasibility that complement the biophysical operational principles.

The biophysical operational principles outlined below were established by the SSC by taking into account:

- the level of uncertainty about the biodiversity of the GBR World Heritage Area;
- the fact there is already a basic level of protection across the GBR Marine Park; and
- other efforts to ensure protection of the GBR Marine Park by improvements in, for example, water quality and sustainable fishing.

Amount of protection required

The extent of protection required to ensure the ongoing conservation and protection of marine biodiversity is a subject of debate in the scientific literature. Amounts recommended in the literature generally fall in the range of 20 – 40% of the sea in no-take areas. The scientific arguments for setting aside substantial amounts of the marine environment as no-take areas include:

- **Risk minimisation** – protecting a large proportion and replicate examples of a marine area – in total 20% or more – will reduce risks of over-exploitation of harvested resources and consequent effects on the ecosystem, whilst leaving reasonable opportunity for existing activities to continue in the remaining areas;
- **Connectivity** – the life cycles of most marine organisms mean that offspring from one area often replenish populations in other areas (referred to as ‘connectivity’). As more areas are closed to extractive activities, the benefits to the whole system through such connectivity (both among reserves and between reserves and non-reserves) is expected to increase, thereby offering greater security for conservation;
- **Resilience against human and natural catastrophes** – for any one disturbance, much of the network of protected areas should remain intact so that affected areas can recover more quickly and completely through replenishment from other non-impacted no-take areas;
- **Harvested species** – the protection of 20 – 40% of any fished grounds in no-take areas offers some fisheries the opportunity for better management, and permits no-take areas to maintain more natural population levels of harvested species and, consequently, more natural communities as a whole; and

- **Maintenance of ecological services and goods** – in no-take areas, ecosystems can function in a more natural manner which contributes to maintenance of ecological processes. This leads to more sustainable delivery of ecological goods and services to both the environment and humans.

The SSC is aware of the literature on theoretical and empirical evidence for levels of protection. Their considerations have been supported by independent advice from other experts in coral reef and non-reef ecosystems, and experts with technical knowledge about the design of protected area networks.

The SSC recognises:

- national and international expectations associated with managing the world's largest coral reef ecosystem and the world's largest World Heritage Area in a developed country; and
- international experience and opinion advocating greater protection of the world's oceans.

The percentages presented in these recommendations have been developed using best available knowledge of the GBR World Heritage Area system and general principles of reserve design. Despite this, detailed knowledge about the distribution of many plants and animals in the area is limited and the SSC recognises that many species are yet to be discovered. The SSC considers that species-specific information is insufficient to determine exact amounts of protection required for the whole ecosystem and that all knowledge gathered to date indicates that the protection of biodiversity requires much more than protection of particular species and a much greater extent of protection than currently exists in the GBRMP.

The percentage figures presented in the biophysical operational principles were developed using all available information and local knowledge/experience of the GBR World Heritage Area and recognition that requirements vary with areas and habitats. The final percentage protection recommended per bioregion is the outcome of implementing all the principles below including principles 5 and 6 (which refer to each bioregion) and principles referring to specific levels of protection for different habitats, communities and special and unique areas. The SSC also was mindful of the need for a precautionary approach to the protection of the unique biophysical properties of the GBRMP when recommending minimum amounts for no-take areas.

The biophysical operational principles should be treated as a package to underpin the choice of what number, size and location of no-take areas to implement. If these principles are implemented in full, the SSC expects that around 25-30% of the GBRMP will be protected in Green Zones or no-take areas – in some locations more and others less so.²⁴ These biophysical operational principles refer to minimum amounts of protection. The SSC considers that to achieve the objectives of RAP the GBRMPA should protect at least these amounts in each bioregion and each habitat – none of these recommendations are for 'ideal' or 'desired' amounts. Ideal or desired amounts required for full protection are likely to be greater than indicated by the biophysical operational principles.

The SSC realizes that there are many different spatial configurations of no-take areas that would fulfil these biophysical operational principles and that the final location of no-take areas will be decided in consultation with Traditional Owners, users and other stakeholders.

The SSC considers that the biophysical operational principles are best estimates of the requirements to provide minimum protection through declaration of no-take areas (Green Zones), available literature and expert knowledge, and are based upon current knowledge of the system but may require review as new information becomes available.

24 More new no-take zones will be located over non-reef areas than reef areas because 21 per cent of reef area is already in no-take zones.

Biophysical operational principles recommended by the SSC

Principle	Explanation
1. Have no-take areas the minimum size of which is 20km along the smallest dimension (except for coastal bioregions, refer to Principle 6)	While no-take areas may be of various shapes and sizes, 20km should be the minimum distance across any no-take area in order to ensure that the size of each area is adequate to provide for the maintenance of populations of plants and animals within Green Zones and to insure against edge effects resulting from use of the surrounding areas.
2. Have larger (versus smaller) no-take areas	For the same amount of area to be protected, protect fewer, larger areas rather than more smaller areas, particularly to minimise 'edge effects' resulting from use of the surrounding areas. This principle must be implemented in conjunction with principle 3.
3. Have sufficient no-take areas to insure against negative impacts on some part of a bioregion	'Sufficient' refers to the amount and configuration of no-take areas and may be different for each bioregion depending on its characteristics. For most bioregions, 3-4 no-take areas are recommended to spread the risk against negative human impacts affecting all Green Zones within a bioregion. For some very small bioregions fewer areas are recommended, whilst for some very large or long bioregions, more no-take areas are recommended.
4. Where a reef is incorporated into no-take zones, the whole reef should be included	Reefs are relatively integral biological units with a high level of connectivity among habitats within them. Accordingly, reefs should not be subject to 'split zoning' so that parts of a reef are 'no-take' and other parts are not.
5. Represent a minimum amount of each reef bioregion in no-take areas	In each reef bioregion, protect at least 3 reefs with at least 20% of reef area and reef perimeter ²⁵ included in no-take areas. The number and distribution of no-take areas is described in principle 3.
6. Represent a minimum amount of each non-reef bioregion in no-take areas	In each non-reef bioregion, protect at least 20% of area. Two coastal bioregions, ²⁶ which contain finer scale patterns of diversity due to bays, adjacent terrestrial habitat and rivers require special provisions. The number and distribution of no-take areas is described in principle 3.
7. Represent cross-shelf and latitudinal diversity in the network of no-take areas	Many processes create latitudinal and longitudinal (cross-shelf) differences in habitats and communities within the GBR World Heritage Area. This diversity is reflected partly in the distribution of the bioregions, but care should be taken to choose no-take areas that include differences in community types and habitats that cover wide latitudinal or cross-shelf ranges (see principle 8).

continued over page

²⁵ These bioregions are excepted:

- Capricorn-Bunker Mid-Shelf Reefs (RCB2) – include one of the inner 2 and one of the outer 2 reefs. This exception exists because RCB2 has only 4 reefs;
- Deltaic Reefs (RA1) – minimum 25% and minimum 15 reefs in one continuous area. This exception exists because the bioregion is too small for multiple no-take areas;
- High Continental Island Reefs (RHC) – 20% of reef perimeter only. This exception exists because reef perimeter makes more biological sense for fringing reefs; and
- Central Open Lagoon Reefs (RF2) – 3 reefs. There are very few reefs in this bioregion.

²⁶ For coastal bioregions:

- Coastal Strip-Sand (NA1) – protect at least six no-take areas, each at least 10 km in length, spaced approximately every 70-100 km apart. (This bioregion is approx. 800 km long); and
- High Nutrient Coastal Strip (NA3) – at least eight no-take areas, each at least 10 km in length, spaced approximately every 70-100 km apart. (This bioregion is approximately 1400 km long).

Biophysical operational principles recommended by the SSC (continued)

Principle	Explanation
8. Represent a minimum amount of each community type and physical environment type in the overall network taking into account principle 7²⁷	This principle is to ensure that all known communities and habitats that exist within bioregions are included in the network of no-take areas. Communities and habitats were identified for protection in no-take areas based upon the reliability and comprehensiveness of available data. The requirements listed in Footnote 5 help implement this principle, which is intended to ensure that particularly important habitats are adequately represented in the network of no-take areas.
9. Maximise use of environmental information to determine the configuration of no-take areas to form viable networks	The network of areas should accommodate what is known about migration patterns, currents and connectivity among habitats. The spatial configurations required to accommodate these processes are not well known and expert review of candidate networks of areas will be required to implement this principle.
10. Include biophysically special/unique places	These places might not otherwise be included in the network but will help ensure the network is comprehensive and adequate to protect biodiversity and the known special or unique areas in the GBRMP. Aim to capture as many biophysically special or unique places as possible.
11. Include consideration of sea and adjacent land uses in determining no-take areas	Past and present uses may have influenced the integrity of the biological communities and the GBRMPA should consider these effects, where known, when choosing the location of no-take areas. For example, existing no-take areas and areas adjacent to terrestrial National Parks are likely to have greater biological integrity than areas that have been used heavily for resource exploitation.

27 Data and objectives to implement principle 8:

- Halimeda beds – ensure no-take areas represent 10% of known Halimeda beds;
- shallow water seagrass – ensure no-take areas represent 10% of shallow water seagrass habitat;
- deepwater seagrass – ensure no-take areas represent 10% of known deepwater seagrass habitat;
- algae – ensure no-take areas represent 10% of known algal habitat;
- epibenthos – ensure no-take areas represent different faunal classes (5% each of echinodermata, sponges, bryozoans, solitary corals, soft corals, foraminifera, brachyura);
- dugong – ensure no-take areas represent identified dugong habitat areas summing to about 50% of all high priority dugong habitat;
- cays – where cays exist within a bioregion, try to include at least two examples of them in potential no-take areas;
- reefs size - capture 5% of reef area in each of five reef-size classes;
- inter-reef channels - capture at least one inter-reef channel in bioregions where they exist;
- exposure - ensure the entire network captures 5% of reef and non-reef area in each of five wave exposure classes;
- islands – where islands exist within a bioregion try to include one example of them in no-take areas;
- oceanographic diversity in water quality – ensure representation of reefs within the 'natural' diversity of water quality (5% of reef and non-reef area in each of nine oceanographic 'bioregions'; 5% of reef and non-reef area in each of four flood frequency classes);
- adjacent coastal and estuarine habitats (including islands) – locate no-take areas adjacent to mangroves, wetlands and protected areas rather than adjacent to suburbs; and
- major turtle sites – ensure no-take areas include known major turtle nesting and foraging sites (100% of about 30 sites of the 115 identified – these include both nesting sites and foraging sites).

APPENDIX I

Selected scientific studies on the establishment of 'no-take' areas in Marine Protected Areas available at the time of the Representative Areas Programme

National Research Council 2000, *Marine Protected Areas: Tools for Sustaining Ocean Ecosystems*, Committee on Evaluation, Design and Monitoring of Marine Reserves and Protected Areas in the United States, Oceans Studies Board, National Research Council. 272. Available at <http://newton.nap.edu/books/0309072867/html/112.html>

Ballantine W.J. 1997, 'Design principles for systems of "no-take" marine reserves', *Workshop on the Design and Monitoring of Marine Reserves, February 18–20*, Fisheries Centre, University of British Columbia, Canada.

DeMartini E.E. 1993, 'Modelling the potential of fishery reserves for managing Pacific coral reef fishes', *Fishery Bulletin* 91: 414–427.

Foran T. and R.M. Fujita 1999, *Modelling the Biological Impact of a No-take Reserve Policy on Pacific Continental Slope Rockfish*, Environmental Defense Fund, Oakland, California.

Goodyear C.P. 1993, 'Spawning stock biomass per recruit in fisheries management: Foundation and current use', *Canadian Special Publications in Fisheries and Aquatic Science* 120: 67–81.

Guénette S., Pitcher T.J. and Walters C.J., 2000, 'The potential of marine reserves for the management of northern cod in Newfoundland', *Bulletin of Marine Science* 66(3): 831–852.

Guénette S. and Pitcher T.J., 1999, 'An age-structured model showing the benefits of marine reserves in controlling overexploitation', *Fisheries Research* 39: 295–303.

Lauck T.C., Clark C.W., Mangel M. and Munro G.R. 1998, 'Implementing the precautionary principle in fisheries management through marine reserves', *Ecological Applications* 8(1): S72–S78.

Mace P.M. 1994, 'Relationships between common biological reference points used as thresholds and targets of fisheries management strategies', *Canadian Journal of Fisheries and Aquatic Science* 51: 110–122.

Mace P.M. and Sissenwine M.P. 1993, 'How much spawning per recruit is enough?', *Canadian Special Publication of Fisheries and Aquatic Sciences* 120: 101–118.

Man A., Law R. and Polunin N.V.C. 1995, 'Role of marine reserves in recruitment to reef fisheries: A metapopulation model', *Biological Conservation* 71: 197–204.

Mangel M. 2000, 'Trade-offs between fish habitat and fishing mortality and the role of reserves', *Bulletin of Marine Science* 66(3): 663–674.

Soh S.K., Gunderson D.R. and Ito D.H. 1998, 'Closed areas to manage rockfishes in the Gulf of Alaska' 118–124 in M.M. Yoklavich (ed.), *Marine Harvest Refugia for West Coast Rockfish: A Workshop*, NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-255, U.S. Department of Commerce, Pacific Grove, California.

Sumaila U.R. 1998, 'Protected marine reserves as fisheries management tools: A bioeconomic analysis', *Fantoftevegen* 38: N-5036.

Roberts C.M. and Hawkins J.P. 2000, *Fully Protected Marine Reserves: A Guide*, WWF Endangered Seas Campaign, 1250 24th Street NW Washington DC 20037, USA.

Rohgarden J. 1998, 'How to manage fisheries', *Ecological Applications*, 8: S160–164.

- Pezzey J.C.V., Roberts C.M. and Urdal B.T. 2000, 'A simple bioeconomic model of a marine reserve', *Ecological Economics* 33: 77–91.
- Nowis J. S. and Roberts C. M 1997, 'You can have your fish and eat it too: theoretical approaches to marine reserve design', *Proceedings of the 8th International Coral Reef Symposium*, Panama 2: 1907–1910.
- Nowis, J. S. and Roberts C. M. 1999, 'Fisheries benefits and optimal design of marine reserves', *Fishery Bulletin* 97: 604–616.
- Holland D.S., Brazee & R.J 1996, 'Marine reserves for fisheries management', *Marine Resource Economics* 11: 157–171.
- Polacheck T. 1990, 'Year around closed areas as a management tool', *Natural Resource Modelling* 4: 327–354.
- Bostford L.W., Morgan L.E., Lockwood D.R. and Wilen J.E. 1999, *Marine Reserves and Management of the North Californian Red Sea Urchin Fishery*, California Co-operative Oceanic Fisheries Investigation Reports 40 :87–93.
- Roberts, C.M., Branch, G., Bustamante, R., Castillo, J.C., Dugan, J., Halpern, B., Laferty, K., Leslie, H., McArdle, D., Ruckelshaus, M. and Warner, R. 'Application of ecological criteria in selecting marine reserves and developing reserve networks', *Ecological Applications* 13(1) Supplement 2003 S215–S228.
- Turpie, J.K., Beckley, L.E. and Katua, S.M. 2000, 'Biogeography and the selection of priority areas for conservation of South African coastal fishes', *Biological Conservation* 92: 59–72.
- Bustamante, R., Martinez, H.P., Rivera, F., Bensted-Smith, R. and Vinueza, L. 1999, *A Proposal for the Initial Zoning of the Galapagos Marine Reserve*, Charles Darwin Research Station Technical Report, October 1999.
- Trexler, J. and Travis, J. In press. 'Can marine protected areas conserve stock attributes', *Bulletin of Marine Science*.

APPENDIX J

Economic, social, cultural and management feasibility operational principles for the Representative Areas Programme

As part of the zoning review to implement the Representative Areas Programme, two independent steering committees were formed to provide expert advice to the GBRMPA about the:

- biological and physical aspects of the Great Barrier Reef Region; and
- social, economic, cultural and management feasibility aspects of human use and values of the Marine Park.

The selection of new no-take areas will be guided by the operational principles developed by both these committees. These principles will help protect biodiversity whilst maximising beneficial and minimising detrimental impacts to local communities and stakeholders.

A summary of the social, economic, cultural and management feasibility operational principles developed by the Social, Economic and Cultural Steering Committee is given below. These will apply, as far as possible, to the Representative Areas Programme. Another technical information sheet is available detailing the biophysical operational principles.

Operational principles

Principle	Explanation
1. Maximise complementarity of no-take areas with human values, activities and opportunities	<p>This is achieved by placing Green Zones (or no-take areas) in locations that:</p> <ul style="list-style-type: none"> • have been identified through a consultative process that is participatory, balanced, open and transparent; • Traditional Owners have identified as important and in need of high levels of protection; • minimise conflict with Indigenous people’s aspirations for their sea country; • protect areas that the community identifies as special or unique, e.g. places of biological, cultural, aesthetic, historic, physical, social or scientific value; • minimise conflict with non-commercial extractive users such as recreational fishers; • minimise conflict with commercial extractive users; and • minimise conflict with all non-extractive users.
2. Ensure that final selection of no-take areas recognises social costs and benefits	<p>This will include recognition of the following:</p> <ul style="list-style-type: none"> • relative social costs and benefits, including community resilience; • spatial equity of opportunity within and between communities, including clan estates; • planned and approved future activities; and • consider requirements for monitoring the effectiveness of the zoning plans.

continued over page

Operational principles (continued)

Principle	Explanation
3. Maximise placement of no-take areas in locations which complement and include present and future management and tenure arrangements	These arrangements include the following: <ul style="list-style-type: none"> • existing or proposed zoning plans, management plans or other related management strategies for marine areas by federal, state or local government authorities; • existing or proposed tenure and management strategies for coastal areas (mainland and islands) in the region; and • Native Title claim areas and issues.
4. Maximise public understanding and acceptance of no-take areas, and facilitate enforcement of no-take areas	This is achieved by: <ul style="list-style-type: none"> • having Green Zones that are simple shapes; • having Green Zones with boundaries that are easily identified; and • having fewer and larger Green Zones rather than more and smaller Green Zones.

