BASIS FOR ZONING DECISIONS REPORT

Great Barrier Reef Marine Park

BASIS FOR ZONING DECISIONS REPORT

CONSULTATION DRAFT

June 2003

GREAT BARRIER REEF
MARINE PARK AUTHORITY
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Draft *Great Barrier Reef Marine Park Zoning Plan 2003*

BASIS FOR ZONING DECISIONS REPORT DRAFT

June 2003

Describing the issues, public comments and management responses for the proposed zoning

Further information

For further information on the Draft Zoning Plan, the Basis for Zoning document, and information papers on key issues, or to make a submission please refer to the Great Barrier Reef Marine Park Authority website www.gbrmpa.gov.au or contact one of the following offices:

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1 Summary

The *Great Barrier Reef Marine Park Act 1975* ('the Act') provides for the establishment, control, care and development of the Great Barrier Reef Marine Park ('the Marine Park'). The Act confers responsibility for the management of the Marine Park upon the Great Barrier Reef Marine Park Authority ('the GBRMPA').

The GBRMPA also plays a major role in the management of the Great Barrier Reef World Heritage Area ('the GBRWHA'), in accordance with the *Environment Protection and Biodiversity Conservation Act 1999*.

In managing the Marine Park and its responsibilities for the World Heritage Area, the GBRMPA also implements Federal Government policies arising from such international obligations as the:

- World Heritage Convention 1972;
- Convention on Conservation of Migratory Species of Wild Animals 1979; and
- Convention on Biological Diversity 1992.

Against this background, the Draft *Great Barrier Reef Marine Park Zoning Plan 2003* ('the Draft Zoning Plan') has been developed as the primary planning instrument for the conservation and management of the Marine Park, in accordance with Section 32(7) of the Act, for:

- the conservation of the Great Barrier Reef;
- the regulation of the wise use of the Marine Park so as to protect the Great Barrier Reef while allowing the reasonable use of the Great Barrier Reef Region;
- the regulation of activities that exploit the resources of the Great Barrier Reef Region so as to minimize the effect of those activities on the Great Barrier Reef;
- the reservation of some areas of the Great Barrier Reef for its appreciation and enjoyment by the public; and
- the preservation of some areas of the Great Barrier Reef in its natural state undisturbed by man except for the purposes of scientific research.

A notice of intent to prepare a Draft Zoning Plan for the Marine Park was issued on 7 May 2002 and the public was invited to provide written submissions to assist in developing a Draft Zoning Plan until 7 August 2002.

Analysis of the 10,190 submissions received by the GBRMPA during the first formal phase of community participation highlighted a number of major issues to be considered in the Draft Zoning Plan. These included:

- protection of natural and cultural values;
- maintenance of recreational fishing access;
- maintenance of commercial fishing access;

- tourism;
- indigenous values;
- shipping;
- defence;
- research;
- complementary zoning; and
- compliance, surveillance and enforcement.

The Draft Zoning Plan was developed after consideration of available natural resource, social, economic and cultural information, management issues and public input. It builds on the framework established by previous Zoning Plans for the Far Northern, Cairns, Central, Mackay/Capricorn and Gumoo Woojabuddee Sections to provide a single consistent Zoning Plan for the entire Marine Park. The Draft Zoning Plan also provides zoning for the 28 new coastal sections, which were included in the Marine Park between 2000 and 2001.

Many of the provisions of previous Zoning Plans have been updated in the Draft Zoning Plan. The Draft Zoning Plan also provides for the description of zone boundaries though a process of coordinate-based mapping. It is believed that in addition to the conservation benefits, these changes will provide for a simpler and more consistent basis for the management of activities within the Marine Park.

The Draft Zoning Plan was released on 2 June 2003 and is accompanied by a variety of background documentation, including this 'Basis for Zoning' document. The community and any interested persons are now invited to make comments on the Draft Zoning Plan in accordance with the Act. Submissions must be received by GBRMPA by the close of business on **Monday 4 August 2003**.

2 Introduction

This document details the basis of zoning decisions for the Marine Park.

Background information on the Draft Zoning Plan for the Marine Park is provided, together with a description of the proposals presented for public comment in the Draft Zoning Plan. An overview of the issues raised in submissions during the first formal phase of public input is included. This document also contains GBRMPA's responses to comments on the proposal to re-zone the Marine Park and explains how the specific matters have been addressed in the Draft Zoning Plan. **This document should be read in conjunction with the Draft Zoning Plan and associated Draft Zoning Maps.**

2.1 The Great Barrier Reef Marine Park

The Great Barrier Reef Marine Park comprises the world's largest system of coral reefs, together with inter-reefal lagoons, seagrasses, mangroves and waters up to 100-300 kilometres offshore, beyond the edge of the continental shelf. Stretching 2300km along Australia's north-eastern coast, from the tip of Cape York Peninsula, south to Rules Beach near Bundaberg, the Marine Park covers 345,400km^2.

Due to its national and international importance, the Great Barrier Reef is both a Marine Park and World Heritage Area. The Marine Park was created as a multiple use Marine Park by the Act, which provides for the establishment, control, care and development of the Great Barrier Reef. The Great Barrier Reef was also inscribed on the World Heritage List in October 1981 meeting all four natural World Heritage criteria. It is the largest World Heritage Area and is a unique area of outstanding universal value.

The Marine Park supports a high degree of biological diversity due to the variety of ecosystems present and the immense scale of the area. Contrary to its name, the Great Barrier Reef is not one long continuous reef, but a complex of about 2900 coral reefs, 900 islands and other associated and interconnected marine habitats. Diversity is high and includes approximately 1500 species of fish, 350 species of hard corals, over one-third of the world's soft coral and sea-pen species, 5000 mollusc species, six of the world's seven species of marine turtles and more than 30 species of marine mammals.

The Marine Park represents an important area for the conservation of many rare or threatened species. It provides important habitat and breeding areas for marine turtles, dugong, seabirds, humpbacks and other whales.

This extraordinary biodiversity and the interconnectedness of species and habitats makes the Great Barrier Reef and the surrounding areas one of the richest and most complex natural systems on earth. While coral reef, mangrove

and seagrass habitats occur elsewhere on the planet, no other World Heritage Area contains such biodiversity. As the world's largest coral reef ecosystem, it is also a critical global resource.

The reefs and the surrounding areas are also significant for Australia's Indigenous people, the Aboriginals and Torres Strait Islanders. It has provided the basis for sustenance and been of cultural significance for thousands of years. Since European settlement in the 19th Century, use of the north Queensland coast has grown and intensified to include commercial fishing, tourism, shipping, scientific research and recreational pursuits such as boating, fishing and diving. During this period there has also been significant urban and rural development of the mainland adjacent to the Marine Park.

The Great Barrier Reef today supports a major part of Australia's economy with an estimated economic worth of more than A$1 billion per annum. Tourism provides about A$650 million per annum; commercial fishing around A$150 million per annum and the large recreational fishing and recreational boating sector is worth about A$120 million per annum.

The Commonwealth and State Governments have a cooperative and integrated approach to management of the Marine Park built on an agreement signed in 1979. The GBRMPA is the Federal agency responsible for overall planning and management. Field-based, day-to-day management (DDM) of the Marine Park is jointly funded and conducted primarily by Queensland agencies within programs and guidelines approved by the GBRMPA. DDM activities, undertaken mainly by officers of the Queensland Parks and Wildlife Service (QPWS), include enforcement, surveillance, monitoring and education, as well as the management of adjacent Queensland Marine Parks and island National Parks.

Other Queensland and Commonwealth agencies also involved in DDM include the Queensland Boating and Fisheries Patrol, the Queensland Water Police, the Australian Customs Service (Coastwatch) and the Australian Maritime Safety Authority. The cooperative level of joint management that has now developed between the two levels of government for the Reef, and the complementary legislation for most adjoining State waters, has produced an effective management regime that assists all Reef users.

The Representative Areas Program implements a current policy of the Federal Government:

> 'During the next parliament, a Coalition government will … progress the representative areas process, ensuring that all habitat types in the Great Barrier Reef are adequately protected;…..' *('A Better Environment'*, Coalition Platform, October 2001)

Queensland Government documents also refer to RAP:

> 'The State Government will support the Great Barrier Reef Marine Park representative areas program to increase protection of biodiversity by increasing the number of habitats included in the no-take zones. It will develop and implement a strategy to protect marine biodiversity and threatened species generally including extending protection under the Nature Conservation Act.' *('Valuing the environment'*; State Budget 2001-02).

2.2 Statement of management intent

The Draft Zoning Plan is the primary planning instrument for the conservation and management of the Marine Park.

Subsection 32(7) of the Act provides that, in preparing a Zoning Plan, the GBRMPA must have regard to a number of objects including the conservation of the Great Barrier Reef, the regulation of the use of the Marine Park so as to protect the Great Barrier Reef, the reservation of some areas for appreciation and enjoyment by the public, and the preservation of some areas in the natural state.

The Draft Zoning Plan also takes into account the Great Barrier Reef World Heritage values and the principles of ecologically sustainable development. In conjunction with other management mechanisms, the Draft Zoning Plan aims to protect and conserve the biodiversity of the Great Barrier Reef ecosystem within a network of 'no-take zones', while providing opportunities for the ecologically sustainable use of, and access to, the Great Barrier Reef Marine Park by current and future generations.

In addition to protecting 'representative' examples of the entire range of habitats, the Draft Zoning Plan also provides for the protection of other areas of high conservation value by assigning protective zoning to other important habitats, breeding and spawning areas as well as other special or unique sites.

The Draft Zoning Plan expressly acknowledges the rights and interests of Indigenous Australians in the Marine Park by providing for the management of the traditional use of marine resources, including traditional hunting, in accordance with Aboriginal and Torres Strait Islander custom and tradition.

The contribution of scientific research to the management and understanding of the Marine Park is also acknowledged in the Draft Zoning Plan, which provides for the management of research in the Marine Park. This includes a system of Scientific Research Zones (SRZ) to facilitate research around scientific research stations.

2.3 Rezoning the Marine Park

2.3.1 Planning and management of the Marine Park

The Marine Park is a multiple-use park, where all reasonable uses are allowed. However, some locations within the Marine Park need to be set aside free from extractive activities (like a national park on land), while potentially conflicting activities (such as fishing and diving activities) need to be separated in other areas. To ensure all such areas are appropriately managed, the Marine Park has been divided into zones.

Zoning establishes the foundation for managing use while protecting the Marine Park. Accordingly, Zoning Plans apply to all users of the Marine Park. All other management tools complement Zoning Plans.

The Draft Zoning Plan divides the Marine Park into eight zones (Section 4.1.1) and sets out the purposes for which each zone may be used or entered, either:

- 'as of right' (without a permission); or
- with the written permission of the GBRMPA.

The Draft Zoning Plan also provides for the management of remote natural areas of the Marine Park, and the designation of shipping and special management areas that may be applied to address management objectives in particular areas, as well as additional purposes for which zones may be used or entered. Sections 7.4 (Designated Areas) and 8 (Zone Placement, examples and basis for zoning) provide detailed information on Designated Areas and the zone types, including examples of that zone found within the Draft Zoning Plan.

Zoning Plans are developed and reviewed in consultation with user and interest groups, Indigenous people, the scientific community and the general public.

2.3.2 Reviewing current Zoning Plans

There are currently five Zoning Plans in place within the Marine Park:

- Central Section (in operation since October 1987)
- Mackay/Capricorn Section (in operation since August 1988)
- Cairns Section (in operation since April 1992)
- Far Northern Section (in operation since April 2002)
- Gumoo Woojabuddee Section (in operation since December 2002)

Given that the current zoning plans have been progressively developed over the last 15 years, some of the terms, management provisions and zone names differ slightly between various Sections. This current rezoning process will see the development of a single Zoning Plan for the Marine Park and will remove inconsistencies between the five Sections.

The most fundamental aspect of the rezoning process is the implementation of the Representative Areas Program (RAP). RAP is being undertaken because the current zoning does not adequately protect the range of biodiversity now known to exist across the Great Barrier Reef Marine Park. The RAP aims to protect 'representative' examples of the entire range of habitats, plants and animals in the Marine Park while minimising impacts on existing uses. By ensuring the future of the Great Barrier Reef ecosystem, the GBRMPA seeks to maintain lifestyles, ensure economic prosperity and continue to allow equitable access to the natural resources of the Marine Park in perpetuity. RAP will protect the immense variety of biodiversity in the Marine Park for the benefit of all.

Section 3 (Guiding principles for RAP) provides additional information on the RAP.

2.3.3 The process for rezoning the Marine Park

The principle objectives of Zoning Plans and the process for development of the Draft Zoning Plan are set out in Sections 32 and 33 of the Act. The following diagram sets out the general process for development of the Draft Zoning Plan.

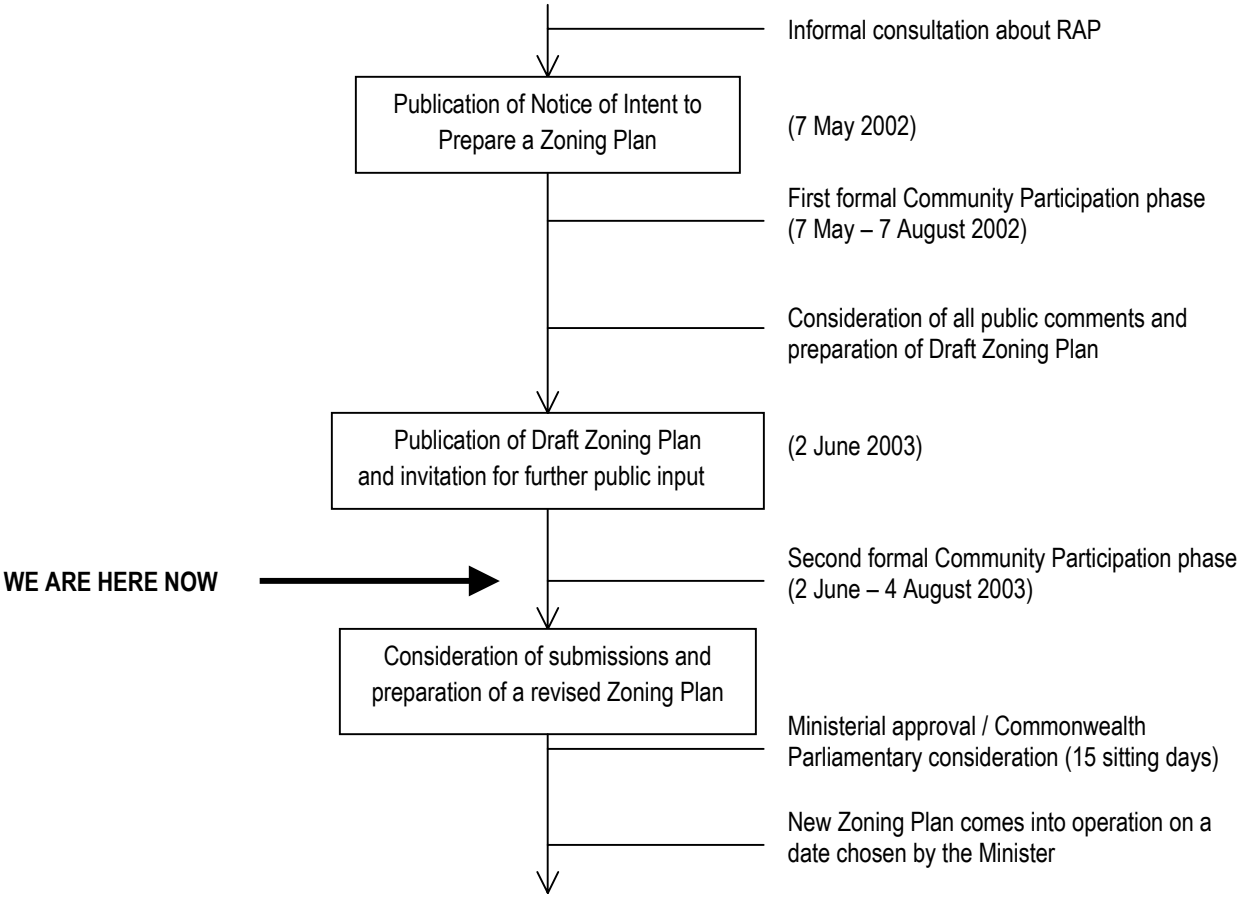


Figure 1: Zoning process

A notice of intent to prepare a Draft Zoning Plan was issued on 7 May 2002 and the public was invited to provide input until 7 August 2002. The original proposal covered the four main sections of the Marine Park (the Far Northern, Cairns, Central and Mackay/Capricorn Sections) and the 28 new coastal sections. The Gumoo Woojabuddee Section Zoning Plan had not been finalised as at May 2002 and a subsequent public notice was issued on 10 January 2003 to provide that the area of the Draft Zoning Plan would be extended to include the Gumoo Woojabuddee Section.

Over 10,000 submissions were received commenting on the proposal to develop a Draft Zoning Plan for the Marine Park. For more information, refer to Section 5 (Overview of submissions).

The GBRMPA released the Draft Zoning Plan on 2 June 2003 and the community is invited to provide written comments by the close of business on Monday 4 August 2003. Following consideration of submissions received in the second phase of community participation, the Draft Zoning Plan will be revised by the GBRMPA and submitted to the Minster for Environment and Heritage for tabling in both Houses of Federal Parliament.

2.3.4 Zoning the new coastal sections of the Marine Park

In January 1999, the Commonwealth Minister for Environment and Heritage announced that certain coastal areas previously excluded from the Marine Park would now be included. These areas were excluded when the Marine Park was first declared because of concerns about their potential for industrial or port developments. The addition of the 28 new coastal areas to the Marine Park has occurred in a staged process between August 2000 and July 2001. Some small areas of State waters around the major ports/urban centres remain excluded from the Great Barrier Reef Marine Park.

Under the Act, it is a statutory requirement that Zoning Plans be prepared for the new areas as soon as practicable after their proclamation as Sections of the Marine Park. This is being done in parallel with the implementation of the RAP. The zoning of these areas follows the same process described above in Figure 1 and will allow for multiple use of these areas. Section 8.9 (New Coastal Area Zoning) provides detailed information on proposed zoning for each of the new coastal areas.

Until a Zoning Plan is in operation, the new areas remain unzoned areas of the Marine Park. Under Section 38F of the Act, certain activities are prohibited in unzoned areas unless authorised by permission from the GBRMPA. Examples include:

- building or constructing major structures;
- carrying out works such as reclamation and beach protection; and
- demolition or removal of structures.

Recreational and commercial fishing activities, and general use of the Marine Park are permitted in unzoned areas.

Areas above the mean low water mark and intertidal waters of Queensland are **not** part of the Marine Park. However, they may be subject to existing Queensland Marine Parks zoning provisions and other State legislation.

2.3.5 Amalgamating the Sections of the Marine Park

Since the declaration of the first Section of the Marine Park in 1983, the Marine Park has been progressively increased to its present size by the addition of new Sections.

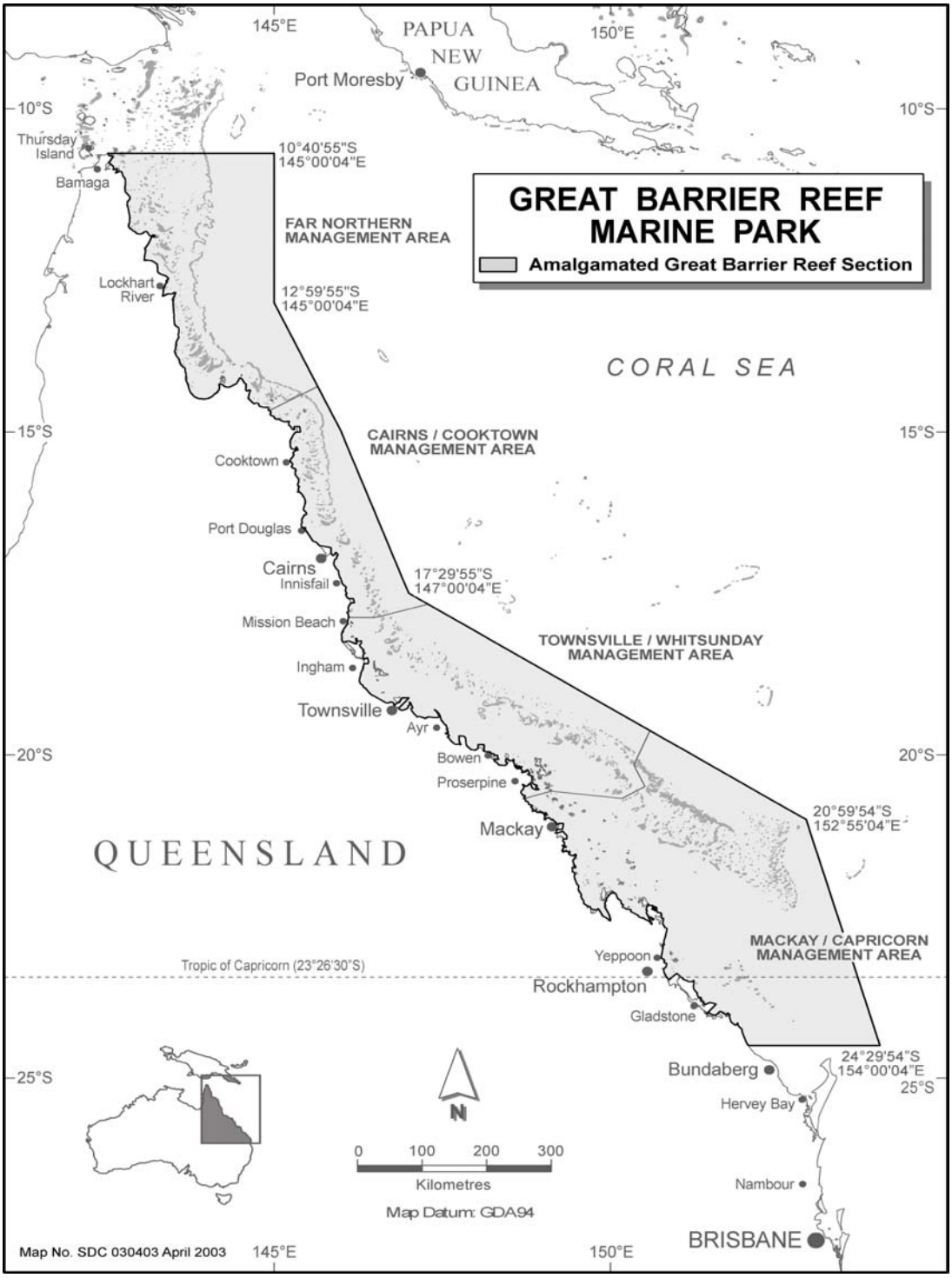
The Far Northern Section, the Cairns Section, the Central Section and the Mackay/Capricorn Section were declared between 1983 and 1987. In 1998, the Gumoo Woojabuddee Section was incorporated into the Marine Park, and as described above, a further 28 new coastal Sections were incorporated as recently as 2001.

The Draft Zoning Plan applies to all Sections. For clarity, and to facilitate coordinate based zoning, the Sections will be amalgamated to form the 'Amalgamated Great Barrier Reef Section' (the AGBR Section). For administrative purposes, the AGBR Section will be divided into four management areas:

- the Far Northern Management Area;
- the Cairns/Cooktown Management Area;
- the Townsville/Whitsundays Management Area; and
- the Mackay/Capricorn Management Area.

Although these areas have no legislative effect, they approximate the areas of the previous four main Sections and provide a basis for the regional management of the Marine Park. Further sub-areas or regions may also be identified for particular management purposes.

Map 1 shows the location and extent of the Amalgamated Great Barrier Reef Section and the four Management Areas



Map 1: Amalgamated Sections of the Marine Park and Management Areas

3 Guiding principles for the Representative Areas Program

The objective of the RAP is to increase the protection of biodiversity within the Marine Park through increasing the extent of Marine National Park Zones, (MNPZ), also called Green Zones or 'no-take' zones, to:

- maintain biological diversity of the 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.

To assist the RAP, two independent steering committees were formed to provide expert advice to the GBRMPA about the:

- biological and physical aspects of the Great Barrier Reef; and
- social, economic, cultural and management feasibility aspects of human use of the Marine Park.

A summary of the Biophysical Operational Principles and the Social, Economic, Cultural and Management Feasibility Operational Principles developed by the committees is given below (Sections 3.2 and 3.3). These principles were applied as far as practicable to the selection of new no-take areas and helped to protect biodiversity while maximising positive and minimising negative impacts on local communities and stakeholders.

3.1 Bioregions

These expert committees helped with the process whereby the biological and physical diversity of the GBRWHA was classified into 70 'bioregions' (30 reef bioregions and 40 non-reef bioregions). Bioregions have habitats, communities (e.g. areas of seagrass) and physical features (e.g. sediment type, depth) that are more similar within the bioregion than those occurring in other bioregions. The bioregions were developed with panels of experts, using the best available information. More than 40 layers of data were used, compiled from years of research.

Lists describing each bioregion are at Appendix 10.1 (Reef bioregions) and Appendix 10.2 (Non-reef bioregions) and a map of all bioregions is available on the web at
http://www.gbrmpa.gov.au/corp_site/key_issues/conservation/rep_areas/documents/bioregions_2001_06.pdf

3.2 Biophysical Operational Principles

The independent Scientific Steering Committee (SSC), comprising of scientists with expertise in the Great Barrier Reef Region, provided advice to the GBRMPA on scientific issues relevant to the selection of representative areas of biodiversity.

The following Biophysical Operational Principles (BOPs) were recommended by the SSC to guide the establishment of a new network of no-take areas that would achieve the objectives of the RAP. The following principles have been developed using best available knowledge of the Great Barrier Reef ecosystem and general principles of reserve design, and have been applied, as far as practicable, during the RAP and the rezoning process:

1. Have no-take areas the minimum size of which is 20km along the smallest dimension (except for coastal bioregions, refer to Principle 6);
2. Have larger (versus smaller) no-take areas;
3. Have sufficient no-take areas to insure against negative impacts on some part of a bioregion;
4. Where a reef is incorporated into no-take zones, the whole reef should be included;
5. Represent a minimum amount of each reef bioregion in no-take areas;
6. Represent a minimum amount of each non-reef bioregion in no-take areas;
7. Represent cross-shelf and latitudinal diversity in the network of no-take areas;
8. Represent a minimum amount of each community type and physical environment type in the overall network taking into account principle 7;
9. Maximise use of environmental information to determine the configuration of no-take areas to form viable networks;
10. Include biophysically special/unique places; and
11. Include consideration of sea and adjacent land uses in determining no-take areas.

(Refer to the Information Sheet *'Biophysical Operating Principles'* available on the GBRMPA website for more details)

The BOPs need to be treated as a package used to underpin the choice of what number, size and location of no-take areas to implement. They refer to recommended minimum levels of protection. The SSC considers that to achieve the objectives of the RAP the GBRMPA should protect at least these amounts in each bioregion and each habitat. None of these recommendations is for 'ideal' or 'desired' amounts.

Section 8.10 (Achievement of the Biophysical Operational Principles) outlines the extent to which the BOPs were achieved in the Draft Zoning Plan.

3.3 Social, Economic, Cultural and Management Feasibility Operational Principles

A summary of the Social, Economic, Cultural and Management Feasibility Operational Principles developed by the committee is given below. These principles have, as far as practicable, guided the rezoning processes.

1. Maximise complementarity of no-take areas with human values, activities and opportunities;
2. Ensure that final selection of no-take areas recognises social costs and benefits;
3. Maximise placement of no-take areas in locations which complement and include present and future management and tenure arrangements; and
4. Maximise public understanding and acceptance of no-take areas, and facilitate enforcement of no-take areas.

(refer to the Information Sheet '*Social, economic, cultural and management feasibility operational principles*' available on the GBRMPA website for more details)

3.4 Submissions

One of the main sources of information used in the placement of zones and in development of the Draft Zoning Plan was the information provided through the submissions from the first formal public consultation phase. A significant proportion of the submissions received during this phase included detailed site-specific information and important social and cultural attributes. Refer to Section 6 (Issues) for more details.

3.5 Known uses

Known uses of the Marine Park were important in guiding the placement of zones and the development of the Draft Zoning Plan. Data provided by agreement from Queensland Fisheries Service (QFS) on commercial fisheries data, and data on tourism and recreational use were also essential in placing the zones to minimise the impact on known Marine Park users.

Unlike farm paddocks, in which virtually all the available land area is cultivated, fishing effort is not uniformly undertaken across all available fishing grounds. Instead, fishers concentrate their fishing effort in specific areas where target species aggregate or are abundant. This would be analogous to the farmer repeatedly harvesting only part of a paddock and leaving the remainder largely untouched. This important aspect of fishing was considered in the placement of no-take zones.

4 Zoning

4.1 Reef-wide changes to zoning

The GBRMPA has reviewed the terms and provisions used in existing Zoning Plans. This has enabled:

- the introduction of a set of consistent zoning provisions and definitions through a single reef-wide Zoning Plan for the Marine Park;
- simplified zone boundaries by introducing a co-ordinate based system; and
- zoning developed for previously unzoned new coastal areas that have recently been included in the Marine Park.

4.1.1 Zones

The Marine Park is divided into a number of Zones each representing a different level of conservation, protection and resource use. Prior to the development of this Draft Zoning Plan, different Zoning Plans across the Marine Park had different names, objectives and use or entry provisions for each Zone. Table 1 details the names of the Zones in the various Zoning Plans and the names of the Zones used in the new Draft Zoning Plan.

Table 1: Zone name changes

Zoning Plan	**Draft Zoning Plan 2003**	**FNSZP 2002**	**GWSZP 2002**	**Cairns Section ZP 1992**	**Central Section ZP 1987**	**Mac/Cap Section ZP 1987**
Zone Name	**Preservation Zone**	Preservation Zone	Preservation Zone	Preservation Zone	Preservation Zone	Preservation Zone
	Marine National Park Zone	National Park Zone	National Park Zone	National Park Zone	Marine National Park 'B' Zone	Marine National Park 'B' Zone
	Buffer Zone	Buffer Zone	Absent	Buffer Zone	Absent	Absent
	Scientific Research Zone	Absent	Absent	Absent	Scientific Research Zone	Scientific Research Zone
	Conservation Park Zone	Conservation Park Zone	Conservation Park Zone	Conservation Park Zone	Marine National Park 'A' Zone	Marine National Park 'A' Zone
	Habitat Protection Zone	Habitat Protection Zone	Habitat Protection Zone	Habitat Protection Zone	General Use 'B' Zone	General Use 'B' Zone
	General Use Zone	General Use Zone	General Use Zone	General Use Zone	General Use 'A' Zone	General Use 'A' Zone
	Commonwealth Islands Zone	Commonwealth Islands Zone	Commonwealth Islands Zone	Absent	Absent	Absent

The Draft Zoning Plan sets out the purposes for which each zone may be used or entered without permission, and the purposes for which the zone may be used or entered only with the written permission of the GBRMPA. The General Use Zone (GUZ) provides for the widest range of activities, while the Preservation Zone (PZ) is the most restrictive. The Commonwealth Islands Zone provides for the use or entry of areas of the Marine Park above mean low water on Commonwealth Islands (the Marine Park does not include areas that form a part of Queensland).

The objectives of each of the eight Zones and the individual activities that are allowed to take place are summarised in Table 2 (Section 4.2) and Table 3 (Section 4.3).

4.1.2 Definitions

The various terms used in zoning and management are defined in existing Zoning Plans and associated Regulations. Several of these definitions differ between the various Zoning Plans and Regulations, or have become outdated with time. The GBRMPA has reviewed these definitions to make them consistent on a reef-wide basis. This will improve the clarity of the Zoning Plan for Marine Park users, stakeholders and managers.

4.1.3 Zone boundaries

The existing zone and Designated Area boundary descriptions can be confusing. They are primarily based on a specified distance from features such as the 'reef edge' that is difficult to locate, making it problematic to interpret when 'on the water'. This can create problems for both the public and enforcement officers. In response, the GBRMPA is introducing a coordinate-based system of zone boundaries. This will make zone boundaries simpler to determine and use on the water.

Wherever possible the coordinate-based approach will use points of latitude and longitude (referenced to the Geocentric Datum of Australia 1994) to define boundaries. This will allow them to be identified using modern navigational aids such as Global Positioning Systems (GPS) and plotters. As far as possible, inshore zoning boundaries will also still continue to be aligned with recognisable coastal features.

The Schedule to the Draft Zoning Plan contains the boundaries for the zones and other areas described in the Draft Zoning Plan. Each zone has a unique identifier (for example, GU-10-669 or MNP-20-119). This identifier is used in the Schedule to allow specified zones to be identified easily on zoning maps.

The GBRMPA will produce a variety of publications such as zoning maps and specific guides to assist the public to understand the Zoning Plan. While every effort will be made to ensure their accuracy, these products are not a substitute

for the boundary descriptions provided in the Schedule to the Draft Zoning Plan.

4.2 Zone objectives

A brief summary of the management intent for each zone type used in the Draft Zoning Plan is provided in Table 2 below.

Table 2. Zone Objectives

Zone Name	General Use Zone	Habitat Protection Zone	Conservation Park Zone	Buffer Zone	Scientific Research Zone	Marine National Park Zone	Preservation Zone	Commonwealth Islands Zone
Zone colour	**Light Blue**	**Dark Blue**	**Yellow**	**Olive Green**	**Orange**	**Green**	**Pink**	**White**
Zone Objectives	The objective of this Zoning Plan for the General Use Zone is to provide for the conservation of areas of the Marine Park, while providing opportunities for reasonable use.	The objectives of this Zoning Plan for the Habitat Protection Zone are: (a) to provide for the conservation of areas of the Marine Park, while providing opportunities for reasonable use; and (b) to provide for the protection and management of sensitive habitats generally free from potentially damaging activities.	The objectives of this Zoning Plan for the Conservation Park Zone are: (a) to provide for the conservation of areas of the Marine Park in a relatively natural state, while providing opportunities for limited extractive use; and (b) to provide opportunities for certain activities to be undertaken in areas where other use is limited.	The objectives of this Zoning Plan for the Buffer Zone are: (a) to provide for the conservation of areas of the Marine Park in a natural state, generally free from extractive activities, while providing opportunities for trolling for pelagic species; and (b) to provide opportunities for certain activities to be undertaken in relatively undisturbed areas.	The objectives of this Zoning Plan for the Scientific Research Zone are: (a) to provide for the conservation of areas of the Marine Park in a natural state, generally free from extractive activities and (b) to provide opportunities for scientific research to be undertaken in relatively undisturbed areas.	The objectives of this Zoning Plan for the Marine National Park Zone are: (a) to provide for the conservation of areas of the Marine Park in a natural state, generally free from extractive activities; and (b) to provide opportunities for certain activities to be undertaken in relatively undisturbed areas.	The objective of this Zoning Plan for the Preservation Zone is to provide for the preservation of areas of the Marine Park in a natural state, generally undisturbed by human activities.	The objectives of this Zoning Plan for the Commonwealth Islands Zone are: (a) to provide for the conservation of areas of the Marine Park above low water mark in a natural state; and (b) to provide for use of the zone by the Commonwealth; (c) to provide opportunities for certain activities to be undertaken in relatively undisturbed areas; and (d) to provide for existing facilities and uses in the Zone.
	NOTES: 1. Specific activities that may be undertaken in each Zone either 'as of right' or with the permission of the GBRMPA are specified in the Use and Entry Provisions for each Zone.							

4.3 Activities allowed in zones

A short summary of the purposes for which the Zone may be used or entered either without permission, or with the written permission of the GBRMPA, is provided below. The Draft Zoning Plan provides full details of use and entry provisions.

Table 3. Activities allowed in Zones

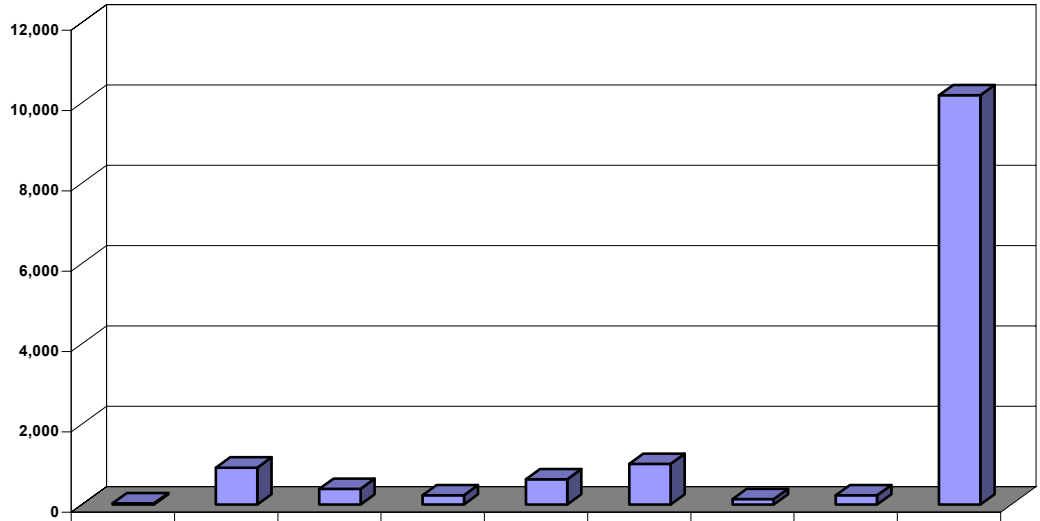
Activities	General Use Zone (light blue)	Habitat Protection Zone (dark blue)	Conservation Park Zone (yellow)	Buffer Zone (olive green)	Scientific Research Zone (orange)	Marine National Park Zone (green)	Preservation Zone (pink)
Aquaculture	Permit	Permit[1]	No	No	No	No	No
Bait netting	Yes	Yes	Yes	No	No	No	No
Boating, diving, photography	Yes	Yes	Yes	Yes	Yes[2]	Yes	No
Collecting	Permit	Permit	No	No	No	No	No
Commercial netting	Yes	Yes	No	No	No	No	No
Crabbing	Yes	Yes	Limited[3]	No	No	No	No
Harvest fisheries (eg. bêche-de-mer, tropical rock lobster, aquarium fish)	Permit[4]	Permit[4]	No	No	No	No	No
Limited collecting (includes bait and oyster gathering)	Yes	Yes	Yes	No	No	No	No
Limited impact research	Yes	Yes	Yes	Yes[5]	Yes	Yes[5]	Permit
Limited spearfishing (snorkel only)	Yes	Yes	Yes	No	No	No	No
Line fishing[6]	Yes	Yes	Limited[7]	No	No	No	No
Research	Permit	Permit	Permit	Permit	Permit	Permit	Permit
Shipping (other than shipping area)	Yes	No	No	No	No	No	No
Tourist Program	Permit	Permit	Permit	Permit	Permit	Permit	No
Trawling	Yes	No	No	No	No	No	No
Traditional use of marine resources[8]	Yes/Agreement or permit	Yes/Agreement or permit	Yes/Agreement or permit	Yes/Agreement or permit	Yes/Agreement or permit	Yes/Agreement or permit	No
Trolling (for pelagic species)	Yes	Yes	Yes[7]	Yes	No	No	No

[1] Aquaculture operations which do not include the addition of feed.
[2] Scientific Research Zones at One Tree Island and the Australian Institute of Marine Science have public access restrictions.
[3] No more than 4 catch devices per person.
[4] Accredited harvest fisheries may be conducted 'as of right' in the Zone.
[5] Permit required if research is extractive.
[6] Maximum of 3 lines/rods per person with a combined total of 6 hooks/lures.
[7] Limited to 1 line/rod per person and 1 hook/lure per line.
[8] Traditional use does not include activities that are otherwise as of right within each Zone (eg. Limited collecting, line fishing, crabbing, etc.). A permit is required for traditional use if the activity not as of right in the Zone, or involves hunting, unless it is conducted under a Traditional Use of Marine Resources agreement accredited by the GBRMP.

5 Overview of submissions and other sources of information

5.1 Comparison between previous and current zoning processes

The number of submissions received during the first phase of community participation for the RAP rezoning process is the most received in the history of the Marine Park. The graph in Figure 2 illustrates the total number of submissions received for various zoning processes conducted by the GBRMPA since 1977, compared to the first formal phase of community participation for the RAP rezoning in 2002.



	Cap / Bunker 1977	Central 1983	Cairns 1983	Far Northern 1986	Mackay/ Cap 1988	Cairns 1992	Gumoo 1998	Far Northern 2001	RAP 2002
No. of submissions	29	920	391	233	626	1,009	138	233	10,190

Figure 2: Submissions received for various GBRMPA zoning processes.
(Note: except for the RAP 2002 figure, the number of submissions shown above is the total number of submissions received during both phases of community participation. The RAP 2002 figure represents only the first phase of community participation).

5.2 Community participation process

The first formal phase of community participation for the RAP rezoning process occurred between 7 May 2002 and 7 August 2002.

The process was designed to elicit information from the community to assist with the preparation of the Draft Zoning Plan. The GBRMPA implemented a communication strategy to promote awareness, understanding and to share with the community the issues regarding impacts on the Marine Park, to explain the rezoning process and its benefits, and to encourage broad community involvement.

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The GBRMPA undertook an extensive public communication program including the following:

- 200 formal meetings
- Face-to-face engagement with approximately 6 000 people;
- 1 500 community service announcements on regional television;
- 33 000 submission brochures distributed;
- 38 000 hits on the RAP web site;
- 4 000 phone calls to the free-call number;
- 100 newspaper articles;
- 60 radio spots and 10 television spots; and
- 70 newspaper advertisements.

5.3 Submission analysis

There are important constraints on the way in which information presented in the 10 190 submissions received by the GBRMPA should be used and interpreted.

Firstly, the submissions are not those from a representative sample population drawn from either geographical communities or communities of interest in the Marine Park. Accordingly, the information in each submission was analysed rather than simply recording the number of times a comment was submitted.

Moreover, a planning process such as the RAP can generate varying levels of interest in the community, prompting a large number of responses from some quarters, but nothing from others. This can be due to a range of factors, such as a lack of understanding, interest or information about the issue, limited resources to respond or an assumption by some parties that they will not be affected by the proposed changes.

Any summary of the content of such a large number of submissions such as this cannot fully convey the depth of information presented in many individual submissions.

Submissions were received from individuals and organisations representing:

- sectoral interest groups;
- community groups;
- business community;
- non-government organisations;
- Indigenous organisation;
- agencies from all three levels of government; and
- Federal and State Members of Parliament.

Fifty-five percent of the 10 190 submissions came from Great Barrier Reef coastal communities. Figure 3 summarises the number of submissions from each region. The majority of submissions came from individuals or groups who identified conservation or recreational fishing as their primary interests in the Marine Park.

Although the number of submissions received from sectors such as commercial fishing or Indigenous interests were lower than other sectors, the content of the submissions was considered rather than the number of times a particular view was expressed.

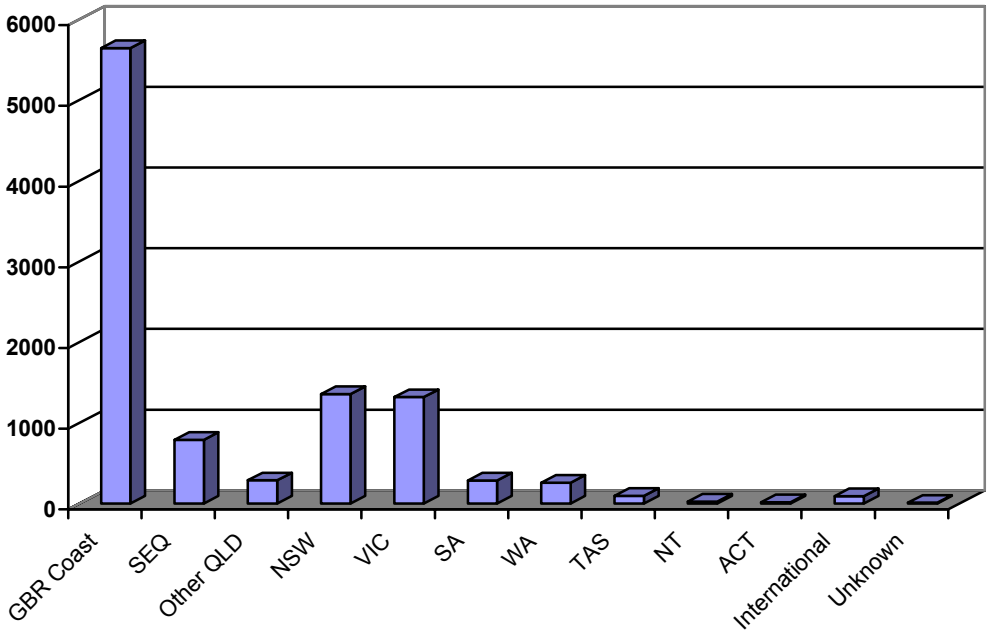

Figure 3: Number of submissions received by geographical region

5.3.1 Method of analysis

The submissions were analysed for subject-based information and spatial content. The former were conducted using a thematic content analysis method. It was considered the most effective method for organising and analysing the large volume of information presented.

A system of coding the content of the submissions was developed. From this, seven key themes with linked sub-themes were identified. The content of each submission was coded against the following themes:

- *Maintain Take Access* - comments about maintaining access to locations in the Marine Park where people want to be able to undertake extractive activities or related to issues about people being able to continue accessing an area for research or particular types of tourism activities.
- *Protection* - comments about either protecting various natural values in the Marine Park or action that might be taken to protect the natural values of the Marine Park.
- *Consequences* - comments about consequences (positive and negative) to individuals, communities or the Marine Park due to the introduction of increased MNPZs.

- *Alternatives* - alternatives to MNPZs and other options that might be taken to achieve protection of biodiversity.
- *Communication* - comments related to communication process and information products.
- *Enforcement* - enforcement related issues raised in the submissions.
- *Other Issues* - issues raised in the submissions that are not directly related to the RAP objectives but are of relevance to Marine Park management and planning.

An Oracle database with an Access interface was specifically developed to facilitate and manage the analysis of the submissions. Procedures for handling and processing submissions, including data entry standards for maps, were also devised.

The database enabled GBRMPA to answer a wide range of questions, including identification of specific issues, comments from individual sectors groups or submissions from particular geographic locations.

Spatial analysis was conducted manually, by use of Geographic Information Systems, and with cross-referencing to the thematic analysis described above. Maps with information were coded for spatial references and these were used to design a Draft Zoning Plan that best reflected people's uses and values.

5.4 Other sources of information

The GBRMPA gathered a wide range of additional information and data to develop the Draft Zoning Plan. These included:

- areas used, and intensity of:
  - commercial trawling
  - commercial net fishing
  - commercial harvest fishing
  - commercial reef line fishing
  - commercial crab fishing
  - charter boat fishing
- recreational fishing (Suntag data);
- recreational logbooks and diaries;
- interview data on use and values;
- questionnaire data on use and special/unique areas;
- existing Marine Park zoning;
- permits;
- State closures within the Great Barrier Reef Marine Park;
- State Zoning (degree of protection) of adjacent stateside land and waters;
- boat ramps;
- moorings and anchorages;
- Native Title claims;
- National Estate database;
- Aboriginal and Torres Strait Islander Heritage Places database;
- Historic Heritage Places database;
- historic shipwrecks;
- recreational/tourism use;

- tourism settings—Cairns Area and Whitsundays Plans of Management
- shell collecting areas; and
- Coastwatch aerial surveillance data.

6 Issues

6.1 Conservation and biodiversity protection

6.1.1 Summary of submissions

The submissions received from the conservation sector accounted for 37 percent of all submissions received, with 80 percent of these coming from coastal communities adjacent to the Marine Park.

In summary, the major issues raised by submissions from the conservation sector included:

- support for the increase in the number and size of MNPZs and that MNPZs be large and inter-connected;
- calls for MNPZs to be increased to cover greater than 25% of the Marine Park;
- site specific information for consideration in the development of the Draft Zoning Plan;
- information about the need to protect a range of species (for example, dugong and turtle habitats), natural processes, as well as protection of the World Heritage values;
- the need to protect cultural heritage values;
- support for Indigenous co-management and recognition of Native Title;
- concern about the level of impact from commercial fishing activities; and
- other issues raised included the need for the GBRMPA to address land based impacts and a range of other threats (for example, marine pollution and shipping impacts).

6.1.2 Responses and outcomes

In conjunction with other management mechanisms, the Draft Zoning Plan aims to protect and conserve the biodiversity of the Great Barrier Reef ecosystem within a network of no-take zones. In addition to protecting 'representative' examples of the entire range of habitats in the Great Barrier Reef, the Draft Zoning Plan also provides for the protection of other areas of high conservation value by assigning protective zoning to other important habitats, significant breeding and spawning sites as well as special or unique sites.

Details of protective zoning applied to the Marine Park are provided in Section 8 (Zone Placement, examples and basis for zoning). Details of proposed changes to zoning provisions for increased protection of biodiversity in the Marine Park are provided in Section 7.3 (Biodiversity conservation).

6.2 Recreational fishing

6.2.1 Summary of submissions

Thirty-six percent of all submissions were from people who identified themselves as being part of the recreational fishing sector. This sector accounted for the majority of submissions from communities adjacent to the Marine Park.

In summary, the major issues affecting recreational fishing included:

- the need to maintain access for recreational fishing, particularly in coastal waters, from beaches, estuaries and river systems;
- fishing locations and information on fish behaviour in the local areas;
- a range of alternatives to MNPZs including more Conservation Park Zones (CPZ), increased use of bag limits and consideration that any MNPZs be located away from the coast;
- of those submissions that raised the issue of protection, many focused on making recommendations that various types of commercial fishing be banned or reduced;
- of those submissions that raised the issue of consequences to communities (due to loss of opportunity to undertake recreational fishing), most focussed on negative economic impact and negative impacts to lifestyle and family values;
- the need to address land based impacts; and
- other issues raised included claims that the scientific information the GBRMPA is using is wrong or incomplete.

6.2.2 Responses and outcomes

No-take areas can protect important fish breeding and nursery areas such as seagrass beds, mangrove communities, deepwater shoals and reefs. Scientific research in the Great Barrier Reef and elsewhere shows the benefits for many species when eggs, larvae and young fish develop unhindered in protected areas. As the size of fish increase within no-take areas, bigger fish produce more offspring. Surplus adult fish, and their offspring, are not confined to the no-take areas and can move into adjoining areas, effectively creating a 'spill-over' effect that helps replenish fish stocks in areas where fishing is allowed. The effect of no-take areas on increasing fish stocks has been likened to a retirement savings plan, with the accumulated interest on natural capital paying valuable and sustainable dividends and hence future benefits in the long term.

The GBRMPA is proposing to update/standardise use and entry provisions and definitions for recreational fishing activities in the Marine Park. Recreational fishers will benefit from the proposed changes to the Draft Zoning Plan through:

- a Zoning Plan that is standardised reef-wide, contains clearer definitions, and is easier to understand and comply with;
- greater consistency with Queensland fisheries legislation to reduce uncertainty;
- greater protection for fish species, especially those of conservation concern;
- maintenance of fisheries resources for current and future generations;

- equitable access to the CPZ for all limited extractive activities;
- implementation of coordinate-based zone boundaries;
- greater protection of natural resource and amenity values; and
- improved enforcement of fishing provisions.

Details of protective zoning applied to areas of the Marine Park are provided in Section 8 (Zone Placement, examples and basis for zoning). Details of proposed changes to zoning provisions can be found in Section 7.1 (Recreational fishing activities).

6.3 Commercial fishing

6.3.1 Summary of submissions

Submissions from the commercial fishing sector accounted for three percent of all submissions received. The majority originated from coastal communities adjacent to the Marine Park.

In summary, the major issues of concern to the commercial fishing sector included:

- the need to maintain access for commercial fishing activities particularly in the coastal region;
- provision for fishing gear to be stowed and secure to ensure anchorage access in MNPZs;
- recommendations that the rezoning should align with the Queensland's *Fisheries (East Coast Trawl) Management Plan 1999* and other negotiated fisheries management agreements;
- information about areas used and comments relating to all types of fisheries in the Marine Park (including crab, line, trawl, net and dive-based fisheries);
- concern that the introduction of MNPZs would have negative economic impact and a negative impact on the income and jobs of individuals;
- comments about the contribution the commercial fishing industry makes to Queenland's economy at a local and State level; and
- concern that increased MNPZs would result in more pressure on the system due to displaced effort from both commercial and recreational fishing.

6.3.2 Responses and outcomes

World-wide there is increasing evidence that historical fisheries management practices are struggling to achieve ecological sustainable fisheries, with fishing effort increasing and fish stocks declining and in some instances collapsing. Today, with increasing effort and new technologies there are even greater pressures on fish stocks. In the Great Barrier Reef Marine Park and World Heritage Area it is essential that all fisheries are ecologically sustainable.

There is an increasing awareness world-wide that the best way to ensure ecological sustainability of fisheries is to set aside areas to act as a hedge against fishery management failure and serve as reservoirs and allow for the 'spill-over' and recruitment effects outlined in Section 6.2.2. Therefore, the benefits of no-take areas

for commercial fishing are substantial and the same as those outlined above for recreational fishers (Section 6.2.2).

GBRMPA is proposing to update/standardise use and entry provisions and definitions for commercial fishing activities in the Marine Park. Commercial fishers will benefit from the proposed changes to the Draft Zoning Plan through:

- consistent reef-wide definitions and use and entry provisions for all commercial fishing activities;
- greater consistency with Queensland fisheries legislation;
- specific provisions for most commercial harvest fisheries to enable their conduct in relevant zones without a permit if undertaken in accordance with accredited management arrangements;
- implementation of coordinate-based zone boundaries;
- greater protection of fish species, especially those of conservation concern;
- maintenance of fisheries resources for current and future generations; and
- clarification of requirements to stow or secure fishing gear in MNPZ.

Details of protective zoning applied to areas of the Marine Park are provided in Section 8 (Zone Placement, examples and basis for zoning). Details of proposed changes to zoning provisions can be found in Section 7.2 (Commercial fishing activities).

6.4 Tourism

6.4.1 Summary of submissions

Submissions from the tourism industry accounted for just over one percent of those received. Analysis of these submissions revealed a distinction between those that supported an increase in MNPZs for non-extractive tourism and those that advocated no increase in MNPZs due to the need to maintain opportunity for tourism based on fishing.

In summary, the major issues raised by submissions from the tourism sector included:

- calls for consideration of the economic impact on smaller communities if opportunities for fishing based activities are denied due to increased MNPZs;
- the need to protect species, habitats and sites of commercial tourism value such as the Ribbon Reefs;
- the need to protect the World Heritage values of the Marine Park;
- calls that commercial fishing should be reduced or in some areas removed completely; and
- the need for GBRMPA to address land based impacts, anchor damage and mooring allocation.

6.4.2 Responses and outcomes

Tourism is the largest commercial activity in the Great Barrier Reef Marine Park, attracting approximately 1.8 million visitors each year (excluding ferry passengers).

Consequently, the marine tourism industry is a major contributor to the local and Australian economies.

No-take areas in the marine environment can hold the same attraction for tourists as national parks do for visitors on land. Because many no-take areas contain special and unique natural features, they often become popular for tourism and recreational activities such as snorkelling and diving (mainly at reefs or around islands). The fact that they are highly protected can become a distinct marketing advantage in attracting visitors to an area. Tourism can therefore benefit greatly from no-take areas and help bring prosperity to an area.

The Draft Zoning Plan aims, in conjunction with other management mechanisms, to protect and conserve the biodiversity of the Great Barrier Reef ecosystem, while maintaining appropriate uses, such as tourism, in the Marine Park. Details of protective zoning applied to areas of the Marine Park are provided in Section 8 (Zone Placement, examples and basis for zoning). Details of proposed changes to zoning provisions can be found in Sections 7.1 (Recreational fishing activities), 7.4 (Designated Areas), 7.6 (Cruise Ship Anchorage Areas) and 7.9 (Remote Natural Area and No Structure Subzone).

6.5 Recreational usage sector submissions

6.5.1 Summary of submissions

This sector represented those categories of users undertaking non-extractive recreational activities, other than those who go fishing. These included swimming and snorkelling, SCUBA diving, recreational boating and sailing and motorised water sports. These submissions accounted for approximately five percent those submissions received. Most were from people living in coastal communities adjacent to the Marine Park.

In summary, the major issues raised by submissions from the non-fishing recreational use sector included:

- although this sector is classified as non-extractive recreational usage, a number of submissions presented information and views in support of maintaining access for recreational fishing;
- calls for the inclusion of spearfishing in CPZ;
- the need to protect biodiversity, World Heritage values and particular habitats;
- concern about the level of commercial fishing and damage done to the Marine Park ecosystem by certain types of commercial fishing;
- support for MNPZs due to the perceived increase in fish stocks and the benefits to tourism;
- concern over possible lifestyle impacts if opportunities for recreational fishing access was reduced; and

- other issues raised included the need for GBRMPA to address marine pollution, coral bleaching, shipping and anchor damage.

6.5.2 Responses and outcomes

The Draft Zoning Plan aims to protect and conserve the biodiversity of the Great Barrier Reef ecosystem within a network of no-take zones, while maintaining non-extractive recreational use of the Marine Park. Details of protective zoning applied to areas of the Marine Park are provided in Section 8 (Zone Placement, examples and basis for zoning). Details of proposed changes to zoning provisions can be found in Sections 7.1 (Recreational fishing activities), 7.2 (Commercial fishing activities) and 7.9 (Remote Natural Area and No Structure Subzone).

6.6 Indigenous issues

6.6.1 Summary of submissions

Few submissions were received from individuals presenting Indigenous viewpoints. However, some were received from a number of Indigenous representative organisations.

In summary, the major issues raised by submissions presenting Indigenous viewpoints included:

- the need to maintain opportunities for traditional hunting and fishing in addition to opportunities for recreational fishing;
- the need to protect cultural heritage values, World Heritage values and particular species and habitats within the Marine Park;
- calls for the reduction or banning of some forms of commercial fishing;
- concern that the introduction of increased MNPZs will have a negative impact on peoples' lifestyles;
- concern about the possible negative economic impacts due to loss of opportunities for tourism based upon fishing;
- issues of Native Title and co-management; and
- concern about impacts from shipping, land based impacts, motorised water sports and coral bleaching.

6.6.2 Responses and outcomes

The Draft Zoning Plan expressly acknowledges the rights and interests of Indigenous Australians in the Marine Park by providing for the management of the traditional use of marine resources, including traditional hunting, in accordance with Aboriginal and Torres Strait Islander custom and tradition.

Details of protective zoning applied to areas of the Marine Park are provided in Section 8 (Zone Placement, examples and basis for zoning). Details of proposed changes to zoning provisions can be found in Section 7.8 (Traditional Use of Marine Resources).

6.7 GBR coastal community residents

6.7.1 Summary of submissions

Submissions from this sector accounted for four percent of those received. Many were from local community organisations or individuals expressing concern about the potential impacts of increased MNPZs.

In summary, the major issues raised by submissions from those who primarily identified as residents in coastal communities adjacent to the Marine Park included:

- the need to maintain access for recreational fishing;
- the need to maintain access to beaches and waters adjacent to urban settled areas;
- protecting the reef by reducing or banning some types of commercial fishing;
- a range of alternatives to MNPZs such as introducing CPZs and making better use of fisheries regulations (including bag limits and size restrictions);
- the possible lifestyle, family and economic impacts of increased MNPZs; and
- other issues raised included the need for GBRMPA to address land based, commercial shipping and tourism activity impacts.

6.7.2 Responses and outcomes

The GBRMPA is proposing to update and standardise use and entry provisions and definitions for all activities in the Marine Park. Coastal communities will benefit from the proposed changes to the Draft Zoning Plan (refer to Section 6.2 (Recreational fishing activities)).

Details of protective zoning applied to areas of the Marine Park are provided in Section 8 (Zone Placement, examples and basis for zoning). Details of proposed changes to zoning provisions can be found in Section 7 (Proposed management changes).

6.8 Research and monitoring

6.8.1 Summary of submissions

Submissions from the research sector represented less than one percent of those received. Many originated from scientists with research interests in the Marine Park, research organisations, organisations representing scientists (for example, the Australian Coral Reef Society, Australian Marine Science Association and universities).

In summary, the major issues raised by submissions from the research sector included:

- statements supporting an increase in MNPZs and for the intent of the RAP;
- site specific information to support claims for the inclusion of areas in MNPZs;
- the need to maintain opportunities for extractive research to occur in SRZs and around research stations and other areas within the Marine Park;

- issues for the management of research and recommendations for zoning to include provision for various types of research; and
- the need for GBRMPA to address land based impacts.

6.8.2 Responses and outcomes

The GBRMPA supports research in the Marine Park and recognises the important role that research has played, and continues to play, in providing a scientific basis for management and contributing to our understanding of the Marine Park. As a management agency, the GBRMPA, has chosen to obtain research primarily from external agencies, consultants and institutions. This includes all fields of study that are relevant to the Marine Park, including biological, physical, social, cultural and economic research.

The Draft Zoning Plan proposes a number of measures to ensure a consistent, reef-wide approach to providing for research in the Marine Park. Details of protective zoning applied to areas of the Marine Park are provided in Section 8 (Zone Placement, examples and basis for zoning). Details of proposed changes to zoning provisions can be found in Section 7.7 (Scientific research).

6.9 Compliance, surveillance and enforcement

6.9.1 Summary of submissions

A number of submissions received raised compliance, surveillance and enforcement issues, these included:

- MNPZs will not be effective if there is no enforcement;
- The need to
    - improve enforcement capacity;
    - increase fines and penalties;
    - increase funds for enforcement; and
    - seize fishing equipment as a penalty.

6.9.2 Responses and outcomes

The GBRMPA acknowledges that the Draft Zoning Plan will not achieve successful outcomes for the Reef and its users without effective compliance. The Commonwealth Government has greatly strengthened the Great Barrier Reef Enforcement Program through the allocation of an additional $3.4 million dollars over the past 4 years. This means:

- patrols have been increased;
- greater use of intelligence gathering and analysis has enabled strategic and tactical planning of operations to target identified threats; and
- offenders have been successfully apprehended and prosecuted.

Technology plays an increasing role in enforcement in the Marine Park. Under an arrangement with the Queensland Fisheries Service, the GBRMPA is now able to track the movements of over 500 commercial fishing boats fitted with vessel monitoring system satellite transponders to ensure compliance with zoning plans.

High-resolution photography, night vision equipment, global positioning systems and forensic chemical analysis have been used to identify offences and provide evidence for prosecution. In 2001-02, a total of 59 commercial line fishing boats were found operating illegally in Green Zones, more than 3 times the number detected in each of the previous two years.

Enforceability has been a major factor in the development of the Draft Zoning Plan:

- The Draft Zoning Plan has larger, but fewer MNPZs (Green Zones) than exist in the GBRMP under the current zoning plans.
- While the average size of the proposed MNPZs is larger, in many cases this will not greatly increase the surveillance requirement given the visual and radar capabilities of air and sea patrols.
- The proposed MNPZs are shapes more easily described by clearly defined coordinates. As well as clarifying boundaries for users, this will facilitate location and prosecution of offenders.
- The placement of many proposed zones avoid past problems such as having MNPZ reefs closely surrounded by reefs open to fishing.

The Draft Zoning Plan will be supported by a comprehensive enforcement strategy and has been designed to facilitate compliance as well as benefit GBRMP users through:

- a Zoning Plan that is standardised reef-wide, with consistent use and entry provisions and clearer definitions that are easier to understand and enforce;
- implementation of the coordinate-based zone boundaries; the new zones can be easily plotted on a chart or loaded into electronic navigation aids, this will facilitate aerial surveillance and enforcement; and
- recognising that many recreational boats may lack sophisticated navigational equipment, boundaries of inshore zones will employ landmarks or other features to clarify the location of boundaries on the water.

6.10 Commercial shipping and ports

6.10.1 Summary of submissions

Submissions from the commercial shipping and ports sector represented less than one percent of submissions received. The main issues are the need to provide for ship access in the Marine Park, and harbours and jetties for small coastal communities.

6.10.2 Responses and outcomes

Approximately 6000 ships transit the Marine Park each year. A major oil or chemical spill or further introductions of invasive marine pests can cause extensive, long term damage to the environmental, economic and socio-cultural values of the Marine Park. Some 600 shipping incidents have been reported since 1987 including 22 groundings and 11 collisions.

International and national laws including the designation of the Marine Park as a Particularly Sensitive Sea Area (PSSA) in 1990 by the International Maritime Organisation (IMO), allows the Australian Government to implement a range of environmental protection measures including:

- compulsory pilotage in specified areas of the Marine Park;
- the mandatory Torres Strait and Great Barrier Reef Ship Reporting System (REEFREP) to enhance navigational safety of ships entering the reporting area;
- restrictions on vessel waste discharges including oil and chemical pollution, ballast water, garbage and litter; and
- offences and penalties for damaging the reef or contravening zoning, navigation, ship safety and other legislative provisions.

Details of proposed changes to zoning provisions can be found in Section 7.5 (Shipping).

6.11 Other issues

6.11.1 Summary of submissions

Many submissions from all sectors called for the GBRMPA to address land based impacts on the Marine Park. Other issues raised and not mentioned above included marine pollution, ecological impacts of commercial fishing and the need to consider Native Title and Indigenous aspirations for co-management of the Marine Park.

6.11.2 Responses and outcomes

The GBRMPA has several important strategies and programs in place to manage other issues within the Marine Park. Some of the more frequent issues raised, and the ways they are being addressed, include:

Water quality and coastal development The GBRMPA and Environment Australia are currently working closely with Queensland and local governments on catchment issues that affect the Great Barrier Reef. These include downstream effects of agriculture and grazing and the impacts of sediments, heavy metals and pesticides on the marine environment.

Tourism and recreation industry A range of tourism management tools have been implemented cooperatively with the QPWS, including Zoning Plans, Plans of Management for high-use areas (offshore Cairns and the Whitsundays), Codes of Practice and site-specific plans. Industry best practice is encouraged through education and training programs.

Protecting threatened species Specific policies and initiatives for management of threatened species, including dugong, whales, dolphins, turtles and seabirds, have been implemented or are being developed in conjunction with other agencies.

Fishing industry The management of fisheries in the Great Barrier Reef is primarily a matter for Queensland. The GBRMPA is working with the QFS and the fishing industry to ensure fishing within the Marine Park is conducted in an ecologically sustainable manner. Following negotiations between the GBRMPA, fisheries management agencies and the fishing industry, several positive management initiatives, including Management Plans for some fisheries, have been adopted in recent years.

7 Proposed management changes

7.1 Recreational fishing activities

The GBRMPA is proposing to update/standardise use and entry provisions and definitions for recreational fishing activities in the Draft Zoning Plan. These provisions are summarised in Table 4 below. Queensland fisheries legislation also applies to all fishing activities conducted in the Marine Park.

Table 4: Recreational fishing activities in Zones

ZONE *Activity*	General Use Zone LIGHT BLUE	Habitat Protection Zone DARK BLUE	Conservation Park Zone YELLOW	Buffer Zone OLIVE GREEN	Scientific Research Zone ORANGE	Marine National Park Zone GREEN	Preservation Zone PINK
Line fishing **(up to 3 hand-held rods/lines per person & up to 6 hooks combined total)**	YES	YES	YES/LIMITED (1 hand-held rods/line per person & 1 hook per line)	NO	NO	NO	NO
Trolling **(no more than 2 lines per person)**	YES	YES	YES/LIMITED (1 hand-held rods/line per person & 1 hook/lure per line)	YES – but only for *pelagic species* (2 lines per person)	NO	NO	NO
Limited spearfishing	YES	YES	YES	NO	NO	NO	NO
Bait netting	YES	YES	YES	NO	NO	NO	NO
Limited crabbing **(4 crab pots or dillies)**	YES	YES	YES	NO	NO	NO	NO
Limited collecting **(includes oysters and bait)**	YES	YES	YES	NO	NO	NO	NO

7.1.1 Line fishing

In the current Far Northern, Cairns and Gumoo Woojabuddee Section Zoning Plans line fishing is restricted to no more than **two** hand-held rods or handlines, each with only one hook, fly or lure, per person. In the Central and Mackay/Capricorn Section Zoning Plans no more than **one** hand-held line or handline with only one hook, fly or lure per person is allowed.

Under the Draft Zoning Plan:

- *Line fishing* is restricted to not more than **three** hand-held rods or handlines with a combined number of not more than **six** *hooks* attached to the line(s) in GUZ and HPZs and not more than **one** hand-held rod or handline with **one** line and **one** *hook* per person in the CPZ.
- *Trolling* means fishing by the use of a line or lines trailed behind a vessel that is underway and using not more than **two** lines per person in GUZ, HPZ and Buffer Zone (BZ) and not more than **one** line per person in the CPZ. *Trolling* in the BZ may only be undertaken for *pelagic species*.
- A list of *pelagic species* is proposed for inclusion in the Regulations. The proposed list includes: trevallies, scad, queenfish, rainbow runner; dolphinfishes; black kingfish/cobia (single species); jobfish; barracudas (all species); billfishes, sailfishes, marlins (all species); swordfish (single species); and mackerels, tunas, bonitos, and wahoo (all species).
- To improve consistency in the use of terms, the following definitions of *hook* and *lure* are proposed to be included in the Regulations:

  Hook means
  - a single-shanked double or treble hook; or
  - a *lure;* or
  - an artificial fly; or
  - a jig for the purposes of taking squid; or
  - a ganged-hook set, each component of which is in contact with at least one of the other components in the set.

  Lure means an artificial bait with not more than three hooks attached to it, in accordance with the definition proposed in the Queensland Fisheries (Coral Reef Fin Fish) Management Plan 2002 – Consultation Draft.

7.1.2 Spearfishing

Under the Draft Zoning Plan:

- recreational spearfishing (*limited spearfishing*) means spearfishing not using a powerhead; or a firearm; or a light; or underwater breathing apparatus other than a snorkel.

- recreational spearfishing (*limited spearfishing*) will be allowed in the GUZ, HPZ and CPZs.
  - As recreational spearfishing is a limited extractive activity (restricted by depth, gear and a range of other factors including the proficiency of participants), and is considered to be compatible with the zone objective, it will be allowed in the CPZ.
- Further restrictions on *limited spearfishing* are proposed to be included in the Regulations, including prohibiting the possession of a loaded speargun, other than in the water; or within 50 metres of another person in the water who is not a member of the spearfisher's own group; or within 50 metres of a mooring or jetty, or within 500 metres of a resort, pontoon or aquaculture facility.

7.1.3 Limited collecting

Under the Draft Zoning Plan:

- *limited collecting* will continue to be allowed, including the recreational collecting of shells (generally not more than 5 animals of a species are able to be taken), and the collection of bait and oysters for immediate consumption, in the GUZ and HPZs and will be allowed in the CPZ.
- it is proposed that a person can have no more than 5 individuals (unless otherwise specified) of any one species in their possession at any time. Different limits apply (for example, for bait and oysters) where specified in Queensland *Fisheries Regulations 1995* and/or in the *Great Barrier Reef Marine Park Regulations 1983*.

7.1.4 Protected species

A list of protected fish is currently included in Schedule 5 of the Regulations. The GBRMPA is proposing that this list be extended to include:

- all sizes of potato cod, hump-headed Maori wrasse and barramundi cod, consistent with zero bag limits proposed in Queensland fisheries legislation;
- all other fish species of the genus *Epinephelus* (cods and groupers) greater than 100cm in length (measured in accordance with Queensland fisheries legislation), consistent with maximum size limits proposed in Queensland fisheries legislation; and
- rare or threatened species including dugong, turtle, and several species of seabirds and invertebrates.

7.2 Commercial fishing activities

The GBRMPA is proposing to update/standardise use and entry provisions and definitions for commercial fishing activities in the Draft Zoning Plan. These provisions are summarised in the table below. Queensland fisheries legislation continues to apply to all fishing activities conducted in the Marine Park.

Table 5: Commercial fishing activities in Zones

ZONE *Activity*	**General Use Zone** **LIGHT BLUE**	**Habitat Protection Zone** **DARK BLUE**	**Conservation Park Zone** **YELLOW**	**Buffer Zone** **OLIVE GREEN**	**Scientific Research Zone** **ORANGE**	**Marine National Park Zone** **GREEN**	**Preservation Zone** **PINK**
Trawling	YES	NO	NO	NO	NO	NO	NO
Commercial *line fishing* **(maximum 3 hand-held rods/lines per person & combined total of 6 hooks)**	YES	YES	YES/LIMITED 1 rod or handline per person & 1 hook per line, only 1 dory detached	NO	NO	NO	NO
Commercial *trolling* **(no more than 2 lines per person except CPZ)**	YES	YES	YES/LIMITED 1 line per person/rod per person and one hook/lure per line	YES but only for *pelagic species*	NO	NO	NO
Commercial *crabbing*	YES	YES	YES/LIMITED 4 pots per person	NO	NO	NO	NO
Commercial *bait netting*	YES	YES	YES/LIMITED net length not more than 250m	NO	NO	NO	NO
Commercial *netting* **other than bait netting**	YES	YES	NO	NO	NO	NO	NO
Commercial *harvest fishery(eg bêche-de-mer,* **tropical rock lobster, aquarium fish, trochus**	YES if accredited PERMIT if not accredited	YES if accredited PERMIT if not accredited	NO	NO	NO	NO	NO
Commercial coral fishery (*collecting*)	YES if accredited PERMIT if not accredited	YES if accredited PERMIT if not accredited	NO	NO	NO	NO	NO

7.2.1 Line fishing and trolling

Refer provision changes detailed in Section 7.1.1 (Line fishing). In addition to those provisions the following is proposed:

- Regulations will require that no more than **one** tender commercial fishing vessel may be detached in the CPZ from a primary commercial fishing vessel.

7.2.2 Commercial dive-based fisheries

Commercial dive-based fisheries include sea cucumber (bêche-de-mer), trochus, tropical spiny lobster, marine aquarium (fish and coral) fisheries undertaken in accordance with Queensland fisheries legislation. The Draft Zoning Plan will, in regards to commercial dive based fisheries:

- consolidate current zoning provisions for these fisheries (other than the coral fishery) by providing that as a *harvest fishery*, they may be undertaken, without a permit, in the GUZ and HPZs if management arrangements for that fishery are accredited by the GBRMPA. The current requirement of a permit for *harvest fisheries* in these Zones, will apply to each fishery until fishery management arrangements are accredited by the GBRMPA; and
- maintain the *status quo* for the commercial take of coral in the GUZ and HPZs with a permit.

7.2.3 Bait netting

The GBRMPA has reviewed both the recreational and commercial limits for bait netting. Bait netting is currently unrestricted in the GUZ, HPZ and CPZs under all Zoning Plans, and includes both recreational nets (cast, scoop and seine) and commercial bait nets.

The maximum allowable commercial bait net has been 400m in length in these Zones. However, it is known that this length of net is being used to capture a range of species for uses other than bait. Accordingly, it is proposed to reduce the maximum length of commercial bait net allowed in the CPZ to 250m to meet the zone objective of limited extractive use. The Draft Zoning Plan will, in regards to bait netting by the commercial sector:

- provide an updated definition of *bait netting* by referring to the relevant Queensland fisheries management arrangements through the Regulations.
- maintain the *status quo*, allowing *bait netting* in the GUZ, HPZ and CPZs, without a permit;
- further restrict *bait netting* by the commercial sector to a maximum net length of 250 metres in the CPZ; and
- remove the provision for *bait netting* from the Buffer Zone as this activity is no longer consistent with the objective of the Buffer Zone.

7.2.4 Commercial crabbing and commercial netting

The Draft Zoning Plan will maintain the *status quo* for commercial crabbing and netting definitions and use and entry provisions (noting that the aquarium fish fishery is to be managed as a *harvest fishery*).

7.2.5 Trawling

The Draft Zoning Plan will generally maintain current management arrangements but will mirror Queensland trawl closures in the *Fisheries (East Coast Trawl) Management Plan 1999* by incorporating those areas closed to trawling in the HPZ.

7.2.6 Fishing gear stowed or secured requirements

Gear that is normally used for fishing must be *stowed or secured* in a zone in which the use of the equipment is not permitted. As discussed above in Section 7.2.1 (Line fishing and trolling), the Regulations will also require that no more than **one** tender commercial fishing vessel may be detached in the CPZ from a primary commercial fishing vessel.

It is proposed the following definition of *stowed or secured* be included in the Regulations:
Fishing equipment be rendered inoperative and stowed or secure *in accordance with requirements declared in the GBRMP Regulations, whereby:*

- **trawl fishing apparatus** is stowed or secured if it is rendered inoperative at least to the extent that the nets are out of the water; or the fore and aft ends are drawn up to the mast or booms; and all otter boards are drawn up to the booms or secured inboard the boat; and cod ends are open; and no part of the fishing apparatus is astern of the boat; and
- **other fishing apparatus** is stowed or secured if all components of the fishing apparatus are inboard the boat; or all components of the fishing apparatus are out of the water.

7.2.7 Protected species

The same limits and protected species discussed in Section 7.1.4 (Protected species) apply to both commercial and recreational users of the Marine Park.

7.2.8 Aquaculture

The GBRMPA recognises there is increasing interest in aquaculture along the Queensland coastline. In assessing the potential impact of aquaculture, the GBRMPA is concerned about the maintenance of natural systems and ensuring that ecological risk is minimised.

Under the Draft Zoning Plan, the GBRMPA will be required to assess two basic types of aquaculture operation in the Marine Park:

- extensive aquaculture that does not include the addition of feed; and
- intensive aquaculture that does include the addition of feed.

To ensure a consistent, reef-wide approach to the management of aquaculture, the following is proposed in the Draft Zoning Plan:

- extensive aquaculture be allowed only with permission in GUZ and HPZs;
- intensive aquaculture be allowed only with permission in the GUZ if the applicant can demonstrate, to the satisfaction of the GBRMPA, that there have been operational and technological advances that substantially mitigate ecological risk;
- aquaculture not be permitted in the area encompassed by the Whitsundays Plan of Management (as provided by that Plan); and
- that aquaculture be restricted under the proposed Special Management Areas (SMAs) for Dugong Protection Area 'A' Zones (see Section 7.3.2 Dugong protection).

The provisions currently prescribed in the Regulations regarding the taking of leader prawn broodstock in Mission Beach Trawl Closure Area have been incorporated into the Draft Zoning Plan. It is proposed to replace the current trawl closure with an area of HPZ (the provisions only extend to the proposed HPZ and will not apply in any proposed areas of CPZ or MNPZ).

7.3 Biodiversity conservation

Details of proposals in the Draft Zoning Plan to protect special or unique sites and representative areas of biodiversity are provided in this report. In addition to zone placement, a number of provisions proposed in the Draft Zoning Plan are used to provide for the conservation of biodiversity of the Marine Park.

7.3.1 Protected species

The GBRMPA is proposing the same limits and protected species discussed in Sections 7.1.4 and 7.2.7 (Protected species) apply to both commercial and recreational users of the Marine Park.

7.3.2 Dugong protection

Dugong Protection Areas (DPAs) are recognised as being areas of significant dugong habitat. The effective conservation of dugongs requires the protection of key habitats, including feeding and calving areas and migratory pathways. DPAs are designated under the Queensland *Fisheries Regulations 1995* and have no complementary provisions under the Act.

As part of the RAP process, each of the DPAs in the Marine Park was reviewed for adequacy of zoning to provide appropriate protection against specific threats to dugong. In particular, consideration was given to protection of seagrass beds. In some cases zoning a level higher than HPZ may be appropriate for the protection of dugongs. This was not generally recommended in the analysis due to commercial netting restrictions being imposed through the Queensland *Fisheries Regulations 1995*. However, the proposed zoning has provided for greater conservation through CPZ or MNPZs in several of the DPAs.

- One submission suggested the Section be CPZ to stop the heavy trawling which currently occurs;
- One submission noted that this is an important recreational fishing area and should not be MNPZ.

8.9.7.4 Zoning

Proposed Zoning: CPZ with MNPZ around Night Island
Reasoning for Proposed Zoning:

- CPZ for the entire Section will offer a suitable level of protection from potentially threatening activities to fringing reefs, seagrass beds and dugong whilst allowing line fishing and restricted crayfishing to continue;
- A 500m MNPZ zone around Night Island will protect this area of cultural significance and accommodate and complement Indigenous management of the Island.

8.9.8 Claremont Section

8.9.8.1 Background

Claremont Section extends along 10.7km of coastline in the vicinity of Port Stewart. The coastal area is characterised by sediments derived from Tertiary and Jurassic sandstones, and alluvial sand plains of clays and silts. Low dunes and salt plains occur adjacent to the Section, and the seasonal Stewart River flows into the area. The area is part of the nationally significant wetlands of Princess Charlotte Bay. Inshore seagrass meadows and high numbers of dugong occur in the area and its surrounds.

8.9.8.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
D	High numbers of dugong occur in the area and its surrounds. Amongst the most important areas of dugong habitat in the northern Great Barrier Reef Region.	CF	Net fishing Line fishing Trawl
B	Inshore seagrass meadows. Coastal fringing reefs.	S	The adjacent coast provides habitat for the little tern (*Sterna albifrons sinensis)*, which is endangered in Queensland.
FHA	Present.	H	Historic shipwreck – *Stewart*, sunk 1951.
CH	The Section is nationally significant for the diversity of wetlands. Adjacent to two nationally important wetlands.	P	Major access point for recreational users on Cape York
R	Highly accessible area used for recreational fishing.	A	Port Stewart
BI	Non-reef bioregion NA1 and NB1. Reef bioregion RE1.		

8.9.8.3 Summary of submissions

- Submissions stated that the Section is important to Aboriginal people for recreational and subsistence fishing. The Lama Lama Traditional Owners have two outstations in the vicinity of Port Stewart;
- Submissions noted that the Lama Lama Traditional Owners and the local community are interested in promoting tourism in the area. One submission stated that the Section is a significant tourism and recreation area with conservation values and suggested CPZ;
- Submissions noted that commercial netting is seen as detrimental to tourism. There is significant concern with disposal of bycatch from netting as these species would otherwise be taken for tourism, recreation or indigenous consumption;
- A submission expressed concern that professional fisherman are overfishing the Section and asked for CPZ.
- A submission noted that the Section is a major recreational fishing access point and this access should be maintained. It was stated that the local community relies on Port Stewart for fishing;
- Submissions suggested GUZ as coastal areas are used for trawl, anchorage and transhipment/resupply from mother ships;

8.9.8.4 Zoning

Proposed Zoning: CPZ

Reasoning for Proposed Zoning:

- The entire Section will be CPZ to offer a suitable level of protection from potentially threatening activities to dugong habitat, coastal wetlands, fringing reefs and seagrass beds;
- CPZ accommodates the high recreational fishing and tourism use of the Section and addresses community concerns raised in submissions.

8.9.9 Bathurst Head Section

8.9.9.1 Background

The Bathurst Head Section extends along 33.7km of coastline adjacent to Bathurst Bay, Princess Charlotte Bay and the Lakefield area of conservation significance. The area is characterised by headlands of Jurassic sandstone including Combe Point. The inshore waters support high-density seagrass meadows and high seagrass species diversity.

8.9.9.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
D	Adjacent Princess Charlotte Bay and Bathurst Bay area highly significant dugong habitat, supporting some of the highest densities of dugong in Queensland.	CF	Netting Trawl Crabbing Charter

	Description		Description
B	High density and diversity seagrass.	R	High recreational fishing in the east due to easy access.
FHA	Area adjacent to Combe Point & Bathurst Bay.	P	One of a limited number of access points to east coast of Cape York Peninsula.
CH	Tidal wetlands on the shores of Princess Charlotte Bay & Bathurst Bay are nationally significant.	SU	Adjacent Princess Charlotte Bay Marine Area and the Bathurst Bay – Flinders Islands Group.
NP	Cape Melville and Lakefield National Parks.	BI	Non-reef bioregions NA1, NB1 and NK.

8.9.9.3 Summary of submissions

- There was support in submissions for the Section to be HPZ as there is already extensive CPZ in the area and Bathurst Head is a good SE anchorage;
- MNPZ zoning was not supported in the Section as it is popular for recreational and commercial fishing, however access is seasonal;
- One submission noted that coastal areas in this part of the Marine Park are used for trawl, anchorage and transhipment/resupply from mother ships and should be GUZ;
- CPZ was supported in submissions as Bathurst Head is a popular fishing, camping and tourist destination with a sheltered anchorage and conservation values;
- Closing the Section to commercial netting was supported, as this is a threat to fish stocks.

8.9.9.4 Zoning

Proposed Zoning: CPZ and GUZ

Reasoning for Proposed Zoning:

- The Bathurst Bay CPZ will be extended south–westerly to Bathurst Head so as to include the extensive areas of seagrass and important dugong habitat within Bathurst Bay;
- Princess Charlotte Bay is proposed to be CPZ, with a SMA placed over the zone;
- It is proposed to extend the Princess Charlotte Bay CPZ via a line from the edge of the trawl closure to the SW-most point of Blackwood Island, and including Bathurst Head, so as to reflect the existing area closed to trawl under the *Fisheries (East Coast Trawl) Management Plan 1999*. This area will be included within the proposed Princess Charlotte Bay SMA;
- The remainder of the Section is to be GUZ to maintain commercial fishing opportunities within the Section.

8.9.10 Ninian Bay Section

8.9.10.1 Background

The Ninian Bay Section, which is located adjacent to the Cape Melville National Park, comprises 13.2km of coastline around Barrow Point. The Ninian Bay- Barrow Point area is characterised by deep waters and is the backdrop of the uncommon boulder mountain landscapes of Melville Range. The inshore waters support rich seagrass meadows, and the area is recognised as important dugong habitat, being a corridor for dugongs moving between the Starcke coastal area and Bathurst Bay.

8.9.10.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
D	Significant dugong habitat, being a corridor for dugongs moving between the Starcke coastal area and Bathurst Bay.	CF	Netting Line fishing Trawl
B	Significant areas of seagrass. Coastal fringing reefs.	R	Limited recreational fishing due to difficulty of access.
SU	Coastal: Starke River Region from Ninian Bay to Lookout Point which is highly significant for dugong and inshore seagrass.	P	Public access to the area is limited. Regular access is undertaken by the Traditional Owners.
NP	Cape Melville National Park.	BI	Non-reef bioregion NA1 and NM. Reef bioregion RE2.

8.9.10.3 Summary of submissions

- Support was expressed for zoning the Section HPZ or GUZ because of limited commercial and recreational fishing areas elsewhere along this stretch of coast;
- Submissions stated that Barrow Island is used as an anchorage for commercial fishers and that coastal areas in this part of the Marine Park are used for trawl, anchorage and transhipment/resupply from mother ships and should be GUZ;
- Submissions asked that recreational fishing access be maintained for the Section, as it is popular for recreational fishing, however access is seasonal. One submission noted that it is the only camping/fishing spot accessible in Cape Melville National Park;
- Submissions also pointed out that the Section is a significant tourist destination with conservation values and should be CPZ.

8.9.10.4 Zoning

Proposed Zoning: MNPZ, CPZ and GUZ
Reasoning for Proposed Zoning:

- Proposed zoning is for CPZ along trawl closure line in Ninian Bay (including all seagrass beds), extending 500m from the coastline and fringing reefs around Barrow Point to the southernmost extent of the Section. This will provide protection to dugong and seagrass beds whilst maintaining recreational access to the area;
- The remainder of the Section is to be GUZ to provide for trawling in the adjacent waters.

8.9.11 Cape Flattery Section

8.9.11.1 Background

The Cape Flattery Section extends along 44.7km of coastline from Lookout Point to the southern coast of Cape Flattery. The Section is characterised by rich inshore and fringing coral and rocky reefs, intertidal and subtidal seagrass meadows, mangrove forests, and intertidal habitats. Cape Flattery is a significant regional port, currently dedicated to the export of silica sand, with a potential trade in coal also identified.

8.9.11.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
Sh	Cape Flattery is a significant regional port. The entire Cape Flattery Section is within the Cape Flattery Port limits, although the Port itself is excluded from the Section.	CF	Netting Trawl
B	Rich inshore and fringing coral and rocky reefs. Significant intertidal and subtidal seagrass meadows.	CH	Adjacent to nationally significant wetland Cape Flattery Dune Lakes that are also listed on the Register of the National Estate. Mangroves present.
D	Seagrass meadows are important feeding habitat for dugong.	R	Easy access from Cooktown enables recreational fishing and camping.
BI	Non-reef bioregion NA1 and NB3.		

8.9.11.3 Summary of submissions

- A submission from a charter fisherman suggested that the area should be CPZ;
- Commercial fishing interests noted that coastal areas in this part of the Marine Park are used for trawl, anchorage and transhipment/resupply from mother ships and should be GUZ as limited inshore areas are open to commercial fishing;
- Support was expressed for CPZ, as Cape Flattery provides a sheltered area close to Cooktown for recreational fishing & camping and is a significant tourism and recreation areas with conservation values also;

- Specific zoning suggestions from recreational fishing interests included no MNPZ south of Cape Flattery, but MNPZ north of the Cape is acceptable as there is limited access to this area;
- Conservation interests asked for the Section to be MNPZ to encompass the existing trawl closure area, to protect seagrass, dugong habitat, inshore dolphin habitat, and consolidate several small MNPZ into a single large zone.

8.9.11.4 Zoning

Proposed Zoning: HPZ and GUZ

Reasoning for Proposed Zoning:

- The proposed zoning extends the existing area of HPZ under the Cairns Marine Park to include the inshore areas of Flattery Harbour from Lookout Point to Decapolis Reef and back into Cape Flattery, incorporating the extent of the trawl closure (including seagrass beds);
- The remainder of the Section is proposed to be GUZ to provide for continued trawling in adjacent waters;
- Decapolis Reef and surrounding waters to 500m remains MNPZ;
- The impacts of the proposed zoning on Port operations will be minimal as the proposed HPZ is outside the shipping area and away from all major port facilities (although it is within the Cape Flattery Port Limits).

8.9.12 Cooktown Section

8.9.12.1 Background

The Cooktown Section, which includes 68 km of coastline from Cape Bedford to Walker Bay, is characterised by sandstones overlain by clay, silt and sands. Rocky headlands, wide tidal creek systems, and exposed sandy beaches bound the area. The area supports soft bottom marine communities, sparse seagrasses and various shoals (Draper Patch and Blackbird Patches). It includes the mouth of the Endeavour River at Cooktown, which has cultural heritage values.

8.9.12.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
CH	Coastal dune area of Endeavour River mouth is a landscape feature of natural heritage significance. Cape Flattery dunes are adjacent to the Section and are nationally significant and listed on the Register of the National Estate.	H	Significant cultural heritage values associated with Captain Cooks landing in 1770. Historic shipwrecks; *Exchange* – sunk 1884, *Wong* and *Hing* – both sunk 1887, *Pauan* - sunk 1907, *Isabella* – sunk 1914, *Kestrel* – sunk 1906, *Sea Breeze* – sunk 1919 and *Ruby* – sunk 1884.
B	Supports soft bottom marine communities, and various shoals. Significant areas of seagrass in Walker Bay.	R	Annan & Endeavour Rivers used for recreational fishing.
NP	Endeavour River National Park and Mount Cook National Park.	TS	Charter fishers and dive tourism operations visit local reefs out of Cooktown.
A	Cooktown.	CF	Netting Trawl Pearl aquaculture in Walker Bay.
P	Cooktown is a regional fishing port, boat ramps	BI	Non-reef bioregion NA1, NA3 and NB3. Reef bioregion RE2.

8.9.12.3 Summary of submissions

- Some submissions noted that the Section is popular for recreational fishing and tourism and should not be MNPZ;
- Commercial fishing interests noted that coastal areas in this part of the Marine Park are used for trawl, anchorage and transhipment/resupply from mother ships and should be GUZ as limited inshore areas are open to commercial fishing;
- One submission outlined that coastal areas between Cairns and Cooktown should be CPZ as they are an integral part of the Daintree/Wet Tropics World Heritage Area;
- Specific zoning suggestions included banning gill netting in Walker Bay to provide enhanced recreational fishing opportunities for tourists and locals. Walker Bay has high conservation, scenic, amenity values. Other areas suggested in submissions for closure to netting included Indian Head – Walker Bay and Weary Bay form Kangaji Point to Rattlesnake Point;
- A submissions noted that the area around Cape Bedford is a good anchorage;
- Another submissions stated that Bedford and Walker Bay offer sheltered areas close to Cooktown for recreational fishing & camping;
- A commercial fishing submissions also noted that Bedford Bay is a safe anchorage which makes it an important fishing area for shark, mackerel and bait;
- One submission suggested that the area from Archer Pont to Thomas Point is important for recreational fishing and should be closed to netting.

8.9.12.4 Zoning

Proposed Zoning: CPZ and HPZ
Reasoning for Proposed Zoning:

- Bedford Bay proposed as CPZ to reflect the use of the area by indigenous community at Elim, to provide increased protection for the Bay (trawl closure and HPZ under Cairns Marine Park and to prevent split zoning of the Bay);
- Endeavour River mouth and Walker Bay to be CPZ to the extent of the trawl closure and Cairns Marine Park Estuarine Conservation Zone (in southern Walker Bay) to provide protection for conservation values of these areas whilst reflecting recreational use;
- Boulder & Egret Reef (offshore) proposed as CPZ to 500m to reflect the recreational use of these reefs;
- All other reefs in Section zoned HPZ to 500m.

8.9.13 Wet Tropics Coast Section

8.9.13.1 Background

The Wet Tropics Coast Section extends south along 234 km of coastline from Cape Kimberley to just below Double Point. The Daintree to Mourilyan coastal area is an extensive area characterised to the north of Cairns by mangrove wetlands, sandy beaches and inshore fringing reefs. The area south of Cairns is characterised by headlands, sandy beaches, adjoining national parks and includes Fitzroy Island.

Some coastal areas (for example, Alexandra and Morley Reefs near Port Douglas) were previously subject to zoning plans under Queensland Marine Park legislation. While many of these areas have now been added to the GBRMP, Queensland zoning provisions still exist, but only over tidal lands and tidal waters (that is, above low water mark).

8.9.13.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
CH	Melbon Thompson Ranges is on the Register of National Estate. Cape Grafton to Palmer Point and from Palmer Point to Russell Heads is listed as a Key Coastal Site. Nationally important wetlands at Russell River.	CF	Netting Line fishing Trawl Aquaculture Coast adjacent to Yarrabah community (Mission Bay) closed to both recreational and commercial fishing under Queensland *Fisheries Regulations 1995*.
D	Regionally significant habitat offshore from Mourilyan Harbour and Cowley beach.	TS	High tourism out of Port Douglas and Cairns.
SLU	Urban, tourism related businesses, agriculture, Cowley Beach Defence Training Area.	R	Coastal access for the entire Section. Used for recreational fishing, camping and other recreational activities. Shark drum lines and nets at Taylor Point.

	Description		Description
B	Offshore from Mourilyan Harbour and Cowley beach. Inshore reefs north and south of Port Douglas.	Sh	High shipping traffic to Port of Cairns and Port of Mourilyan. Cairns is home to one of Queenland's largest fishing fleets, is Queensland's busiest commercial tourist port and developing as a significant port for international cruise ships and has an extensive ship building industry. Mourilyan is an important sugar and molasses loading facility.
A	Daintree, Newell, Mossman, Port Douglas, Craiglie, Clifton Beach, Yarrabah, Babinda, Bramston Beach, Innisfail, Mourilyan.		
H	Historic shipwrecks, *Dove* – sunk 1911, *Rose and Thistle* – sunk 1882 and *Fitzroy* – sunk 1897.	P	Port of Cairns (partly excluded from section) Port of Mourilyan (excluded) and numerous jetties, marinas and boat ramps.
BI	Non-reef bioregion NA3 and NB5. Reef bioregion RE2 and RE3.	NP	Ella Bay, Russell River and Moresby Range National Parks.

8.9.13.3 Summary of submissions

- Submissions expressed support for the Section to be zoned mostly CPZ. This is because the Section abuts a high population area in which recreational camping, fishing, spearfishing and snorkelling are popular;
- Submissions claim that zoning the Section CPZ will lower the turbidity that impacts on the fringing reef due to reduced fishing effort and the removal of trawling;
- A submission asked that the Section be MNPZ in order to improve inshore fishing in years to come;
- Some submissions suggested a combination of zoning in the Section with representation of reef ecosystems in MNPZ, the majority of recreational fishing accommodated in CPZ and the needs of the tourism industry provided for;
- Support was expressed for GUZ to allow for major port facilities and commercial fishing. It was stated that commercial fishing is limited, but important to the local economy;
- Specific zoning suggestions included 2nm or wider MNPZ buffer from Cape Kimberley to Snapper Island in order to allow tourists (especially kayakers) unhindered views;
- Concerns regarding the effects of trawling supported a call for Unity Reef to be MNPZ;
- A submission suggested MNPZ from Slip Cliff Point to Simpson Point and the coast off Yarrabah;
- It was noted that dugongs are frequently sighted from Port Douglas north to Cape Kimberley and this area should be MNPZ to protect the dugongs;
- It was suggested that Double Island North to Port Douglas should be MNPZ due to the numerous tourists in this area. It was also stated that there are many turtles and dugongs present in the coastal reefs;
- A submission observed that net fishing and trawling is depleting breeding stocks of all species of fish and black tiger prawns from Flying Fish Point north to Flirt Point;

- Another suggestion was that inshore from Cape Kimberley to Alexandra Reefs should not be MNPZ as this is a bait area for mullet, gar, sardines etc.;
- A submission stated that Port Douglas north to the Daintree River is subject to strong trade winds which reduces the amount of time spent fishing in this area;
- Another submission suggested that False Cape to Fitzroy Island should be MNPZ as this is a less populated area and less accessible to most people.

8.9.13.4 Zoning

Proposed Zoning: MNPZ, CPZ, HPZ and GUZ

Reasoning for Proposed Zoning:

- MNPZ from northern mouth of Daintree River and MNPZ area south of Snapper Island to join MNPZ encompassing Snapper Island will avoid high commercial fishing use areas, provide a buffer to adjacent wetlands and protect the natural values in this area utilised by tourism operators;
- MNPZ adjacent to Port Douglas will protect the natural values of this area and address community concerns regarding providing an area free from recreational fishing. Submissions indicated that this area is less important as a recreational fishing area than adjacent areas along the coast.
- MNPZ along the coast south of Alexandra Shoals for a distance of approximately 10km out to the width of the entire Section will provide protection to Garioch Reef and Unity Reef and restrict fishing usage in a less accessible area of the coastline;
- Fitzroy Island is zoned as CPZ to a distance of approximately 1km. Outside this 1km buffer on the eastern side of Fitzroy Island is zoned MNPZ which extends east out of the Section to join a large candidate area of MNPZ. This will allow recreational fishing to occur around Fitzroy Island in the CPZ. The MNPZ will protect the natural values of the area which is minimally used for fishing;
- MNPZ adjacent to the Russell River National Park and nationally significant wetlands will provide a buffer to coastal habitat and provide protection to the marine environment in this area;
- CPZ out to an average distance of 3km off the coast to meet the HPZ north of Port Douglas and south to encompass the Alexandra Reefs reflecting previous State zoning;
- CPZ in Mission Bay to reflect current usage by the Yarrabah community;
- 500m CPZ buffer around the eastern side of Snapper Island and HPZ at Wide Bay and Deception Point to the point just south of Gunjurra Island to mirror previous State zoning;
- HPZ from south of the mouth of the Daintree River south to Port Douglas and from Taylor Point north to just south of Simpson Point including Double Island and Haycock Reef so as to reflect the existing area closed to trawling under the *Fisheries (East Coast Trawl) Management Plan 1999*;
- HPZ from across the southernmost part of the Section south of the Mourilyan Harbour exclusion in a small east-west sliver at Double Point so as to reflect the existing area closed to trawling under the Mission Beach Trawl Closure;

- HPZ from Palmer Point to Constantine Point out to the border of the Section so as to provide a buffer of protection to wetlands along the coast;
- HPZ from Cooper Point to the southernmost point of Ella Bay National Park where it meets the coast to act as a buffer to the National Park and associated wetlands;
- GUZ for the rest of the Section.

8.9.14 Clump Point Section

8.9.14.1 Background

The Bingil Bay- Clump Point area extends 19.7 km along the coast and is characterised by acid volcanic rocks overlain by clay, silt and sand. The inshore waters support scattered soft bottom communities, including diverse soft corals, hydrozoans, and macroalgae. Issues include submarine cables, moorings and a proposed marina.

8.9.14.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
B	Scattered soft bottom communities, including diverse soft corals, hydrozoans, and macroalgae.	CF	Netting Line fishing Trawl
CH	Wetlands and mangroves adjacent to the north of the Section.	R	High access enables recreational fishing, boating, kayaking and other recreational activities.
NP	Clump Mountain National Park.	P	Four boat ramps. Mourilyan Harbour limits encompasses the northern half of the Section.
TS	Medium tourism use. Mission Beach is a tourist departure point to the reef.	A	Bingil Bay and Mission Beach.
SLU	Urban, agriculture, aquaculture.	BI	Non-reef bioregion NA3 and NB3. Reef bioregion RE3.

8.9.14.3 Summary of submissions

- Submissions stated that the Section should remain open to recreational fishing, particularly beach fishing and off the jetty. It was noted that this is a protected area for small boats in south-east trade winds and provides safe recreational fishing for both tourists and locals. It was requested that the Section not be zoned MNPZ;
- A few recreational fishing interests submissions suggested that Bingil Bay should be MNPZ to maintain and improve the marine life located here;
- A submission noted that there is good spearfishing around Clump Point and this area should not be MNPZ;
- One submission asked that zoning remove fishing from this Section;
- CPZ zoning was suggested for Boat Bay as there is a high diversity of marine life in this area.

8.9.14.4 Zoning

Proposed Zoning: MNPZ, CPZ and HPZ
Reasoning for Proposed Zoning:

- MNPZ is proposed from south of Murdering Point to approximately 1km north along the coast from the Maria Creek mouth in order to protect reef communities, and provide a buffer to adjacent wetlands, mangroves and Maria Creek National Park. The MNPZ incorporates only the southern end of the King Reefs, the rest will be CPZ in recognition of their popularity as a recreational fishing spot;
- In order to offer a level of protection to inshore soft bottom communities and to reflect the high amount of recreational use, including recreational fishing and associated activities which occur, CPZ will be placed from south of Clump Point to Tam O'Shanter Point (in the Mission Beach Section);
- The remainder of the Section will be zoned HPZ so as to reflect the existing area closed to trawling through the *Great Barrier Reef Marine Park Regulations 1983.*

8.9.15 Mission Beach Section

8.9.15.1 Background

The Mission Beach – Tully Heads area is characterised by acid volcanic rocks overlain by clay, silt and sand. The inshore waters support scattered soft bottom communities, including diverse soft corals, hydrozoans, and macroalgae. Issues in the Section include stormwater discharge and boat ramps.

8.9.15.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
SLU	Urban, Black Tiger Prawn aquaculture farm at Tamoshanter Point.	CF	Netting Line fishing Trawl
P	Boat ramps, Marina on the Hull River, transit point to Dunk Island.	R	Ease of access enables recreational fishing, boating, swimming, snorkelling and camping.
FHA	Present	H	Unidentified shipwreck – sunk 1927
NP	Hull River National Park. Kennedy walking track finishes at the mouth of Hull River.	B	North of Tam O'Shanter Point and adjacent to Dunk Island. Inshore scattered soft bottom communities, including diverse soft corals, hydrozoans, and macroalgae.
A	Wongaling Beach, Tully Heads.	TS	Medium amount of tourism use.
BI	Non-reef bioregion NA3 and NB3. Reef bioregion RE3.		

8.9.15.3 Summary of submissions

- A submission stated that this Section has easy and safe access for small boats, allowing fishing, boating and coral viewing to occur throughout the Section;
- Submissions noted that this Section should not be MNPZ as it has good fish stocks and is popular for recreational fishing and spearfishing;

- Some submissions outlined the exceptional natural values of the area and asked for MNPZ as the area is good for sightseeing;
- Submissions from commercial fishermen outlined the commercial value of the area and asked for it to be GUZ;
- Numerous submissions called for fishing to be removed from this Section;
- A submission noted that the southern half of the Section is not accessible by land and therefore is not used for beach fishing, snorkelling or spearfishing.
- The northern half of the Section is mainly used for fishing, however it is not suitable for beach fishing as there are no reefs or rocks. Zone MNPZ;
- Another submission pointed out that Tam O'Shanter Point is a fishing area which is very popular with tourists who walk the Kennedy Track;
- A number of submissions expressed that they wished to remove netting from parts of the Section.

8.9.15.4 Zoning

Proposed Zoning: MNPZ, CPZ and HPZ

Reasoning for Proposed Zoning:

- In order to offer a level of protection to inshore soft bottom communities and to reflect the high amount of recreational use, including recreational fishing and associated activities, CPZ will be placed from south of Clump Point (in the Clump Point Section) to Tam O'Shanter Point;
- The area adjacent to Hull River National Park (from the northern side of Tam O'Shanter Point to the northern side of the Hull River Mouth) will be MNPZ. This will address community concerns about conserving areas for nature enjoyment, especially in remote access areas, provide protection to reef area and act as a buffer to the adjacent Hull River National Park;
- The remainder of the Section will be HPZ so as to reflect the existing area closed to trawling through the *Great Barrier Reef Marine Park Regulations 1983.*

8.9.16 Halifax Bay Section

8.9.16.1 Background

The Lucinda - Bohle River coastal area is characterised by sandy beaches and broad intertidal sand flats. Extensive mangrove communities are found to the north of the area. The area also consists of extensive seagrass beds to the south of Lucinda. A number of shoals and small reefal areas are located offshore in the southern part of the area.

8.9.16.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
D	Significant dugong habitat in the north of the Section. Taylors Beach Dugong Protection Area and the Cleveland Bay – Magnetic Island Dugong Protection Area.	CF	Netting Trawl
T	Important green turtle foraging area.	R	Ease of access enables recreational fishing throughout the Section.
P	Boat ramps and beach access is available along the entire Section by vehicle or foot.	A	Allingham, Jalloonda, Mount Low, Balgal Beach, Taylors Beach, Palleranda, Toomulla, Toolakea, Rollingstone and Saunders Beach.
NP	Clemant Forest Reserve, Halifax Bay Wetlands National Park.	FHA	Present
CH	2 wetlands of national importance, the Bambaroo Coastal Aggregation and Herbert River Flood Plain. Extensive mangrove communities to the north of the area.	Sh	Port of Lucinda, adjacent to the northern boundary of the Section, is specifically dedicated to the export of sugar. The 5km offshore jetty is the longest such facility in the southern hemisphere.
SLU	Urban, agriculture – sugar cane. An outlet pipe is offshore from Qld Nickel.	B	Extensive seagrass beds to the south of Lucinda. A number of shoals and small reefal areas are located offshore in the Section
BI	Non-reef bioregion NA3. Reef bioregion RE3.		

8.9.16.3 Summary of submissions

- Submissions noted that turtle foraging sites are present within the Section;
- There is support for maintaining access for recreational fishing, particularly beach fishing, within the Section. One submission suggested a 500 metre buffer from the beach to allow recreational fishing;
- The lower commercial use in the area as opposed to other areas of the Marine Park was raised;
- The need for some coastal areas to be protected was raised. Certain parts of this Section are remote enough not to vastly inconvenience Ingham or Townsville fisherman if MNPZ;
- A replenishment area in the middle of Halifax Bay was suggested;
- A submission requested that mackerel aggregation sites in Halifax Bay be protected.

8.9.16.4 Zoning

Proposed Zoning: MNPZ, CPZ and HPZ

Reasoning for Proposed Zoning:

- MNPZ is proposed between Insulator Creek and Palm Creek. The MNPZ helps protect the significant biological values in the area and received support in submissions;

- CPZ is proposed for the West Channel and extends in to the Section at its southernmost point. CPZ will provide protection to significant seagrass communities and dugong, while providing for recreational fishing to continue;
- HPZ 500m around Paluma shoals, Lady Elliot Reef and Unnamed Reef 18-800 as consistent with zone placement guidelines;
- The remainder of the section will be GUZ to maintain commercial fishing opportunities within the Section.

8.9.17 Cleveland Bay Section

8.9.17.1 Background

The Cleveland Bay coastal area forms part of the Townsville Coastal Plains and is characterised by mangrove communities, offshore mudflats and extensive seagrass beds. High densities of turtle and dugong are supported by the seagrass beds. The Port of Townsville, much of which is excluded from the new Section, is Queensland's third largest industrial port and includes dredged approach channels, nine operational berths, a large reclaimed area and associated facilities.

8.9.17.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
T	A substantial and significant population of green turtles	CF	Netting Trawl Line fishing
D	A significant dugong habitat in the adjacent Cleveland Bay – Magnetic Island DPA 'A'.	B	Cleveland Bay contains important and dense seagrass communities.
A	Townsville.	H	Historic shipwrecks, *Ariel* – sunk 1865 and *Flying Scud* – sunk 1890.
CH	Burdekin – Townsville Coastal Aggregation is a wetland of national significance and of international significance as a migratory wader habitat (a RAMSAR site). Mangroves present along coast.	S	Burdekin – Townsville Coastal Aggregation provides habitat for a number of threatened marine fauna and 13 species of endangered and vulnerable bird species. 50% of species listed under migratory bird agreements (CAMBA or JAMBA) occur in the wetlands.
Sh	Within the Townsville port limits	P	Boat ramps and beach access.
SLU	Major regional city, port and industrial zone. Includes a large reclaimed area within the port.	R	Ease of access enables recreational fishing throughout the Section.
NP	Cape Cleveland National Park, which is nationally important, and Bowling Green National Park	BI	Non-reef bioregion NA3.

8.9.17.3 Summary of submissions

- Submissions noted that there is easy access for recreational fishermen in this Section. Support was expressed for maintaining access for recreational fishing, particularly along the coast;
- It was suggested that commercial use of the area should be reduced through zoning in order to reduce impacts on the environment;

- Submissions raised conservation issues including protecting seagrass, dugongs and turtles.

8.9.17.4 Zoning

Proposed Zoning: CPZ and GUZ
Reasoning for Proposed Zoning:

- CPZ is proposed for approximately half of the Section, joining to adjacent CPZ outside the Section, in order to provide protection to the many natural values of the area including significant dugong habitat, wetlands, extensive and significant seagrass communities and provide a buffer of protection to adjacent national park. CPZ will address community concerns raised in submissions;
- The remainder of the Section will be GUZ to allow current commercial fishing use of this part of the Section to continue.

8.9.18 Burdekin Section

8.9.18.1 Background

The Burdekin Delta area from Alva Beach to Peters Island is characterised by the deltaic sediments carried by the Burdekin River to its mouth, including alluvial clays, silts, sands and gravels. The Burdekin River is the largest single sediment source to the central Great Barrier Reef lagoon, and capable of high volume water flows during seasonal rainfall events. Because of the high sediment loads carried into the area by the Burdekin River, the area does not support well-developed coral reefs, and soft bottom marine communities dominate the area.

8.9.18.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
CF	Netting Trawl Crabbing Line fishing	CH	The Burdekin River is the largest single sediment source to the central Great Barrier Reef lagoon. Nationally important wetland - the Burdekin Delta Aggregation. Extensive mangrove communities also in Section
D	Southern end of the Section abuts the Upstart Bay Dugong Protection Area	R	Ease of access enables recreational fishing throughout the Section.
FHA	Present.	TS	Recreational fishing associated tourism.
SLU	Agriculture – sugar cane and beef cattle grazing.	BI	Non-reef bioregion NA3.
A	Ayr and Home Hill.	P	High number of boat ramps.

8.9.18.3 Summary of submissions

- Submissions state that most of the Burdekin's fishing (both recreational and commercial) is carried out in this area.
- The Section is used intensively for recreational fishing, and this fishing is central to many residents' way of life, and is also vital for tourism in the area;

- There was support in submissions to lower commercial fishing use of the Section.

8.9.18.4 Zoning

Proposed Zoning: GUZ
Reasoning for Proposed Zoning:

- The entire Section is GUZ as the Section it is of importance to both commercial and recreational fishing interests. GUZ will maintain current access to the Section for both sectors.

8.9.19 Edgecumbe Section

8.9.19.1 Background

The Abbot Bay - Cape Edgecumbe coastal area is characterised by mangrove foreshores and long sandy beaches. Extensive seagrass communities are found in Abbot Bay, which are important dugong feeding areas. Wetlands to the south of Abbot Point are one of the most important waterfowl localities in Queensland. The Section also contains a number of fringing reefs and small shoals. . Two parts of the Port of Abbot Point are excluded from the Section; the Abbot Point Bulk Coal Terminal and the area around Bowen and Stone Island.

8.9.19.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
D	Abbot Bay is a significant dugong feeding area. Southern half of the Section within the Edgecumbe Bay – Bowen Dugong Protection Area.	CF	Netting Trawl Aquaculture facilities
Sh	Two ports occur within this region, the Abbot Point Bulk Coal Terminal and the Bowen Boat Harbour.	B	Extensive seagrass communities scattered throughout Section. Fringing reefs and small shoals.
SLU	Cattle grazing, aquaculture, urban use.	R	Ease of access enables recreational fishing throughout the Section.
A	Bowen	NP	Cape Upstart National Park
P	Public access to Abbot Bay is limited to boats due to remoteness. The southern part of the Section is very accessible due to boat ramps.	CH	Are two nationally important wetlands in Section Abbot Point – Caley Valley and Southern Upstart Bay, which shelter rare waterfowl. Cape Upstart Lowlands are on the register of the National Estate. Mangroves present.
BI	Non-reef bioregion NA3. Reef bioregion RE4.		

8.9.19.3 Summary of submissions

- Submissions asked that the Section remain open to recreational fishing;
- Submissions outlined the attributes of Abbot Bay that make it ideal for recreational fishing. It provides protection from SE winds, excellent camping areas, and allows access to beach fishing for the general community;

- Some submissions called for greater protection of estuaries and seagrass to conserve fish;
- Some submissions called for reducing or banning commercial fishing through zoning;
- One submission stated that Queens Bay to Cape Edgecumbe is an area used by recreational fishermen and tourists in the Bowen area;
- One suggestion suggested zoning the area south of Station creek, which is patchy reef and rubble, MNPZ. It was stated that pelagic species arrive in season in this area and it is not as accessible as Camp Island due to weather conditions;
- Another submission noted that Camp Island to Elliot River is a very important fishing area with good inshore reefs for fishing, snorkelling and spearfishing.

8.9.19.4 Zoning

Proposed Zoning: HPZ and GUZ
Reasoning for Proposed Zoning:

- Camp Island south along the foreshore to the edge of the Abbot Point Bulk Coal Terminal zoned as HPZ to provide a level of protection to seagrass beds and provide a buffer to adjacent national park and nationally important wetlands. HPZ will also allow recreational and most commercial use of the Section to continue.
- HPZ 500m around Unnamed Reef 20-001 as consistent with the zone placement guidelines;
- The remainder of the Section will be GUZ to maintain the high recreational and high commercial fishing use of the Section.

8.9.20 Airlie Section

8.9.20.1 Background

The Pioneer Bay coastal area from Bluff Point to Mandalay Point is one of the smaller new coastal Sections as it excludes the area around the Airlie Beach township, Cannonvale and Pigeon Island. Airlie Beach and Cannonvale provide services, facilities and supplies for the tourism industry based in the Whitsundays, while Airlie Beach is a major tourist destination and an important departure point for many tourist operations accessing the Whitsundays.

8.9.20.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
B	Seagrass beds areas along coastline in Pioneer Bay with dugong feeding tracks often seen.	CF	Net Charter
NP	Dryander National Park.	P	Marinas, boat ramps
SU	Forms part of the high priority Whitsunday Special Unique site.	R	Popular for fishing, boating, swimming/snorkelling, camping.
CH	Mangroves	A	Airlie Beach and Cannonvale.
SLU	Urban use, tourism, sugarcane farming, cattle grazing, agriculture, small scale manufacturing.	TS	Airlie Beach is a major tourist departure point.
BI	Non-reef bioregion NA3. Reef bioregion RE4.		

8.9.20.3 Summary of submissions

- Many submissions expressed concern about the effects the secondary sewage treatment outfall pipe near Pigeon Island on water quality and seagrass meadows. Some submitters stated they have seen an increase in the amount of filamentous algae and sediments in recent years;
- Submissions reported dugong and dugong feeding tracks, and were concerned about the loss of dugong from the area;
- Some submissions wanted a limitation on mooring and anchoring within Pioneer Bay for dugong conservation;
- Submissions called for access to the Section for recreational fishing and crabbing, which was highlighted as particularly important for land-based anglers;
- Submissions discussed the importance of the Section as an access point to the Whitsundays, and wanted this to be considered in the rezoning;
- Zoning recommended was GUZ, CPZ and MNPZ.

8.9.20.4 Zoning

Proposed Zoning: CPZ

Reasoning for Proposed Zoning:

- CPZ will provide protection for the seagrass beds and dugongs that are often seen feeding in the area. CPZ will also complement the adjacent Dryander National Park. CPZ will have minimal impact on commercial fishing as little effort takes place in the Section. CPZ addresses concerns highlighted in submissions allowing residents of and tourists to Airlie Beach and Cannonvale to continue recreational activities in the Section.

8.9.21 Repulse Bay Section

8.9.21.1 Background

The Rocky Point – Midge Point coastal area extends 68.7 km along the coast and comprises the western part of Repulse Bay. It is characterised by sedimentary rock overlain by clay, silt, sand and gravel. The area supports seagrass meadows, and sparse soft bottom marine communities. It is flanked by the foreshore mudflats, extensive mangrove communities and tidal systems of the O'Connell and Proserpine Rivers.

8.9.21.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
CH	Proserpine-Goorganga Plain Wetland listed as nationally significant and shelters 3 rare bird species. Healthiest crocodile nursery in North Queensland. Outstanding mangrove wetland, dunal system and grasslands	CF	Net fishing Line fishing Charter fishing Crabbing Trawl
T	Green turtle foraging habitat.	FHA	Present.
D	The northern end of the Section is significant dugong habitat. Abuts the Repulse Bay Dugong Protection Area.	SU	Northern Repulse Bay is listed as a high priority special unique (40 percent in the new Section).
NP	Conway Range National Park, which is nationally important.	P	Boat ramp at Wilson Beach, Midge Point and Proserpine River. Marina at Laguna Keys.
R	Ease of access enables recreational fishing, crabbing and bait netting.	A	Conway Beach, Wilson Beach, Midge Point, Laguna Keys
SLU	Extensive cattle grazing, forestry and fishing related tourism.	S	The adjacent coast provides habitat for the beach thick-knee (*Esacus neglectus*), which is a vulnerable bird species in Queensland and the false water rat (*Xeromys myoides*) which is nationally vulnerable.
B	Seagrass beds adjacent to Section and Midge Point. Coastal fringing reefs.	BI	Non-reef bioregion NA3. Reef bioregion RE4.

8.9.21.3 Summary of submissions

- There was strong support from submissions for a general reduction and/or ban of commercial netting and trawling in the entire Section due to concerns about by-catch (juvenile fish species, dugong, turtle, dolphin), damage to seagrass meadows and reduction in water clarity;
- Most submissions were concerned about the maintenance of access to beaches and nearby islands for recreational fishing, boating, camping and other family-orientated activities. Many submissions stated that they moved to Repulse Bay because of the recreational fishing lifestyle;
- Commercial fishers indicated the importance of the area for their livelihood and did not want to lose access to fishing grounds.
- Some submissions were concerned about the dugong population in Repulse Bay and wished the Dugong Protection Area to remain for dugong conservation;

- Most submissions did not want the Section in MNPZ because of the perceived reduction in visitation and tourism dollars, which help sustain many local businesses;
- Some submissions were concerned about the possible devaluation of homes and businesses if the Section was MNPZ;
- Some areas were suggested as MNPZ because of the important fish breeding and nursery grounds in the Section;
- Alternatives suggested to MNPZ were reduction in bag and size limits, seasonal closures and reduction in commercial fishing effort;
- Zoning requested was HPZ, CPZ and MNPZ.

8.9.21.4 Zoning

Proposed Zoning: MNPZ and CPZ
Reasoning for Proposed Zoning:

- The majority of the Section is CPZ with the centre of Repulse Bay MNPZ. CPZ will extend from Cape Conway across to the mouth of the Proserpine River and then south around Midge Point. MNPZ extends west from (but does not include) the Repulse Island Group to meet the boundary of the CPZ.
- Repulse Bay has high recreational values including fishing, boating and other water-based activities. CPZ addresses concerns raised in submissions by allowing recreational fishing and fishing tourism to occur within the Section. CPZ also offers protection to the very significant biological values of the Section including high priority dugong habitat;
- MNPZ offers a higher level of protection to the significant biological values in the Section and helps protect the NA3 High Nutrient Coastal Strip bioregion. MNPZ also addresses support in submissions for zoning part of the Section as MNPZ.

8.9.22 Sandringham Section

8.9.22.1 Background

The Shoal Point – Sarina Inlet coastal area is characterised by mangroves and foreshore flats, sandy beaches separated by rocky headlands and includes a number of small islands. Two areas are excluded from the Section; the area including the Mackay harbour facilities from Slade Point to the mouth of the Pioneer River; and the Sandringham Bay area from Bakers Creek in the north to the areas around the Dalrymple Bay Coal Terminal and the Hay Point Coal Terminals in the south. Mackay is an important regional centre servicing agricultural and mining communities, a large commercial fishing fleet, several very large port facilities and several tourist operations. The Port of Hay Point, comprising the two separate coal terminals, caters for one of the highest tonnages of export per annum of any port in Australia (40 million tonnes/annum).

8.9.22.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
T	Low density flatback turtle nesting area and infrequent green turtle nesting.	S	The adjacent coast provides habitat for the beach thick-knee (*Esacus neglectus*), which is a vulnerable bird species in Queensland and the little tern (*Sterna albifrons sinensis*), which is endangered in Queensland.
SLU	Urban development, agriculture (cattle, timber, small crops, tree crops), tourism industries, service industries.	CF	Netting Trawl Line fishing Aquarium collecting Charter
D	Low densities.	R	High access enables recreational fishing, boating, camping throughout the Section.
B	Sparse seagrass. Soft bottom marine communities, islands and fringing reefs	H	Historic shipwrecks, *Torokina* – sunk 1970 and *Neptune* – sunk 1933.
NP	Bakers Creek Conservation Park Mount Hector Conservation Park Round Top Island National Park Newry Islands National Park	Sh	Port of Mackay, Port of Hay Point. Shipping occurs within Hay Point Port limits.
FHA	Present.	P	Boat ramps, marina (outside Section).
CH	Sandringham Bay – Bakers Creek Aggregation. Recognised as a nationally important area for shorebirds. Sand Bay Wetland – nationally significant and supports rare bird species. Mangroves present.	A	Shoal Point, Bucasia, Eimeo, Planella, Blacks Beach, Mackay, Sarina, Grasstree Beach, Campwin Beach and Sarina Beach.
TS	Tourist jetty.	BI	NA3 and NB6 non-reef bioregion. RE4 reef bioregion.

8.9.22.3 Summary of submissions

- Many submissions did not support MNPZ in the Section because the islands and reefs within the Section were the only easily accessible areas given the size for their boats. There was strong support for recreational fishing only areas. Submitters also wished to maintain fishing access to beaches;
- There was some support for MNPZ in areas because of the diversity and quality of the marine life;
- A number of commercial fishers made submissions on the importance of the Section for commercial species and wished to maintain access to the area;
- Other submissions wished to see a reduction in the amount of commercial fishing effort in the Section, however some submissions were concerned about the effects of this displaced effort;
- Submissions expressed concern about the effect that MNPZ could have on fishing tourism and property values. This was a particular concern for small communities whose income relied on fishing tourism.

8.9.22.4 Zoning

Proposed Zoning: CPZ, HPZ and GUZ
Reasoning for Proposed Zoning:

- HPZ is proposed for two areas in this Section. The first is from the mouth of the Pioneer River south to Bakers Creek Conservation Park and then seaward to include Round Top Island. The second area is from Half Tide Beach to Sarina Beach and seaward to include Victor Reef. CPZ extends from Slade Point and around past Shoal Point;
- HPZ incorporates closures under the *Fisheries (East Coast Trawl) Management Plan 1999* and a 500 buffer around reefs and islands, as per the zone placement guidelines;
- HPZ provides protection for the seagrass beds, the historic shipwreck *Neptune*, and the values associated with the Sandringham Bay- Bakers Creek Wetland, while still allowing recreational and most commercial use of the Section to continue;
- CPZ protects the biological values of the Sand Bay Fish Habitat Area and wetland as well as the historic shipwreck *Torokina*. CPZ received strong support from submissions and also protects the recreational values associated with the Section.

8.9.23 Broad Sound Section

8.9.23.1 Background

The Broad Sound area is characterised by a low energy coastline with extreme tidal ranges. Extensive foreshore mudflats and broad, shallow tidal creek systems flank the area which includes a number of islands. The Broad Sound area is an integral part of the Shoalwater Bay-Broad Sound region and it abuts Clairview Bluff and Charon Point.

8.9.23.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
T	Wild Duck and Avoid Islands adjacent to Section – which are important flatback nesting sites.	CF	Line fishing Netting Crabbing Charter Aquarium collecting Trawl
D	Clareview Dugong Protection Area to the north. Significant dugong habitat.	SLU	Cropping and livestock. Tourism is not a major industry. Adjacent to Shoalwater Bay Military Training Area.
B	Seagrass present to the north of Clairview, fringing reefs, shoals and islands	Sh	Lower half of section within St Lawrence port limits.
FHA	Present.	P	Boat ramps.

	Description		Description
CH	Broad Sound Wetland, which is of national significance. Extensive mangrove communities with very large tidal ranges.	R	Ease of access enables recreational fishing and boating throughout the Section.
A	Clairview and St Lawrence.	NP	Charon Point Conservation Park
BI	Non-reef bioregion NA3. Reef bioregion RE6 and RE7.		

8.9.23.3 Summary of submissions

- Submissions indicated more support for MNPZ in this Section than other new Sections along the coast. The main area suggested for MNPZ was the southern reach of the Section, in the mouth of the Herbert River. The reasons given for MNPZ in this area include its biological values, the lack of access due to isolation and strong tides, and the potential of the area as a breeding site for fish and crab species.
- Most submissions stated that they did not want MNPZ in the northern part of the Section, particularly adjacent to the towns of St Lawrence and Clairview.
- Maintenance of access for recreational beach and offshore fishing was an important issue raised by submissions. They placed particular emphasis on the lack of other recreational activities available to residents, the importance of fishing tourism to the local economy and potential loss in home and business values. This loss of lifestyle was an important point raised throughout the submissions.
- Professional fishers indicated the importance of the area for their livelihood and did not want to lose access to fishing grounds.
- Some submissions wanted to see a reduction in the level of commercial effort, particularly professional netters and crabbers.

8.9.23.4 Zoning

Proposed Zoning: MNPZ, CPZ, HPZ and GUZ

Reasoning for Proposed Zoning:

- Part of the Section will be HPZ to reflect the areas closed to trawling under the *Fisheries (East Coast Trawl) Management Plan 1999* and the 500m buffer around reefs and islands as per the zone placement guidelines;
- CPZ, which extends north from Clairview Bluff to the next headland, will provide protection to the high priority dugong habitat in this area. It will also provide for recreational fishing from Clairview and address support received in submissions.
- MNPZ extends from the mouth of the Herbert River north to include Avoid Island, and east to the Percy Island Group. MNPZ avoids high use recreational and commercial effort and protects the values associated with the Broad Sound Wetland. It also helps to protect the NA3 High Nutrient Coastal Strip Bioregion. Some submissions supported MNPZ in this area, as it is located away from high recreational use associated with Clairview and St Lawrence.

8.9.24 Farnborough Section

8.9.24.1 Background

The Yeppoon – Farnborough Beach coastal area is characterised by long sandy and exposed beaches. The Section excludes a small area around Rosslyn Bay-Double Head, specifically the Rosslyn Bay Marina, which is a high use area that caters for a variety of marine and tourist services, such as sailing, bareboat charters, fishing and reef diving.

8.9.24.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
R	Ease of access enables recreational fishing, boating and camping throughout the Section.	CF	Line fishing Trawl Crabbing Netting
TS	Rosslyn Bay Marina (excluded from Section) provides for marine and tourist services, including sailing, bareboat charters, fishing and reef diving. Issues include use of drumlins for shark control purposes.	S	The adjacent coast provides habitat for the beach thick-knee (*Esacus neglectus*), which is a vulnerable bird species in Queensland, and the little tern (*Sterna albifrons sinensis*), which is endangered in Queensland.
NP	Byfield National Park	H	Historic shipwreck, *Vanguard* – sunk 1953
SLU	Grazing, forestry and pineapple production, fishing and tourism.	P	Urban centre of Yeppoon, departure point for people accessing the Keppel Island Group, boat ramps and marinas.
FHA	Present.	A	Yepoon
CH	Nationally and internationally significant Corio Bay RAMSAR site adjacent to the northern part of the Section. Area also listed on the Register of the National Estate. Mangroves in north of Section.	BI	Non-reef bioregion NA3.

8.9.24.3 Summary of submissions

- Submissions expressed concern about maintaining access to the close inshore reefs and islands for recreational fishing. The area was listed as important for fishers and families with small boats. It was also identified as a popular area for 4WD fishing and camping;
- Professional fishers indicated the importance of the area for their livelihood and did not want to lose access to fishing grounds.
- Submissions requested restrictive zoning to reduce the level of commercial fishing effort that takes place in the Section. This would allow fish and seagrass to recover and help populate surrounding areas;
- Submissions expressed concerns about any displaced fishing effort that would result if zoning were to remove fishing from the Section;
- Zoning requested was GUZ, HPZ, CPZ and MNPZ.

8.9.24.4 Zoning

Proposed Zoning: CPZ and GUZ
Reasoning for Proposed Zoning:

- CPZ from the headland in Statue Bay north to join the CPZ adjacent to Corio Bay. This will complement the adjacent Byfield National Park and provide additional protection for the Corio Bay Wetlands, which shelter endangered species and are of international significance. Many submissions support CPZ in this area.
- The remainder of the Section will be GUZ to maintain commercial fishing opportunities within the Section.

8.9.25 Keppel Bay Section

8.9.25.1 Background

The Emu Park- Cattle Point coastal area is characterised by long sandy and exposed beaches and includes Girt Island. The Section does not include Port Alma, part of the Port of Rockhampton.

8.9.25.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
CH	Yeppoon-Keppel Sands Tidal Wetlands is of national significance. Also sandy beaches and rocky headlands with offshore islands and shallow bays.	CF	Line fishing Trawl fishing Netting Crabbing Aquarium collecting Charter
SLU	Urban development, agriculture	R	Fishing, crabbing, tourism, anchorage
FHA	Present	H	Historic shipwrecks, *Queensland* – sunk 1878 and *Raven* – sunk 1863.
B	Fringing reefs	P	Boat ramps
S	The adjacent coast provides habitat for the beach thick-knee (*Esacus neglectus*), which is a vulnerable bird species in Queensland.	Sh	Port Alma adjacent. Southern part of the section within Port of Rockhampton limits.
A	Emu Park, Keppel Sands.	NP	Keppel Sands Conservation Park
BI	Non-reef bioregion NA3. Reef bioregion RE8.		

8.9.25.3 Summary of submissions

- A large number of commercial fishers made submissions on the importance of the Section for commercial species and wished to maintain access to the area;
- A large number of submissions from recreational fishers requested the area to be CPZ to reduce gill netting and trawling. The area was highlighted as important for beach and close offshore fishing;

- The Section was highlighted as important area for camping/fishing activities for families;
- Submissions expressed concern over the devaluation of property if the area was made MNPZ;
- Submissions generally were opposed to MNPZ, however some specific suggestions were made for the Mother McGregor Group due to diversity of marine life and its potential as a breeding area;
- Submissions expressed concern over the displaced fishing effort if the Section had restrictions on extractive activities.

8.9.25.4 Zoning

Proposed Zoning: HPZ and GUZ

Reasoning for Proposed Zoning:

- Part of the Section will be a HPZ in accordance with the 500m buffer around reefs and islands zone placement guideline. The remainder will be GUZ in order to maintain important commercial fishing opportunities.

8.9.26 Curtis Island Section

8.9.26.1 Background

The Curtis Island Section is the smallest of the new coastal areas. The Connor Bluff-North Point area is characterised by fine-grained sedimentary rocks overlain in places by clay, silt and sand. Although small in total area, the Connor Bluff-North Point area supports a sheltered, coastal fringing reef on shelving banks, and is an integral part of the Curtis coast region.

8.9.26.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
D	The southern boundary abuts the Rodds Bay Dugong Protection Area. High priority dugong habitat adjacent to Section.	CF	Line fishing Trawl Netting Crabbing Collecting
CH	Nationally significant Port Curtis Wetland, which shelters rare bird species	R	Ease of access enables recreational fishing, collecting, boating, camping, recreational beach activities.
B	Sheltered, coastal fringing reef on shelving banks.	H	Curtis Island is on the Register of the National Estate.
Sh	Within Port area – navigation of vessels in Section.	P	Boat ramp, jetty, marina
T	Medium priority flatback nesting sites. Green and loggerhead turtles also present in Section	FHA	Present
S	The adjacent coast provides habitat for the little tern (*Sterna albifrons sinensis*), which is endangered in Queensland.	BI	Non-reef bioregion NA3. Reef bioregion RE8.

8.9.26.3 Summary of submissions

- There was strong support from submissions for maintaining access to the Section for recreational fishing. The area is accessed regularly and was highlighted as an important location for family and beach fishing.
- Some submissions wished to see professional worming and spearfishing excluded from the Section.
- Some submissions expressed concerns about any displaced fishing effort.
- Submissions identified the Section as a possible candidate for MNPZ due to its close proximity to and overuse by residents of Gladstone and surrounds.
- Zoning recommendations were GUZ, HPZ and MNPZ.

8.9.26.4 Zoning

Proposed Zoning: HPZ and GUZ

Reasoning for Proposed Zoning:

- North Point Reef and Curtis Island Reef (No4) will be HPZ in accordance with the 500m buffer around reefs and islands zone placement guidelines. The remainder of the Section will be GUZ to maintain recreational and commercial fishing opportunities within the Section.

8.9.27 Boyne Section

8.9.27.1 Background

The South of Port Curtis coastal area comprises the southern part of the Port of Gladstone. It adjoins Hummock Hill Island at Tiber Point. The Port of Gladstone, adjacent to the Section, is the largest multi-commodity port in Queensland in terms of trade throughput.

8.9.27.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
D	Port of Gladstone – Rodds Bay Dugong Protection Area. High priority dugong habitat adjacent to Section.	CF	Line fishing Trawl Netting Crabbing Collecting (aquarium and coral)
FHA	Present.	R	Fishing, boating, tourism.
SLU	Agriculture.	Sh	The Port of Gladstone adjacent to the Section. Navigation of ships in Section.
P	Vessel access.	B	Fringing reefs around Seal Rocks
BI	Non-reef bioregion NA3 and NB8. Reef bioregion RE8.		

8.9.27.3 Summary of submissions

- Seal Rocks, located within the Section, was identified as an important destination for recreational fishers. These reefs and rocks are one of a few close inshore areas available for fishers from Gladstone/Tannum Sands and Boyne residents and visitors.

- Submissions highlighted the increase in fishing effort has affected the biodiversity of the area, and suggested either CPZ (to reduce spearfishing and collecting) or MNPZ.
- Submissions discussed the safety aspect involved in making inshore reefs MNPZ, thereby making fishers travel further offshore for the same experience.
- Submissions expressed concern over commercial fishing in this area, although they also expressed concern about displaced fishing effort.
- Suggested zoning was GUZ, HPZ, CPZ and MNPZ

8.9.27.4 Zoning

Proposed Zoning: HPZ and GUZ

Reasoning for Proposed Zoning:

- Seal Rocks and associated reefs are HPZ in accordance with the 500m buffer around reefs and island zone placement guideline;
- The remainder of the Section is GUZ to enable unrestricted shipping use of the Section as it is within the Gladstone Port limits.

8.9.28 Bustard Bay Section

8.9.28.1 Background

The Bustard Head - Rocky Point area is characterised by volcanic rocks overlain by silts and sands. Scenic rocky headlands, wide tidal creek systems, and exposed sandy beaches bound the area. The area supports soft bottom marine communities and sparse seagrasses. Coastal issues include expanding coastal residential development in the areas of Agnes Water and the Town of Seventeen Seventy.

8.9.28.2 Overview of attributes (refer to Section 8, Table 7 for symbols)

	Description		Description
SU	Part area of Round Head – Wreck Rock special unique (flatback, loggerhead, leatherback turtle nesting).	CF	Netting Trawl Line Crabbing Charter
NP	Eurimbula National Park, Joseph Banks Conservation Park.	R	Ease of access enables recreational fishing boating, camping, diving.
T	Flatback, loggerhead, leatherback turtle nesting.	S	Bustard Bay Wetlands supports endangered/ vulnerable species.
FHA	Present.	P	Boat ramps, marina (1770). Anchorage area.
CH	Bustard Bay Wetlands that are mangrove dominated. Shelters rare bird species.	A	Agnes Water and Town of Seventeen Seventy.
SLU	Agriculture (cattle, timber, small crops, tree crops), urban development, tourism industries, service industries.	H	Shipwrecks – *Live Yankee* – sunk 1868. One of only 3 places James Cook went ashore in 1770. Bustard Head Lighthouse (1868).

	Description		Description
B	Sparse seagrasses. Soft bottom marine communities.	S	The adjacent coast provides habitat for the beach thick-knee (*Esacus neglectus*), which is a vulnerable bird species in Queensland, and the little tern (*Sterna albifrons sinensis*), which is endangered in Queensland.
BI	Non-reef bioregion NA3 and NB8.	TS	Tourism departure point for Capricorn Bunker Group.

8.9.28.3 Summary of submissions

- The Bustard Bay Section was highlighted as an important location for recreational fishing due to the location of adjacent national parks and camping facilities. Maintenance of access for close inshore and beach fishing was an important issue raised in submissions.
- Submitters believed that including Bustard Bay Section in MNPZ would unfairly penalise the local recreational fisher by restricting access to this easily accessible area.
- Professional fishers indicated the importance of the area for their livelihood and did not want to lose access to fishing grounds.
- Some submissions requested a MNPZ within the Section due to the expansion of nearby coastal communities and increased usage.
- Submissions discussed the biological value of the area and its importance as a fish breeding and nursery area.
- Some submissions expressed concern about any displaced fishing effort if the Section was made MNPZ.
- Proposed zoning GUZ, HPZ, CPZ and MNPZ.

8.9.28.4 Zoning

Proposed Zoning: CPZ and GUZ

Reasoning for Proposed Zoning:

- CPZ extends from Round Hill Head to Bustard Head. CPZ provides a buffer of protection to the nationally important Bustard Bay Wetland, the Eurimbula National Park and Joseph Banks Conservation Park. CPZ also addresses support in submissions for allowing recreational use of the Section (camping, fishing and boating) to continue;
- The remainder of the Section will be GUZ to maintain recreational and commercial fishing opportunities within the Section.

8.10 Achievement of the Biophysical Operational Principles

8.10.1 Principle 1 & 2: Minimum size and larger versus smaller

Thirty-seven out of fifty offshore MNPZ achieved or almost achieved this principle, (see table 15 for details). Some MNPZ did not strictly satisfy the criteria of 20 km along the ***minimum*** dimension as some MNPZ were shaped to avoid particular physical features such as reefs, cays and islands to minimise impact on existing users. Distances were measured from the centre of the MNPZ to the perimeter. Existing MNPZ and MNPZ adjacent to islands were excluded from the analysis.

8.10.2 Principle 3: Sufficient no-take areas

'*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, three to four no-take areas spread throughout the bioregion are recommended. This minimises the risk that negative human impacts or natural disturbances affect all MNPZ within a bioregion. Sixty-two out of seventy bioregions had sufficient replication of MNPZ. From the eight remaining, six achieved two thirds of the recommended level of replication. The remaining reef bioregions were too small to enable the principle to be met.

8.10.3 Principle 4: Do not split reefs between zones

Reefs are relatively discrete biological units with a high level of connectivity among habitats within them. Where possible, reefs were included into new MNPZ in their entirety. Historically some reefs have split-zoning and, in some locations, this was maintained to minimise impact on existing users.

8.10.4 Principles 5 & 6: Represent at least 20% of each reef and non-reef bioregion

The minimum amount of protection is achieved in all bioregions. For some bioregions, where there are no known activities, higher degrees of protection than the minimum amount were achieved to help ensure adequate protection for the future.

8.10.5 Principles 7 & 8: Represent cross-shelf and latitudinal diversity and minimum amount of each community type and physical type

These principles were largely achieved. See table 15 for more details.

8.10.6 Principle 9: Maximise use of environmental information

The network of areas should accommodate what is known about migration patterns, currents and connectivity between habitats and, where the information was available, this occurred. For example, important fish spawning aggregation sites and source reefs were included in MNPZ (see Section 8.2 (Marine National Park Zone)).

8.10.7 Principle 10: Include biophysically special/unique places

Thirty-seven of the 53 high priority special and/or unique sites identified in the Marine Park were afforded adequate protection. See Section 8.11 and Table 15 for more detail.

8.10.8 Principle 11: Existing sea and adjacent land uses

Where possible MNPZ have built upon existing MNPZ and have been placed adjacent to terrestrial national parks, National Estate, wetlands and mangroves (See Section 8.2).

Table 15: Achievement of the Biophysical Operational Principles

Zone Placement Guidelines for Marine National Park Zone	Draft Zoning Plan
1. Have no-take areas the minimum size of which is 20km along the smallest dimension, except along coastal bioregions. **Coastal bioregions:** **NA1 – Include 6 MNPZ, each at least 10 km in length and each separated by 70 –100 km** **NA3 – Include at least 8 MNPZ, each at least 10 km in length and each separated by 70 –100 km**	Offshore bioregions: 29/50 zones met minimum size 8/50 zones almost met minimum size 13/50 zones didn't meet minimum size Coastal bioregions: Zones 7> 10 km in length Zones 12 > 10 km in length (MNPZ were spread North/South along the coastline but were not always 'separated by 70-100 km').
2. Have larger (versus smaller) no-take areas	YES – (generally larger offshore)
3. Have sufficient no-take areas to insure against negative impacts on some part of a bioregion	62 of 70 bioregions: YES Six of the other 8 bioregions achieved 2 of 3 replicates
4. Where a reef is incorporated into no-take zones the whole reef should be included	YES – although some existing split-zoned reefs remained
5. Represent at least 20% of reef area per reef bioregion in no-take areas **Represent at least 20% of reef perimeter per reef bioregion in no-take areas**	YES YES
6. Represent at least 20% of each non-reef bioregion in no-take areas	YES
7. Represent cross-shelf and latitudinal diversity in the network of no-take areas	YES – Reflected in bioregions & habitat protection

Zone Placement Guidelines for Marine National Park Zone	Draft Zoning Plan
8. Represent a minimum amount of each community type & physical environment type in the overall network taking into account principle 7	
Halimeda beds 10%	YES
Shallow water seagrass 10%	YES
Deep water seagrass 10%	YES
Algae – known habitat 10%	YES
Epibenthos – 5% of different faunal classes	YES
Dugong habitat (Approx 50% of area of 29 sites)	YES
Where cays exist within a bioregion capture 2 examples	~41% in MNPZ, ~12% in CPZ
Intereef channels – capture a least one intereef channel per bioregion where they exist	YES for 7 of 12 bioregions
Capture 5% of reef area in each of five reef-size classes	YES for 11 of 17 bioregions
Oceanographic diversity in water quality	
5% of non reef area in regionalisation	YES
5% of reef area in regionalisation	YES for 15/16 non reef area
5% of non-reef area in plume categories	YES for 15/16 reef area
5% of reef in plume categories	YES
Major turtle habitat (20% foraging)	YES, ~22%
All high priority turtle nesting sites	YES, Flatback & green > 80% area. Loggerhead & hawksbill > 40% area.
9. Maximise use of environmental information to determine the configuration of no-take areas to form viable networks, for example, Include important source reefs	YES
10. Include biophysically special/unique places	YES for 37/53 high priority sites (20 already in Green zones)(see Table 17 for detail)
11. Include consideration of sea and adjacent land uses in determining no-take areas	YES – Where possible MNPZ have been placed adjacent to terrestrial national parks, National Estate, wetlands and mangroves (refer Section 8.2 (Marine National Park Zone))

8.11 Special and unique sites

The reef and non-reef panel of experts, (further described in the Draft Regulatory Impact Statement and in Kerrigan et al. (in prep)), and key informants identified a large number of biologically or physically significant sites within the GBRWHA. For sites to be considered special-unique they were assessed against five criteria, including geographic explicitness, supporting publications, biological justification, GBRMPA's obligations (refer Stokes and Dobbs 2001), and the number of independent sources highlighting the location. Sites meeting these criteria were then categorised as Special-Unique.

Of the 411 sites identified by the panel of experts and key informants, 55 were considered Special-Unique. However two of these sites (Hinchinbrook Channel and Curtis Island South) occurred outside the Marine Park, and were therefore beyond the scope of this Draft Zoning Plan. Two other areas, Coastal: Corio Bay and Water

Park Point and Curtis Island North, were mostly out of the Marine Park. An assessment about how to best protect the remaining 53 special and unique sites was undertaken.

Although the SSC broadly recommended that all the sites should, as far as possible, be included in MNPZ, an analysis of each site and its values indicated that zoning other than MNPZ could, in many instances, provide adequate protection. For other sites zoning would not necessarily be the best method of protecting the biological values, and other management tools such as plans of management, Regulations or permit conditions would be more appropriate. As such, 43 have been partly or wholly included in MNPZs, although 20 of these sites were in MNPZ or PZ through previous Zoning Plans (an additional 12 were partly in MNPZ or PZ). Table 16 lists the special and unique sites, a description of each and the proposed draft zoning.

Table 16: Special unique sites and their conservation values

Site	Previous Zoning	Comments
Boydong Islet SU P T S B	MNPZ	This area is currently MNPZ through the Far Northern Cross-shelf transect (MNP-11-31) The island is significant hawksbill turtle nesting site and estuarine crocodiles have been reported on this reef.
Offshore: Moulter Reef to Jukes/Raine Reefs & south to 5-Reefs SU S H B	MNPZ HPZ	Zoned MNPZ (MNP-11-31). The current MNPZ cross shelf transect has been built upon to include Five Reefs which were previously the only reef in this special unique to be excluded from the cross shelf transect. The area contains mobile *Halimeda* beds, whales and whale sharks and the Pandora shipwreck.
Raine Island Reef SU T S TS B H	MNPZ	This area has been zoned MNPZ (MNP-11-31) as part of the Far Northern cross-shelf transect. Raine Island Reef is highly important for sea birds, turtles, sharks and many other species. It is a killer whale aggregation site and has underwater topography and marine life of significant diversity and in some cases in very limited and fragile numbers.
Three Reefs SU TS B	MNPZ	These reefs remain protected though the far northern cross shelf transect (MNP-11-31). This area is important to dive and boutique cruise industries as having underwater topography and marine life of significant diversity and in some cases in very limited and fragile numbers.
Shelburne Bay SU T D B	MNPZ	Existing MNPZ (MNP-11-31) remains to protect the large amounts of seagrass found in this area, which provides significant turtle and dugong habitat. The area also includes many important reefs.
Sandbank No. 8 SU T S	MNPZ	Existing MNPZ (MNP-12-35) remains to protect the significant green turtle internesting habitat and seabird nesting found at this site.
Sandbank No 7 SU T S	MNPZ	Existing MNPZ (MNP-12-35) remains to protect the high number of masked and brown boobies and important internesting green turtle habitat. The Cay is considered of importance for nesting colonies of lesser crested tern as there are few of these sites in the Marine Park.
Hedge Reef SU T D B	HPZ	Hedge Reef remains zoned as HPZ, which offers a level of protection to this special sand reef which other than Grub and Corbett Reefs, doesn't occur elsewhere in the Marine Park. The reef is important geomorphologically and also contains seagrass, which is important for turtle and dugong feeding. Grub and Corbett Reefs which have similar values have been zoned MNPZ (MNP-13-40).
Corbett Reef SU T B D	MNPZ	This area has been maintained as MNPZ (MNP-13-40). Hedge, Grub and Corbett Reefs are a type of special sand reef, which does not occur elsewhere in the Marine Park. They are important geomorphologically and also contain seagrass, which is important for hawksbill and green turtle and dugong feeding.
Clack Reefs & Island SU T TS	MNPZ	This area is currently MNPZ (MNP-13-40), which offers protection to significant hawksbill & green turtle foraging areas. The area is also important to dive and boutique cruise industries as having underwater topography and marine life of significant diversity and in some cases in very limited and fragile numbers.
Whole of Princess Charlotte Bay to the North SU S B CF R	Unzoned GUZ HPZ CPZ	The area has been zoned MNPZ (MNP-14-43) and HPZ. It is a very species rich area. The MNPZ has been extended and HPZ replaces the CPZ, as this will offer the level of protection needed for the biological values in this region and allows some fishing to continue.

Site	Previous Zoning	Comments
Princess Charlotte Bay SU D S CF R	MNPZ CPZ	The area has been zoned MNPZ (MNP-14-43) and HPZ. The area of MNPZ has been extended and HPZ replaces CPZ, as this will offer the level of protection needed for the biological values in this region and allows some fishing including netting to continue. The HPZ will be overlayed by a SMA. Princess Charlotte Bay is highly important for a range of taxa and habitats. It is one of most important dugong areas in the northern GBR. Both commercial and recreational fishing occur in the region.
Bathurst Bay Flinders Island Group SU S D R CF P B	CPZ	Recreational and charter fishing is high in this area. Bait gathering also occur for the northern mackerel fleet. It is also an important anchorage. The Bathurst Bay CPZ (CP-14-172) has been extended to include this island group CPZ, which will increase protection for dugong transiting the area. CPZ also affords protection to seagrass and allows some fishing use of the area to continue. CPZ affords protection to seagrass.
Coastal: Starcke River Region from Ninian Bay to Lookout Point SU B D T S NP	Unzoned GUZ MNPZ PZ	This area has been described as 'Seagrass Heaven'; seagrasses are almost continuous from the coast out to the Ribbon Reefs. This makes the area very important for turtles, dugongs and fish. In the north, Howicks, Switz and Waining Reefs are very important for solitary corals. The area has been zoned as MNPZ (MNP-14-42, MNP-14-44) and PZ (PZ-14-8) with a small amount of CPZ (CP-14-173) and GUZ.
Howick Group SU B T R	CPZ	The group remains CPZ (CP-14-174) due to high level of recreational fishing. CPZ provides for protection of conservation features including a significant hawksbill turtle foraging area.
Lizard Island Reef SU B P TS R	MNPZ CPZ	Lizard Island Reef contains sponges not found elsewhere and a diverse invertebrate community and seagrass. The lagoonal system formed within a complex of continental islands is very unusual in the Marine Park. The area has been zoned MNPZ to include 16 percent of reef habitat within MNPZ (MNP-13-39) which will provide for more comprehensive protection. This occurs on both the east and west side of the island. The rest of island is zoned SRZ (SR-14-684) to allow scientific research activities to continue whilst maintaining a high level of protection to the habitats.
Lagoon: westward of Hicks, Day, Carter, Yonge, Unnamed Reefs & Ribbon Reef No.10 SU S	GUZ HPZ	Zoned as MNPZ (MNP-14-45), CPZ (CP-14-175) and HPZ. This area is host to large numbers of dwarf minke whales. The proposed zoning offers a level of protection to these whales. Higher protective zoning would not necessarily offer any further protection.
Ribbon Reef No.10 SU TS S B	MNPZ HPZ	Part of Ribbon Reef No.10 is an existing MNPZ (MNP-14-45) and is a large ribbon reef, which is important habitat for dwarf minke whales at its southern end and the Cod Hole is present at its northern end which is important to dive and boutique cruise industries.
Michaelmas Reef SU H S B TS	MNPZ	This area remains MNPZ (MNP-16-58) as it is important to dive and boutique cruise industries as having underwater topography and marine life of significant diversity and in some cases in very limited and fragile numbers. The area contains a historic shipwreck, which supports corals and abundant fish life and significant seabird nesting sites.

Site	Previous Zoning	Comments
Brook Islands & Reef: North, Tween, Middle, South Island SU P S B D TS	MNPB	These islands and reefs are already MNPZ (MNP-18-74), which protects the natural values of the area and provides for regular tourism activities to the reefs, although access to the Island is prohibited. The Islands are surrounded by corals, which are among the world's oldest and important seagrass beds providing important dugong habitat. They are also a recognised seabird nesting site for torres strait pigeons, little black naped and bridled terns.
Hinchinbrook Region SU D NP T CF TS S	State waters GUA GUB MNPA MNPB	This region has many natural and human use values. Rich and productive seagrass meadows are important for providing dugong habitat and are important nursery and food habitat. It is a very important area for turtles, dugong and prawns. Although it is impacted heavily by down-stream run-off. Commercial and recreational fishing are high use in this area.
Hinchinbrook Island SU NP P D CH B T R	GUA GUB MNPA	MNPZ (MNP-18-74) extending offshore from Cape Richards to Cape Sandwhich. CPZ in Missionary Bay (CP-18-195), CPZ in Ramsay Bay (CP-18-196). MNPZ (MNP-18-75) around Agnes Island to the northern headland of Zoe Bay encompassing Thorsborne Bay. Zoe Bay is CPZ (CP-18-198). MNPZ (MNP-18-76) around Hillock Point. CPZ in Mulligan Bay (CP-18-199). This zoning will provide protection to the natural values of Hinchinbrook whilst allowing most extractive activities to continue. Hinchinbrook Island is a scenic wonder with significant indigenous values associated with it. It is a National Park. Missionary Bay is an important dugong and turtle area with extensive seagrass beds and extensive, well developed mangrove channels adjacent. Zoe Bay is a very wide sandflat in a sheltered bay, with mangrove creeks on each end. Little Ramsay Bay has a very great concentration of unique habitats along a steep gradient, e.g. freshwater - brackish – marine.
Myrmidon Reef SU S TS R CF	MNPA	Zoned MNPZ (MNP-17-71). This reef is protected as part of a larger MNPZ. There are large numbers of manta rays and a historic wreck on the reef, which offers a high level diving experience. The outer reef is of special biological value. The island is a significant site for seabirds.
Palm Island Group SU S TS CF R	GUB MNPA MNPB	Waters surrounding Orpheus Island have been zoned SRZ (SR-18-154) to reflect the high amount of research that occurs, CPZ (CP-18-201) and MNPZ (MNP-18-78). Water surrounding Fantome Island have been zoned HPZ. Waters surrounding Curacoa Island have been zoned HPZ and MNPZ (MNP-18-80). The waters surrounding Palm Island have been zoned CPZ (CP-18-202) and HPZ. Curacoa Channel and other waters surrounding the Palm Island Group is zoned HPZ. The Palm Island Group has well developed, very diverse fringing coral reefs and contains seabird rookeries. Human use of the area is diverse including research, commercial fishing & collecting, traditional fishing & hunting, resort use and recreational activities such as diving. The area is highly important for a range of taxa and habitats. The level of zoning will offer protection to these natural values whilst allowing current use to continue.

Site	Previous Zoning	Comments
Bowling Green Bay SU B CH D CF	GUA MNPA SRZ	The area has been zoned MNPZ (MNP-19-91), CPZ (CP-19-207), SRZ (SR-19-155) and GUZ. The MNPZ captures a proportion of important seagrass, wetlands, dugong habitat and a spawning aggregation site. The CPZ accommodates recreational users while providing protection for seagrass where possible. The GUZ allows for the commercial trawl, net and crab fisheries to continue and the SRZ accommodates research interests. Adjacent to 1 of 2 RAMSAR sites in the World Heritage Area.
Yongala Wreck SU H B S TS	MNPB	This area remains MNPZ (MNP-19-90) to protect the historic shipwreck, which supports corals and abundant fish life.
Eshelby Island SU S P	PZ	This area remains as PZ (P-20-19) in order to offer a high level of protection to the representative fringing reef community and to the important breeding area for several species of seabirds.
Whitsundays SU TS B S R	GUA GUB MNPA MNPB	The Whistunday Islands are geomorphologically unique. In general habitat diversity around the high continental island complexes is often unusually high, probably due to very diverse geomorphology, and some habitats are not found anywhere else. It is a highly important area for a range of taxa and habitats including a humpback whale calving area. The area is also a high use area for tourism and recreational fishing, boating and diving. The Whitsundays have been given a range of zoning to offer protection to natural values and allow current human use to continue. Some areas have been zoned MNPZ (MNP-20-93, MNP-20-101, MNP-20-102, MNP-20-104, MNP-20-105, MNP-20-106, MNP-20-108, MNP-20-110, MNP-20-111) and CPZ and HPZ.
Repulse Bay – (Northern) SU NP S CH D T CF R	Unzoned GUA	A area has been zoned of CPZ and MNPZ (MNP-20-112) was placed to protect migratory irrawaddy dolphins, seabirds, dugong, turtle and crocodile populations and as a fish nursery which would provide spillover into adjacent areas, whilst still accommodating recreational use.
Bushy-Redbill Reef SU S T	MNPB	This area remains MNPZ (MNP-20-120) as Bushy Island is important for seabird roosting and nesting and protects green turtle internesting habitat. There is some research use of the area.
Distant Cay SU S T	MNPB	This Reef surrounding the Cay has remained in MNPZ (MNP-20-109) to protect the important seabird roosting and nesting sites and loggerhead and green turtle internesting habitat.
Avoid Island SU T R	GUB	This area is zoned MNPZ (MNP-21-126) to protect importance of flatback turtle internesting habitat.
Wild Duck Island SU T R CF	GUA	Wild Duck Island Reef has been retained as HPZ (HP-21-559), which offers a level of protection to the flatback turtle internesting habitat. Commercial and recreational fishing occur in the area as does diving. HPZ zoning will enable these uses to continue.
Bacchi Cay S T	GUB MNPB	The current MNPZ has been built upon to preserve the biological values of this area and to make this a more adequately sized candidate area. It protects seabird nesting and turtle internesting habitat. This Reef surrounding the Cay has been included in MNPZ (MNP-21-127) to offer protection to the important seabird roosting and nesting sites and loggerhead and green turtle internesting habitat.

Site	Previous Zoning	Comments
Thomas Cay (Twin Cay) SU S T	MNPB	This Reef surrounding the Cay has remained in MNPZ (MNP-21-127) to protect the important seabird roosting and nesting sites and loggerhead and green turtle internesting habitat.
Frigate Cay SU S T	MNPB	This Reef surrounding the Cay has remained in MNPZ (MNP-21-127) to protect the important seabird roosting and nesting sites and loggerhead and green turtle internesting habitat.
Price Cay SU S T	MNPB	This Reef surrounding the Cay has remained in MNPZ (MNP-21-127) to protect the important seabird roosting and nesting sites and loggerhead and green turtle internesting habitat.
Bylund Cay SU S T	MNPB	This Reef surrounding the Cay has remained in MNPZ (MNP-21-127) to protect the important seabird roosting and nesting sites and loggerhead and green turtle internesting habitat.
Shoalwater Bay SU S B D T CH CF R	GUA GUB	The area has been zoned MNPZ (MNP-22-129) to protect the important biological and physical attributes of the area. Part of the area has been zoned CPZ (CP-22-223) to accommodate users of Thirsty Sound. The area is important and unique in terms of algae; 10 taxa of algae are present that are not recorded elsewhere, corals are similar. The area contains rich and productive seagrasses with some unusual seagrass morphologies and possibly new species. This seagrass is extremely important to the large local populations of dugongs and turtles. Shoalwater Bay is also one of two RAMSAR sites in the World Heritage Area.
Coastal: Corio Bay and Water Park Point SU CH S	State Waters GUA	Most of the special unique is in State waters, however it extends into the Marine Park around Water Park Point where it is CPZ (CP-22-235). Corio Heads is a known aggregation site for black jew and barramundi. There is an exposed rocky foreshore with intertidal communities of relatively high density including oyster banks, barnacles and shells. It is a major migratory shorebird roosting sites. The area is also is a RAMSAR site.
Outer Rocks SU TS B R	GUA	Outer Rock Reef is included in MNPZ (MNP-23-133), which will offer protection to fringing coral diversity, which is important for diving.
Egg Rock SU B TS R	MNPB	Remains as MNPZ (MNP-23-138) to offer protection to its well developed fringing reef which offers high level diving due to coral diversity. Extensive tourism and recreational use of the area.
Peak Island Reef SU T	PZ	This reef has remained PZ (P-23-27) to offer protection to flatback turtle internesting habitat.
Curtis Island - North SU S	State Water GUA	Most of the special unique is in State waters, however it extends slightly into the Marine Park around Cape Keppel. The parts of Curtis Island North Reef, which are within GBRMPA jurisdiction and have been zoned HPZ and GUZ.
Tryon Island Reef SU T S R	GUB MNPB	This reef has been included in MNPZ (MNP-23-135) to offer protection to turtle internesting habitat and important seabird nesting sites. The reef offers unique diving, which will also be protected.
North West Island Reef SU T S	GUB MNPB	The reef is zoned CPZ (CP-23-239) and MNPZ (MNP-23-141) to protect turtle internesting and seabird habitat.

Site	Previous Zoning	Comments
Wilson Island Reef SU T S R	GUB	This reef has been zoned CPZ (CP-23-239) to offer protection to turtle foraging habitat and important seabird nesting sites. The reef is connected to Wreck Island Reef's underwater reef systems. CPZ allows some current fishing use to continue.
Wreck Island Reef SU T S	PZ	This reef remains as PZ (PZ-23-26) and now is surrounded by MNPZ (MNP-23-142) buffer. This will offer a high level of protection to green and loggerhead turtle internesting habitat and seabird sites.
Heron Island Reef SU T S B TS R CF P H	MNPA MNPB	The area has been zoned MNPZ (MNP-23-144) to incorporate the western side of the reef and the lagoonal area into a larger MNPZ providing more adequate protection. The CPZ (CP-23-239) provides for recreational, charter, anchorage and resort tourism to continue. The SRZ (SR-23-156) provides for research use and research monitoring. The proposed zoning continues offering a high degree of protection to turtle foraging and internesting and seabird habitat.
Masthead Island Reef SU T S	GUB MNPB	The reef is zoned MNPZ (MNP-23-144) to protect turtle internesting and seabird habitat.
Capricorn Bunker Group SU S T TS R CF	GUB MNPA SRZ MNPB PZ	This group has been zoned as HPZ, CPZ, SRZ, MNPZ and PZ to offer appropriate level of protection to special and unique values while maintaining a level of extractive access to this highly used and important area, especially for commercial line fishing and collecting. Special and Unique values include the highly important range of taxa and habitats. There are fish populations that are genetically endemic to the area. Between Wistari and Heron Reefs there are deep channels containing species that are characteristic of the Far North around Lizard Island, these species are not apparent anywhere else in southern region, possibly signifying unique recruitment patterns to this region. The area also contains critical internesting habitat for green and loggerhead turtles and critical foraging habitat for green, loggerhead and hawksbill turtles. Significant bird nesting sites are present along with a high amount of tourism.
Lady Elliott Island Reef SU TS R S	MNPA MNPB	The current MNPZ (MNP-23-146) has been built upon into a larger zone, which includes Lady Elliot Island Reef. This will offer protection to the southernmost reef in the GBR Region and to its significant manta ray habitat and associated diving opportunities.
Coastal: Round Hill Head to Wreck Rock SU T	GUA	This area has been zoned with a small amount of GUZ and mostly MNPZ (MNP-24-148) to protect the loggerhead and leatherback turtle internesting habitat.

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10 Appendicies

10.1 Description of reef bioregions.

The table provides bioregion identification, bioregion name and description/justification. The term *'biologically distinct'* refers to differences in absolute and relative abundances of species of hard and/or soft corals and/or fish and/or macroalgae.

RA1 Deltaic Reefs Distinct geomorphology, coral and fish. Torres Strait influences (strong currents). Less exposed to Coral Sea than RA2 due to widening of continental shelf.
RA2 Outer Barrier Reefs Distinct geomorphology, coral and fish. Coral Sea influence. Mosaic of steep, exposed high-energy fronts and current-swept channels. Leeward reef benthos has a mix of clear-water and coastal species.
RA3 Outer Shelf Reefs Distinct geomorphology, with more submerged reefs than elsewhere. Transition zone. Open matrix of reefs allows greater Coral Sea influence, little coastal influence.
RA4 Strong Tidal Outer Shelf Reefs Continental shelf protrudes widely but slopes gently. Small outer reefs set back from the edge. Strong tidal movement, high-energy area, biologically distinct.
RB1 Far Northern Outer Mid Shelf Reefs Distinct biologically from true outer-shelf or mid-shelf reefs. Species-rich benthos. Mostly smaller reefs, dominated by shoals.
RC1 Torres Strait Influenced Mid Shelf Reefs Reefs small, and have Torres Strait influence. Biologically distinct from RC2.
RC2 Far Northern Protected Mid Shelf Reefs RC2 & RD have highest species diversity of octocorals on the GBR. Larger shoals and reefs than RC1. Rich hard-coral communities. Extensive reef flats and shoal terraces, separated by diverse channel system (some calm and sheltered, others with strong flow). Many turtle sightings.
RD Far Northern Open Lagoon Reefs RC2 & RD have highest species diversity of octocorals on the GBR. Small islands and low vegetated isles with fringing reefs as well as near-shore platform reefs. Distinct and species rich coral communities. Species rich algal communities. Less fish diversity than RC2. Many turtle sightings.
RE1 Coastal Far Northern Reefs Relatively rich in both hard and octocoral species. Sediment resuspension during south-east trade winds. Biologically distinct patches of reef.
RE2 Coastal Northern Reefs Higher species richness, and more *Sargassum* than in RE3. Low soft coral cover, but higher richness than RE3. Silty in sheltered areas. Sediment resuspension during south-east trade winds. Biologically distinct patches of reef.
RE3 Coastal Central Reefs Biologically distinct, patchy reefs; more exposed to prevailing winds than RE2. Very low soft-coral diversity and cover, but rich in gorgonians on deeper reef slopes. Influenced by episodic Burdekin River plumes and other annual river plumes. Very muddy in sheltered areas and on deeper slopes. Sediment resuspension during south-east trade winds.

RE4 Coastal Southern Reefs Moderate tidal ranges, moderate to high turbidity. Broad Sound mouth and Proserpine River influence on water quality. Varying exposure levels within the region, fairly high habitat diversity. Biologically distinct.
RE5 High Tidal Fringing Reefs Very high turbidity, thus habitat for light-avoiding benthos at the base of the reefs. Strong coastal influence and unusually strong currents for inshore area, strong tidal movements and high tidal range. Well-developed fringing reefs, with poor hard and soft coral communities, but rich gorgonian and algal communities.
RE6 Incipient Reefs Area has lots of algae and only incipient reefs. Very high turbidity and tidal movements. Strong southern influences on coral and algal species.
RE7 Tidal Mud Flat Reefs Greatest tidal range and tidal movements on the GBR. Higher turbidity than RE5 and RE6. Very few reefs or corals, but distinct algal communities.
RE8 Coastal Southern Fringing Reefs Dominated by episodic Fitzroy River flood plumes. Southern influence in algal species. Fringing reefs around high continental islands with high cover of hard and soft coral and algae, but low coral diversity.
RF1 Northern Open Lagoon Reefs Small islands and low vegetated isles with fringing reefs. Muddy influence from wet tropical rivers. Distinct in terms of reef size and assemblages (soft coral, fish and algae).
RF2 Central Open Lagoon Reefs Region dominated by episodic Burdekin flood plumes. Sea floor deeper and lagoon significantly wider, with more tidal movement than RF1. Few reefs and islands.
RG1 Sheltered Mid Shelf Reefs Sheltered by outer barrier reefs. Reefs may form lagoons. Distinct hard and soft corals, fish and algae. Octocoral assemblages diverse, mostly clear water species and some coastal species.
RG2 Exposed Mid Shelf Reefs Fairly exposed to Coral Sea, with clear water and strong wave action on outer area. Reefs may form lagoons. Episodic Burdekin flood plumes may reach inner reefs adjacent to RF2, resulting in greater cross-shelf variation than in many other bioregions.
RHE Strong Tidal Mid Shelf Reefs (East) High energy/high tidal movement. Turbid water. East Australian Current splits so there is an eddie in the open area where there are small well-spaced reefs. Many smaller fish - possibly high-recruitment area. High water column productivity. Biologically distinct (fish). Leeward parts of reefs dominated by filter-feeders. Fuzzy boundary with RSWM.
RHW Strong Tidal Mid Shelf Reefs (West) High energy/high tidal movement. Turbid water. High water column productivity. Biologically distinct (fish). Leeward parts of reefs dominated by filter-feeders.
RHC High Continental Islands Reefs *Palm Islands*: Geomorphologically unique, with high diversity (habitat and benthos) due to exposure to clear water by the Palm Passage on the eastern sides, very sheltered and muddy coastal habitats on the protected sides, and current-swept channels between the islands. *Whitsunday Islands*: Geomorphologically unique. Both cross-shelf and north/south gradient in benthic communities. Species-poor, muddy reefs close to the Proserpine River. Unique and very fragile hard and soft coral communities in the inlets.

RHL Hard Line Reefs Geomorphologically distinct. Extensive outer barrier, set well back from edge of continental slope. Fish communities less diverse, but similar to Swain Reefs and Whitsundays. Strong influence from Broad Sound, high tidal energy. Current-swept channels with steep walls, sheltered leeward-reef communities with low diversity but high abundances of selected species.
RK Strong Tidal Inner Mid Shelf Reefs High turbidity and very high water column productivity. Distinct from RHW and RHE. Rich bivalve, sponge and ascidian (sea squirt) dominated communities on leeward-reef slopes. Distinct fish communities (including baitfish) with lower diversity. Strongly influenced by Broad Sound tidal node.
RCB1 Capricorn Bunker Outer Reefs RCB1 & RCB2 oceanographically isolated, may be biologically distinct from the rest of GBR. Set back from edge of continental shelf but very exposed due to local currents. Distinct differences in coral trout populations compared with the Swain Reefs and elsewhere on the GBR. High soft-coral diversity.
RCB2 Capricorn Bunker Mid Shelf Reefs RCB1 & RCB2 oceanographically isolated, may be biologically distinct from rest of GBR. More turbid, more sheltered and more algae than RCB1, characteristic of mid-shelf area. Good turtle-feeding habitat.
RSWM Swains Mid Reefs Very sheltered. Biologically distinct communities from Swains Outer Reefs (RSWO). Many cays. Fuzzy boundary with RHE.
RSWN Coral Sea Swains-Northern Reefs Near edge of continental slope. Northerly aspect. Biologically distinct with strong influence of Coral Sea fauna and some similarities to northern outer-shelf reefs, but lower diversity of hard and soft coral species.
RSWO Swains Outer Reefs Set back from shelf edge. Easterly aspect. Lower influence of Coral Sea fauna than RSWN. Biologically distinct from Mid Swains (RSWM), more similar to Capricorn Bunker Outer Reefs (RCB1). Communities on flanks and leeward sides dominated by xeniids, a large and very characteristic group of soft corals, unique in their ecology and biology.

10.2 Description of non-reef bioregions.

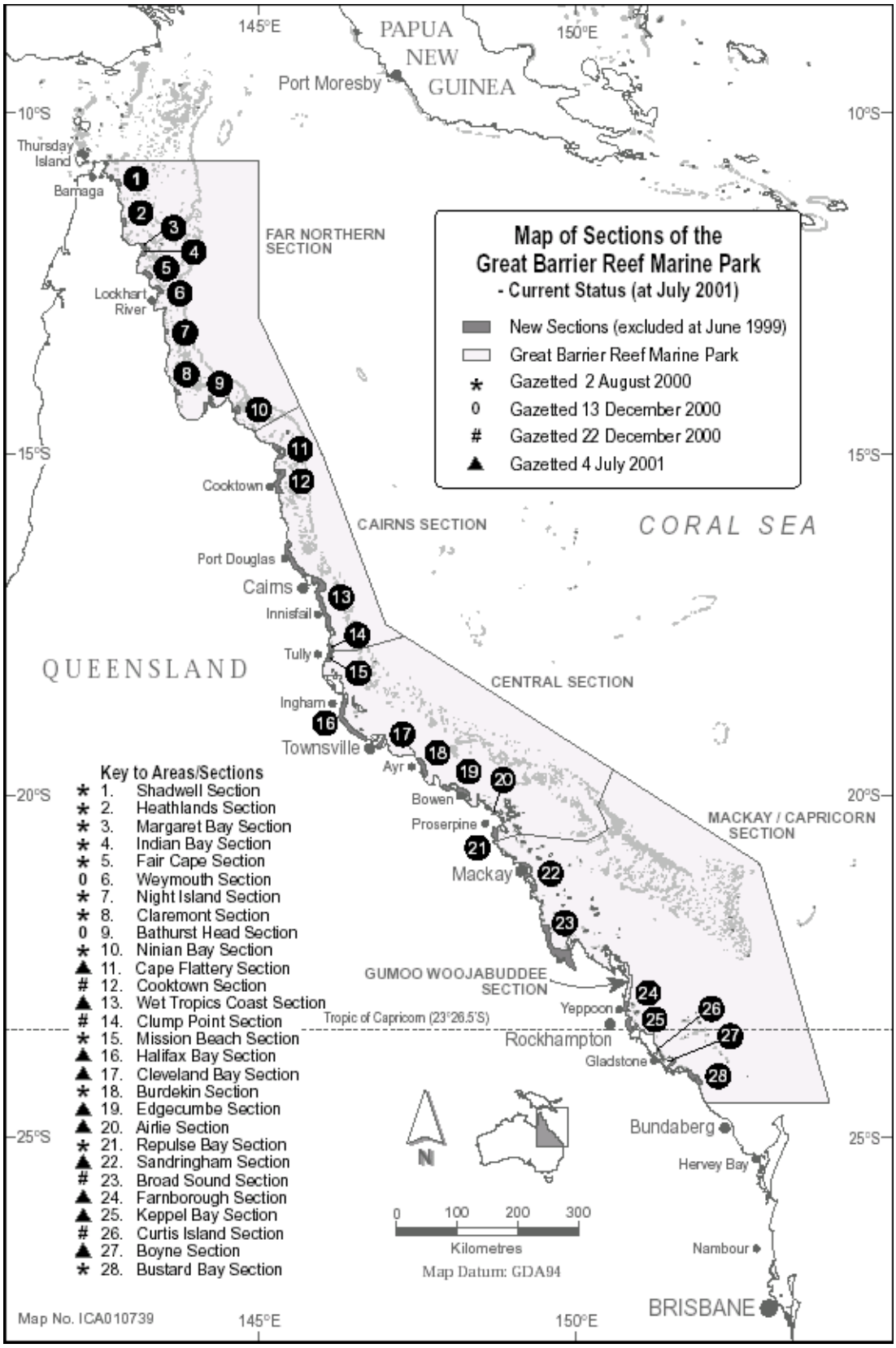
The table provides bioregion identification, bioregion name and description/justification. The term '*biologically distinct*' refers to differences in absolute and relative abundances of seagrasses and/or sponges and/or general epibenthos and/or pelagic fishes.

NA1 Coastal Strip Sand rather than mud, low carbonate and low nutrient. Dry tropic influence from land. Very dense seagrass in places – some areas important for dugong and turtle feeding. Boundaries of bioregion along the coast match changes in shoreline type.
NA3 High Nutrients Coastal Strip Terrigenous mud and high levels of nutrients from the adjoining land. Seagrass in sheltered sites only. Good turtle and dugong feeding habitat. Wet tropic influence for much of the coast.
NA4 Inshore Terriginous Sands Strong Broad Sound tidal influence. Very mobile sands, little algae or seagrass.
NB1 Inshore Muddy Lagoon High carbonate sand, prawn habitat. Rich soft-sediment sponge fauna, 24% not yet recorded elsewhere.

NB3 Inner Shelf Seagrass Fine sediment area with distinct invertebrate and fish communities. Seasonal seagrass in patches. Distinct gorgonian fauna, associated with low wooded islands. Boundary for sponges and gorgonians extends south to Cape Grafton only.
NB5 Inner Mid Shelf Lagoon Coarse sediment from land influences (medium-high land input). Sparse seagrass.
NB6 Inner Shelf Lagoon Continental Islands Strong currents with some gravel and hydroids around Pine Peak Island. Some gorgonians and low reef sites, water very turbid. Seagrass meadows in some bays.
NB7 Mid Shelf Lagoon Muds dominate, minimal algae or seagrass. Leeward parts of Hook and Bait Reefs are geomorphologically different. Very steep, extensive benthos, gravel, low sponge diversity but only 21% of species are similar to those in southern lagoonal reefs. Mobile sand dunes influenced by strong East Australian Current.
NB8 Capricorn Bunker Lagoon *Halimeda* and seagrass up to 50% cover. Mixing of southern inshore and tropical inshore sponge species, 28% not yet found elsewhere.
NC Mid Shelf Inter Reef - Seagrass Fine sediments, high carbonate content between a large number of reefs. Contains deep water shoals.
ND Mid Shelf Inter Reef Shelly sands, almost no fine sediments. Very little seagrass. Abundant crinoids (feather stars).
NE Outer Shelf Lagoon *Halimeda* Banks. *Caulerpa* goes only as far as the inner edge of the shelf edge. Eastern boundary follows the inner boundary of the Ribbon Reefs.
NF *Halimeda* Banks – some coral *Halimeda* and *Caulerpa* banks with deep rubble reef or sparse coral patches. NE/NF boundary follows Pollard Channel.
NH Mid Shelf Sandy Inter Reef Fine sediment low density seagrass beds, known turtle foraging sites.
NI *Halimeda* Banks Dense *Halimeda*, almost no coral, some seagrass.
NJ Princess Charlotte Bay Outer Shelf Sandy change to carbonate sediments. Red-spot king prawn grounds.
NK Princess Charlotte Bay Muddy bay, surrounded by silica sand deposits with low nutrient levels. Some seagrass.
NL1 Outer Shelf Algae and Seagrass Areas of medium density seagrass and medium density algae, diverse solitary corals. High diversity of sponge species at Lizard Island and North and South Direction Groups, 28% not yet recorded elsewhere on the GBR.
NL2 Outer Shelf Seagrass Some shelly sands (very coarse) with smaller areas of seagrass and algal gardens (low density).
NL3 Outer Shelf Inter Reef - Central Shelly sands with very sparse algae and seagrasses.
NL4 Outer Shelf Inter Reef - Southern High currents. Coarse sediments. Available data indicates low biomass and high diversity of biota.

NL5 Swains Inter Reef Rich sponge fauna, 26% not yet recorded elsewhere on GBR, and only 31% of species occurring in both Swain and Capricorn Bunker regions. Complex and rocky in places, with lower tidal current than in NL4. Fuzzy boundary with NL4. Some *Halimeda* and some seagrass in patches in middle Swains.
NM Mid Shelf Seagrass Dense seagrass beds. Very muddy area with distinct invertebrate and fish communities. High diversity of sponges near Turtle Islands group with 36% not yet recorded elsewhere in GBR region.
NN Capricorn Bunker Banks Pre-reef *Halimeda* deposits around Capricorn Bunker reefs. Diverse sponge fauna (187 species), mostly different from southern fauna (NB8), slightly more similar to northern island-group faunas (NL5).
NO Capricorn Trough Deep oceanic influence. Mix of pelagic (e.g. foraminifera) and *Halimeda* deposits. Very fuzzy boundary between NO and NB7.
NP Eastern Plateau Based on depth, region broadens towards Eastern Plateau; some fine pelagic sediments.
NQ Steep Slope Very steep slope dropping off to depths of 2500+m. Slopes prone to slippages.
NR Queensland Trough More moderate slope than NQ; mostly fine pelagic sediments.
NS Intermediate Broad Slope Widening of slope with lower gradient; mostly fine pelagic sediments.
NTW Western Pelagic Platform Gentle, broad slope; number of sediment drifts (mobile sand banks formed under East Australian Current); fine pelagic sediments punctuated by many coral shoals. Oceanic sharks and large bluespot trout present.
NTE Eastern Pelagic Platform Gentle, broad slope. Mostly fine pelagic sediments with several long (30 n.mile) E-W shoals of extensive plate corals to 5-10 m depth. A number of mobile sand banks have formed under East Australian Current.
NU Terraces Characterised by hard substrate seafloor terraces at depths of 90-300 m terraces punctuated by shoals to depths of around 10 m.
X1 Far Northern Offshelf **X2 Offshelf Queensland Trough** **X3 Outer Far Northern Inter Reef** **X4 Capricorn Bunker Inter Reef** **X5 Outer Central Inter Reef** **X6 Central Offshelf** **X7 Central Inter Reef** **X8 Southern Embayment** These deepwater, offshore areas extend mainly from the edge of the continental shelf to the eastern border of the GBRWHA. They were described largely from physical information. For the purposes of the Representative Areas Program, and until further information is gained, they are treated as separate bioregions.

10.3 New coastal areas map



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