BIOREGION BOUNDARIES UPDATED

continued from page 3

Change made	Justification	Source
RH split at T-line	Differences in fish communities and major separation in hydrodynamics	ReefCRC & commercial fishers
Merge the Nth part of NB2 with NM & the Sth part of NB2 with NB3	NB2 is better described as a special or unique area rather than a bioregion	Commercial fishers & Non-Reef Experts
NB6 boundary changed	Boundary extended to include all, rather than just some, continental islands in area	QPWS
Extend NA1 south along coast adjacent to NB3	The coastal influence is apparent along the entire coast	Commercial fishers
Descriptions amended for NU	Added that *"terraces are punctuated by shoals to depths of around 10m"*	Reef CRC

Much other information provided was added to our file of special or unique areas. Where information conflicted with the Reef and Non-Reef Expert Panels, changes were not made. The bioregions are now finalised.

WHAT TO EXPECT OVER THE NEXT 12 MONTHS

This year will be an important one for the RAP with the commencement, in early June, of the first round of formal community participation. This is an opportunity to record how everyone wants spatial management in the Marine Park to progress in the future. A wide range of communication techniques will also be used to capture broader community feedback including the Web, radio, television, newspapers, public displays and face-to-face contact.

Information kits containing questionnaires, maps and background information will be forwarded to many stakeholder groups and other interested organisations soon after the commencement of the first stage of community participation. This information will be available on request and also on the GBRMPA web site. An extensive range of meetings and workshops will also be held throughout the regional coastal centres of Queensland. Any individual or any organisation can make a written submission by using the information kits.

This formal phase of community participation is scheduled for approximately four months. Representations will be treated as confidential if requested by the respondent.

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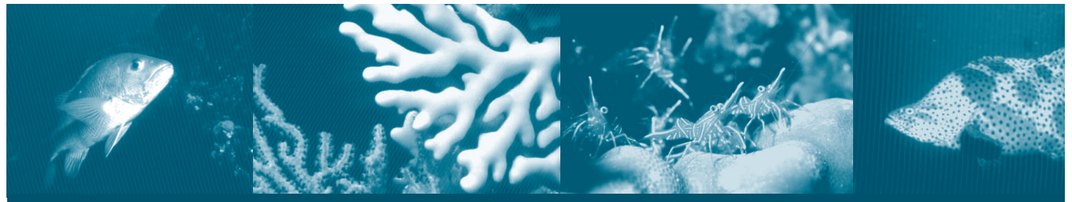
GREAT BARRIER REEF
MARINE PARK AUTHORITY

FOR MORE INFORMATION

If you have any queries in relation to the RAP, please direct them to The Representative Team at the address listed above. A detailed document on the RAP, which answers commonly asked questions, is also available from GBRMPA. All information, including the new RAP timelines, is also available on the GBRMPA website: www.gbrmpa.gov.au and click on 'Hot Issues'

The Great Barrier Reef Marine Park Authority

REPRESENTATIVE AREAS PROGRAM



update march 2001

THE REPRESENTATIVE AREAS PROGRAM WILL HELP PROTECT BIODIVERSITY

The Representative Areas Program aims to increase protection of biodiversity by increasing the number of habitats included in no-take (e.g. green) zones. Common questions asked about the RAP are 'Do no-take areas work in protecting biodiversity?' and 'What evidence is there to support this?'

Global evidence and scientists agree: no-take areas work!

A consensus statement signed by 150 of the world's leading marine scientists in February 2001 declares that there is now compelling scientific evidence that no-take areas conserve both biodiversity and fisheries. "All around the world there are different experiences," says Dr. Jane Lubchenco (Oregon State University), "but the basic message is the same: *marine reserves work, and they work fast*. It is no longer a question of whether to set aside no-take areas in the ocean, but where to establish them."

Effects of Marine Reserves

Halpern (in press) reviewed 76 studies of reserves which ranged from fully protected to partial protection from extractive activities. On average he found that:

- abundance of fish doubled;
- average body size increased by 1/3 (which can equal increased egg production of 240%!);
- biomass doubled; and
- numbers of species increased by 33%.

Spillover effects

The size and abundance of exploited species has also been shown to increase in areas adjacent to reserves (Rakitin and Kramer 1996; Russ and Alcala 1996). All these results occurred despite displacement of fishing effort.

More than just fish

Robust populations of fish are important not just for the stocks themselves but for the system as a whole - fish play particular and irreplaceable roles in the communities they inhabit. When no-take areas are in place, organisms such as shells and coral can grow and reproduce without being impacted by the disturbance that fishers and collectors bring to the natural community of animals and plants. A review of worldwide research led Ward *et al*. (2001) to state "sanctuaries will have a beneficial effect on a large number of exploited *and unexploited* species".

GBRMPA's no-take zones work!

Research from the Great Barrier Reef Marine Park also show that no-take zones work. For example, Bramble Reef, in the northern Central Section of the Great Barrier Reef Marine Park, was designated a Replenishment Area and closed to all fishing in 1992. During the 3.5 year closure, Bramble Reef had a 300% increase in the density of legal-sized coral trout (Russell, 1997).

In the Whitsunday and Palm Islands, no-take zones contain two to more than four times the coral trout of other parts of the marine park (Williamson, 2000).

More evidence

The web sites below provide more information about marine protected areas and biodiversity conservation:

- http://www.environment.gov.au/marine/mpa/index.html
- http://mpa.gov/
- http://www.panda.org/endangeredseas/initiatives/promote.cfm
- http://www.nap.edu/books/0309072867/html/
- http://www3.interscience.wiley.com/cgi-bin/issuetoc?ID=75502950

A list of references cited in this update is available upon request.

WHY DOES THE GBRMP NEED THE REPRESENTATIVE AREAS PROGRAM?

At present, no-take zones in the Marine Park cover about 23% of coral reefs, as reefs were traditionally seen as the most important, significant and fragile habitat within the Marine Park. However less than 4% of other habitats are within no-take zones and 94% of the Marine Park is 'other habitats'.

We now know that other habitats such as deep-water seagrass, mangroves and muddy seabed communities are as important as coral reefs. They are nursery grounds for juvenile fish and crustaceans, they are feeding grounds for adult turtles, fish and crustaceans or they are staging posts for migratory fish species to recover and seek temporary refuge. The majority of these areas, and the species they support, remain vulnerable and exposed to activities that may or have damaged them.

The RAP aims to protect this diversity of habitats by ensuring representative examples within each bioregion are protected in no-take zones.

GREAT BARRIER REEF
MARINE PARK AUTHORITY

PROTECTING BIODIVERSITY

REPRESENTATIVE AREAS PROGRAM

WHAT'S BEEN HAPPENING

More than three hundred people attended workshops and meetings with GBRMPA staff in October, November and December last year. People attending represented a range of peak bodies and interested groups including recreational groups, the tourism industry, the fishing industry and others through the Local Marine Resource Advisory Committees.

The objectives of these meetings were:

- ongoing awareness raising about the RAP with the community;
- obtaining information from stakeholder groups about usage patterns in the Marine Park, and other areas of special and unique interest (this may include wilderness values and other areas not necessarily used for extractive use).

The information collected complements data that already exists on biophysical characteristics and use patterns within the Marine Park. It will be used by the Representative Areas team to help develop potential networks of areas which complement community values while also achieving the biodiversity objectives of the RAP. In early to mid-2001 our liaison staff will be returning to these groups to show how their comments have been mapped onto the Authority's geographical information system (GIS).

SUMMARY OF MAPPED USAGE AND SPECIAL UNIQUE AREAS DATA

as at January 2001

To date, 86 sets of maps have been received from the above-mentioned preliminary RAP workshops, and the information on use and 'special and unique' areas has been transferred onto computer databases. The number of sets of maps for each regional centre is given in the following list.

Ayr / Bowen	3	Mackay / Sarina	12
Cairns	4	Port Stewart	6
Cardwell / Hinchinbrook	7	Rockhampton	8
Cooktown	9	The Swains	3
Far North 1	3	Townsville	9
Far North 2	4	Whitsunday Group	5
Gladstone	13	TOTAL	86

Of the areas that people use, most have been for commercial or recreational fishing and related activities, e.g. line fishing, net fishing, trawling, crabbing, bait gathering, spearfishing, etc. The remainder of these areas have been predominantly identified for non-extractive recreational activities, e.g. diving, snorkelling and boating. Areas used for scientific research have also been provided.

Special and unique areas have most often been selected due to the presence of particular species or groups of species, e.g. turtles, whales and dolphins, fish and bird species, seagrass, etc., and the activities undertaken by those species, e.g. fish aggregation sites and turtle nesting sites. A number of areas with cultural or historical values have also been identified.

YOUR QUESTIONS

A number of issues have often been raised at meetings. Some of the most commonly asked questions are printed below, together with the Authority's response:

1. Can any existing green zones be changed and opened up to fishing in this process?
RAP will review all zoning plans currently operating in the Great Barrier Reef Marine Park. This includes the current network of Marine National Park 'B' zones which are often referred to as 'green zones'. It is not the aim to 'swap' green zones around. However, such an exchange may be appropriate following an analysis of everyone's comments. All green zones represent some habitats of the Marine Park and the RAP is seeking to enhance the adequacy of the existing network rather than replace it with a completely new model. Existing green zones have also been chosen after extensive previous community consultation. The existing green zones are important because:

- they are used as reference points and control sites in ongoing fisheries research;
- they include areas of significant habitat;
- the protection offered to these areas over the years has led to qualitative improvements in the communities represented;
- they are few in number and area, covering less than 4.5% of the Marine Park and / or
- research shows that increases in, for example, fish stocks in closures and any associated benefits to the natural community are quickly eroded upon removal of no-take status of areas (Russell, 1997).

Any proposed changes to green zones will need to provide convincing arguments such as their failure to contribute to protection of biodiversity within the Marine Park.

2. Can rotational closures, not permanent closures, be considered a management option?
Rotational closures may provide short term benefit to particular fish stock in given areas. However, the RAP aims to protect biodiversity in general, not just fish stocks, and rotational closures are not a good option for long term protection of ecosystems or biodiversity. Fish are, however, an important part of the system. Fishing can impact on the stocks involved and the larger marine system in which those animals have a role. The system cannot maintain itself in a natural state when particular key parts of the food chain are periodically absent. Data shows that if closed areas are made available, fish stocks within them are quickly depleted, often to levels below what they were prior to a closure being put in place (Russell, 1997).

3. How long will no-take zones be closed?
These closures will be long term events and have no fixed time frame attached to them. The ecological benefits of closures become evident in the medium to long term. Certainly the effectiveness and appropriateness of the new network of no-take zones will be monitored and reviewed but this would occur in the long term and may not result in significant changes to zoning.

BIOREGION BOUNDARIES UPDATED

Many people will already be familiar with the concept of a bioregion. Bioregions are a way of mapping the physical and biological diversity of the Great Barrier Reef Marine Park. Each bioregion represents an area within which the plant and animal communities, together with the physical features, are significantly different from the surrounding areas and the rest of the Great Barrier Reef Marine Park. Based upon the best available expert advice, the whole of the Marine Park has been classified into 71 separate bioregions.

As a part of preliminary community participation, the general public has also been invited to make comments about the bioregions. The Authority recognizes that many people have specialist knowledge about 'what is out there' at the scale of the bioregions. This knowledge complemented that of the Reef and Non-Reef Expert Panels and was used to make nine refinements to the bioregions.

Bioregion changes	Justification	Source
NB4 merged with NB3	The low wooded island influence extends through NB4 as through NB3	Commercial fishers
Refine NA3 boundary	Information on shoreline classification helped improve the consistency of the seaward boundary of NA3	QPWS
NA2 merged with NA1	The fine sandy seabed and patch seagrass are similar throughout these areas	JCU / DPI
Divide NT to distinguish the southern end	Northwards many coral shoals punctuate this area; the south end contains several lines of long (30nm) E-W shoals of extensive plate corals to 5-10m depth.	ReefCRC & commercial fisheries

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PROTECTING BIODIVERSITY