

# Michaelmas Management Plan



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1	Introduction	1
2	Objectives	2
3	Management Strategies	3
4	Activities	4
5	Management Evaluation and Plan Review	5

*[Faint signatures and text, likely from the preface or introduction, including names like Graham Saunders and Irene Kelleher.]*

**Marine Parks**

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 Great Barrier Reef Marine Park Authority

 QUEENSLAND NATIONAL PARKS AND WILDLIFE SERVICE

NOTES

This complementary Management Plan was prepared by staff of the Great Barrier Reef Marine Park Authority and the Queensland National Parks and Wildlife Service, in consultation with user groups, individuals and relevant authorities. All comments and formal submissions received were carefully considered in the preparation of the Plan.

The Plan has the formal approval of both the Great Barrier Reef Marine Park Authority and the Queensland National Parks and Wildlife Service. It will be implemented by staff of the Far Northern Region of Q.NPWS, in consultation with staff of the Authority.

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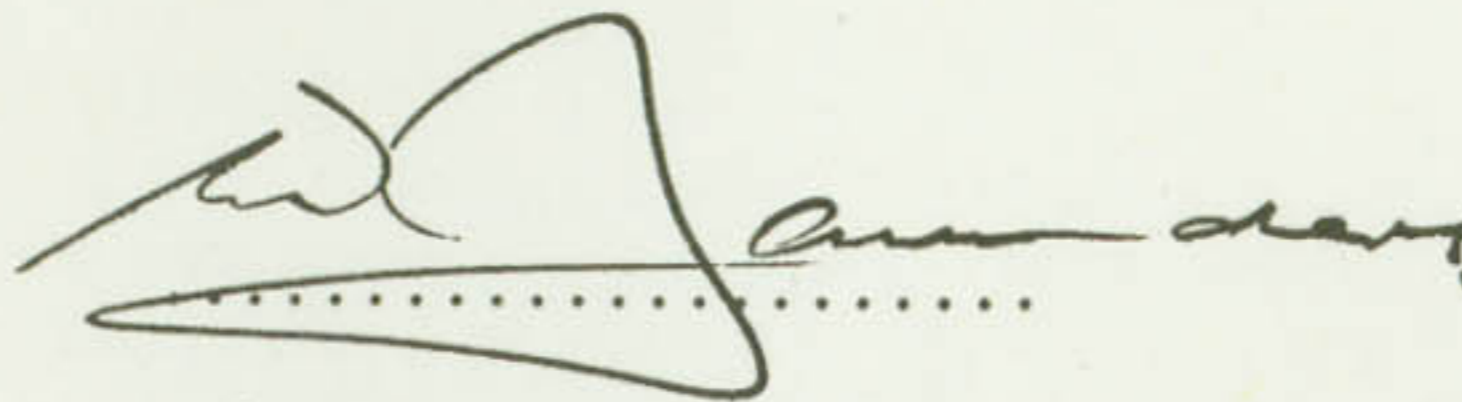
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TABLE OF CONTENTS

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EXECUTIVE SUMMARY

	Page
Executive Summary	1
1 Introduction	4
2 Purposes of Management	5
2.1 Resource Values and Management Obligations	5
2.2 Implications for Management	6
3 Management Objectives	8
4 Management Prescriptions	10
4.1 Decision Criteria	10
4.2 Visitor Use	11
4.3 Communication with Park Visitors	16
4.4 Monitoring and Research	16
4.5 Potential Management Strategies	17
5 Activities Guide	18
6 Management Evaluation and Plan Review	19
<b>MAPS</b>	
Locality	3
Michaelmas Cay	12

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## EXECUTIVE SUMMARY

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### BACKGROUND

Michaelmas Cay is a Queensland National Park and the surrounding reef is a Marine National Park 'B' Zone of the Cairns Section of the Great Barrier Reef Marine Park. It is expected that the intertidal area will be declared a Queensland marine park.

Michaelmas Cay is a major seabird nesting island, and the Reef and Cay complex is a popular tourist destination. The area is readily accessible from Cairns and Green Island.

Increasing visitor use of the area and changing modes of tourist transport (seaplanes and high speed catamarans) appear to be causing disturbance of the seabird colony and reduction of visitors' enjoyment. These pressures are expected to increase.

The Zoning Plan and legislation provide direction and a broad framework for managing the area. However, a more detailed approach is needed for management to deal with the intensity of use. The Zoning Plan and legislation provide that the area is to be managed for the purposes of conservation of natural resources, tourism, recreation, education and scientific research. The Management Plan therefore: provides objectives, strategies and actions to control existing and future use of the area; defines management input necessary to protect the area; and provides for the needs of park users. It provides a system within which all new proposals and circumstances can be assessed. It also documents a publicly visible inter-agency commitment to a consistent approach to management of this specific area.

### PROVISIONS

Following is a summary of the prescriptions and actions specified in this Management Plan.

- Public access is generally available to all parts of the Reef and, during daylight hours, part of the beach.
- Public access is available for quiet activities including swimming, diving, snorkelling, birdwatching and general appreciation of the natural environment.
- A vessel access channel to the Cay will be marked to separate swimmers from vessels.
- Vessel speed is not to exceed 4kts within 300m of the edge of the Cay.
- The operation of seaplanes is not permitted.
- Commercial instruction such as scuba diving training may be conducted on the Reef, but not on the Cay.

- No fires may be lit on the Cay.
- No waste may be disposed of in the area.
- Where a tourist program involves the presence of 10 or more of the people being on the Cay at one time, they must be supervised by the operator.
- A limit of not more than 100 people on the beach at any given time has been set.
- Vessels are required either to anchor in sand or to make fast to an established mooring.
- Activities which are inconsistent with the management objectives will not be permitted.
- The following materials and services will be provided: information leaflets; on-site interpretative activities; signage and displays.
- A basic training course for tour operators will be developed and conducted.
- Performance standards will be developed for tourist program services.
- Day-to-day management staff will monitor the effects of usage of the Reef and Cay.

**COSTS**

The costs of implementation of the plan by the Authority and Q.NPWS will be met within existing programs and budgets.

**PROVISIONS**

- Following is a summary of the prescriptions and actions specified in this Management Plan.
- Public access is generally available to all parts of the Reef and during daylight hours, part of the beach.
  - Public access is available for water activities including swimming, diving, snorkelling, birdwatching and general appreciation of the natural environment.
  - A vessel access channel to the Cay will be marked to separate swimmers from vessels.
  - Vessel speed is not to exceed 4Kts within 300m of the edge of the Cay.
  - The operation of equipment is not permitted.
  - Commercial instruction such as scuba diving training may be conducted on the Reef, but not on the Cay.

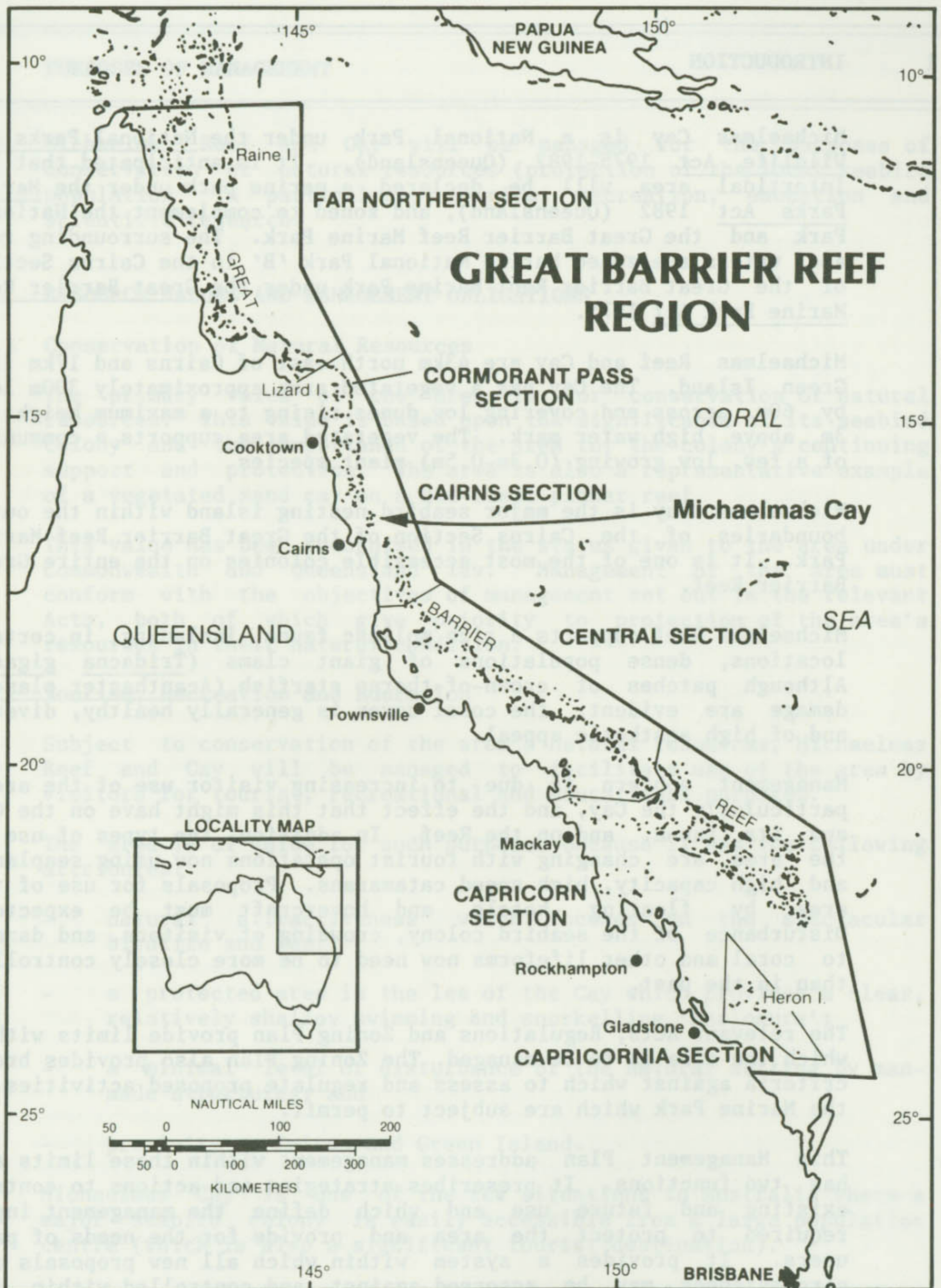


Figure 1. Location of Michaelmas Reef and Cay within the Cairns Section of the Great Barrier Reef Marine Park.

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1 INTRODUCTION

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Michaelmas Cay is a National Park under the National Parks and Wildlife Act 1975-1982 (Queensland). It is anticipated that the intertidal area will be declared a marine park under the Marine Parks Act 1982 (Queensland), and zoned to complement the National Park and the Great Barrier Reef Marine Park. The surrounding reef and waters are zoned Marine National Park 'B' in the Cairns Section of the Great Barrier Reef Marine Park under the Great Barrier Reef Marine Park Act 1975.

Michaelmas Reef and Cay are 43km north-east of Cairns and 17km from Green Island. The Cay has a vegetated area approximately 300m long by 60m across and covering low dunes rising to a maximum height of 3m above high water mark. The vegetated area supports a community of a few, low growing (0.3m-0.5m) plant species.

Michaelmas Cay is the major seabird nesting island within the outer boundaries of the Cairns Section of the Great Barrier Reef Marine Park. It is one of the most accessible colonies on the entire Great Barrier Reef.

Michaelmas Reef supports a rich mollusc fauna, including, in certain locations, dense populations of giant clams (Tridacna gigas). Although patches of crown-of-thorns starfish (Acanthaster planci) damage are evident, the coral cover is generally healthy, diverse and of high aesthetic appeal.

Management concern is due to increasing visitor use of the area, particularly the Cay, and the effect that this might have on the Cay and its fauna, and on the Reef. In addition, the types of use of the area are changing with tourist operations now using seaplanes and high capacity, high speed catamarans. Proposals for use of the area by floating hotels and hovercraft must be expected. Disturbance of the seabird colony, crowding of visitors, and damage to coral and other lifeforms now need to be more closely controlled than in the past.

The relevant Acts, Regulations and Zoning Plan provide limits within which the area is to be managed. The Zoning Plan also provides broad criteria against which to assess and regulate proposed activities in the Marine Park which are subject to permit.

This Management Plan addresses management within those limits and has two functions. It prescribes strategies and actions to control existing and future use and which define the management input required to protect the area and provide for the needs of park users. It provides a system within which all new proposals and circumstances may be assessed against, and controlled within, the underlying purposes of management.

It is intended that this Management Plan be revised as required, subject to joint approval by GBRMPA and Q.NPWS, and that in any case it will be revised as part of each revision of the relevant zoning plan.



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## 2 PURPOSES OF MANAGEMENT

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Michaelmas Reef and Cay will be managed for the purposes of conservation of natural resources (protection of the local seabird population in particular), tourism, recreation, education and scientific research.

### 2.1 RESOURCE VALUES AND MANAGEMENT OBLIGATIONS

#### 2.1.1 Conservation of Natural Resources

The primary value of the area is for conservation of natural resources. This value is based upon the significance of its seabird colony and the importance of the area for the colony's continuing support and protection. The area is also a representative example of a vegetated sand cay on a mid-shelf planar reef.

This value has been recognised in the status given to the area under Commonwealth and Queensland law. Management of the area must conform with the objectives of management set out in the relevant Acts, both of which give priority to protection of the area's resources in their natural condition.

#### 2.1.2 Tourism, Recreation and Education

Subject to conservation of the area's natural resources, Michaelmas Reef and Cay will be managed to facilitate use of the area by visitors for tourist, recreational and educational purposes.

The area is of value for such purposes because it has the following attributes:

- natural attractiveness which focuses on the spectacular birdlife and Reef;
- a protected area in the lee of the Cay which provides a clear, relatively shallow swimming and snorkelling 'enclosure';
- a minimal level of disturbance of the natural setting by man-made structures; and
- proximity to Cairns and Green Island.

Michaelmas Cay is one of the few situations in Australia where a major seabird colony is easily accessible from a large population centre (which is also a significant tourist destination).

Visits to Michaelmas Reef and Cay by local people from the mainland and by tourists are an established practice. These have increased in recent years and one of the functions of this Management Plan is to provide a framework for controlling that use within limits which protect the area's natural resources. Management for reasonable use and enjoyment of the area by the public is provided for under the Great Barrier Reef Marine Park Act 1975 and the Queensland National Parks and Wildlife Act 1975-1982. A similar provision exists under the Queensland Marine Parks Act 1982.

### 2.1.3 Scientific Research

The seabird colonies are also of value for scientific research. Subject to conservation of natural resources and provision for tourism, recreation and education, management of the area will provide for appropriate scientific research, particularly that relevant to the area's natural resources and their management.

Study of the seabird population characteristics and processes is important, especially for comparison with other colonies in the Great Barrier Reef Region. The area also offers the opportunity to study the effects of regular contact between park visitors and a major seabird colony.

The marine fauna of the area is also of scientific interest. For researchers Michaelmas Reef and Cay have the advantage over more remote research sites of being readily accessible from Cairns and hence able to be visited to make frequent observations. Also, the area is protected from extractive activities (other than for permitted research).

## 2.2 IMPLICATIONS FOR MANAGEMENT

To develop management prescriptions for the area it is necessary to consider the implications for management of the constraints which apply and the opportunities which are available. The extent to which any given consideration may be a constraint, or may offer an opportunity, depends upon which purpose (conservation of natural resources, tourism, recreation and education, or scientific research) is being considered.

### 2.2.1 Conservation of Natural Resources

The area is accessible from the popular tourist centres of Cairns and Green Island. This means that large numbers of people are likely to visit it to enjoy natural beauty and spectacular wildlife (seabirds in particular), the reef and beach. The presence and activity of visitors may interfere with the natural processes which maintain the area's values, hence regulation of visitor use is necessary.

The small size of the Cay and the extent of the seabird colony mean that little opportunity exists on the Cay to use space to buffer the seabird colonies from other uses which may disturb them unacceptably. Such other uses therefore need to be provided for in ways which limit any disturbance which is allowed to occur.

### 2.2.2 Tourism, Recreation and Education.

The existence of safe anchorage in the lee of the Cay and the area's diverse and attractive recreational opportunities combined with the likely growth of tourism in the Cairns region, mean that demand to visit Michaelmas Reef and Cay is likely to increase.

The combination of the Cay, the birds and the Reef stimulates visitor curiosity and hence opportunities exist to inform visitors and increase their awareness and understanding of the natural environment and its management.

The sensitivity of the area's resources to disturbance means that the level and type of visitor activity possible should be held within the ability of the area, or parts of it, to tolerate or recover from impacts.

The disposal of food scraps in the area attracts scavenging species such as seagulls. It also reduces the amenity of the area for people wishing to enjoy clean surroundings. To avoid these consequences it is necessary to curtail indiscriminate disposal of food scraps.

The popularity of the waters in the lee of the Cay for swimming, snorkelling, diving and other water-based recreation coincides with the suitability of that area for vessel anchorage and transfer of visitors to the Cay. The conjunction of these activities requires management to minimise conflict and hazard.

The small size of the Cay means that crowding may be perceived by visitors at relatively low visitor use levels. There is a need therefore to assess visitor perceptions of crowding for consideration in adjusting visitor use levels.

Management has a responsibility to allow opportunities for reasonable visitor use within limits that allow protection of the area for conservation of natural resources, tourism, recreation, education and scientific research.

### 2.2.3 Scientific Research

Potential exists for competition between researchers and use of the area's resources by a large number of other visitors.

The birdlife and marine life are attractive subjects of study in a relatively safe and convenient setting.

The research data on giant clams and seabirds gathered over several years makes the area an important site for research that can build on the previous work.

The geological bore hole marker provides a useful benchmark for monitoring the movements of the Cay and in fixing the location of study sites.

Established management of the area as a complex of national and marine parks provides a research setting in which visitor impacts may be controlled. Hence research sites may either be protected from interference or visitor activity may be monitored and taken into account in interpretation of research data.

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### 3 MANAGEMENT OBJECTIVES

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To manage Michaelmas Reef and Cay for the purposes set out above, the following objectives will be pursued taking into account the area's values, the obligations upon management, the priority attached to each management purpose, and the other implications of the relevant available information for management of the area.

#### 3.1 CONSERVATION OF NATURAL RESOURCES

The objectives for conservation of natural resources include:

- To maintain the number of species occurring subject to natural change in the locality;
- To maintain the abundance of species occurring subject to natural change in the locality;
- To ensure that sea-bird population processes (eg breeding, feeding, care of young) can continue under natural conditions;
- To protect the Reef consistent with the objectives of the Marine National Park 'B' Zone (Cairns Section Zoning Plan, GBRMP ); and
- To protect the Cay consistent with the principles for the management of national parks set out in the National Parks and Wildlife Act 1975 - 1982 (Queensland).

#### 3.2 TOURISM, RECREATION AND EDUCATION

Subject to the objectives for conservation of natural resources the objectives for tourism, recreation and education include:

- To allow controlled public access;
- To promote quiet use and enjoyment of the area;
- To maintain the recreational setting by:-
  - preventing crowding;
  - minimising conflict between uses;
  - minimising potential hazard to users;
  - preventing people damaging natural features;
  - preventing people degrading the water quality; and
- To ensure that all visitors to Michaelmas Cay and Reef become aware of the area's values for conservation of natural resources.

### 3.3 SCIENTIFIC RESEARCH

Subject to the objectives for conservation of natural resources and tourism, recreation and education, the objectives for scientific research include:

- To provide information to assist in determining appropriate management strategies for the conservation of the seabirds of the Great Barrier Reef Region; and
- To facilitate achievement of the management objectives for Michaelmas Reef and Cay.

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#### 4 MANAGEMENT PRESCRIPTIONS

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Achievement of the management objectives involves the regulation of public access, the types and levels of visitor activities and visitor numbers. This is necessary:- to control disturbance of the area's natural resources, and of the seabird colonies on the Cay in particular; to ensure the amenity of the area is not unduly diminished and that visitors to the area receive the type and quality of experience expected; and to minimise interference between users.

Communication between management and visitors is required. Through interpretative and extension activities the awareness and understanding of tour operators, their passengers and other members of the visiting public is expected to increase in matters relating to the area and its management.

The effect of management on the area and on the experiences of park visitors, and the appropriateness of the controls set, must be monitored as a basis for adjustment of continuing management efforts.

The following decision criteria and prescriptions provide for visitor use and enjoyment of Michaelmas Reef and Cay within the constraints necessary to ensure the continuing well being of the area and of the seabird colonies on the Cay in particular.

##### 4.1 DECISION CRITERIA

In making decisions affecting the management of Michaelmas Reef and Cay the responsible agency shall have regard to:

- the objectives of the Marine National Park 'B' Zone (Cairns Section Zoning Plan, GBRMPA), or the principles for the management of national parks set out in the National Parks and Wildlife Act 1975 - 1982 (Queensland), which ever applies;
- the orderly and proper management of the area;
- the conservation of the natural resources of the area;
- the existing use and amenity, and the future or desirable use and amenity, of the area and of adjacent areas;
- the size, extent and location of any proposed use in relation to any nearby use;
- the likely effects of the proposed use on adjoining and adjacent areas and any possible effects of the proposed use on the environment;
- the proposed means of access to and egress from the area, and the adequacy of provisions for aircraft or vessel mooring, landing, parking, loading and unloading;

- the objectives set out in this Management Plan;
- in the case of research, whether the proposed research can be carried out elsewhere; and

in matters relating to traditional hunting or traditional fishing as provided for by the Zoning Plan for the Cairns Section of the Great Barrier Reef Marine Park, have particular regard to:

- the need for conservation of endangered species;
- the means to be employed in traditional fishing or traditional hunting, as the case may be;
- in the case of traditional fishing, the number of fish, crustaceans, echinoderms or molluscs to be taken; and
- in the case of traditional hunting, the number of animals to be taken.

#### 4.2 VISITOR USE

##### 4.2.1 Public Access

Public access is available to the following parts of Michaelmas Reef and Cay:

- all parts of the Reef except those areas subject to temporary closure as Reef Research Areas declared under the Zoning Plan (not more than 20%); and
- during daylight hours only, that part of the beach marked out for use by visitors.

The extent and location of the area of the beach set aside for public use may vary from time to time. Variations will be based on fluctuations in seabird activity and their sensitivity to human disturbance on the Cay, and the processes and effects of sand erosion and accretion. Through promulgation of appropriate regulations, public access will not be permitted in the seabird nesting area nor on that part of the beach outside the public use area.

Action will be taken to introduce measures under National Parks Regulations to control access to Michaelmas Cay National Park.

The access channel to the Cay will be marked with buoys and no swimming, diving, anchoring or mooring will be permitted in that area. This proposal is intended to provide clear access to the Cay, separating swimmers from vessels.

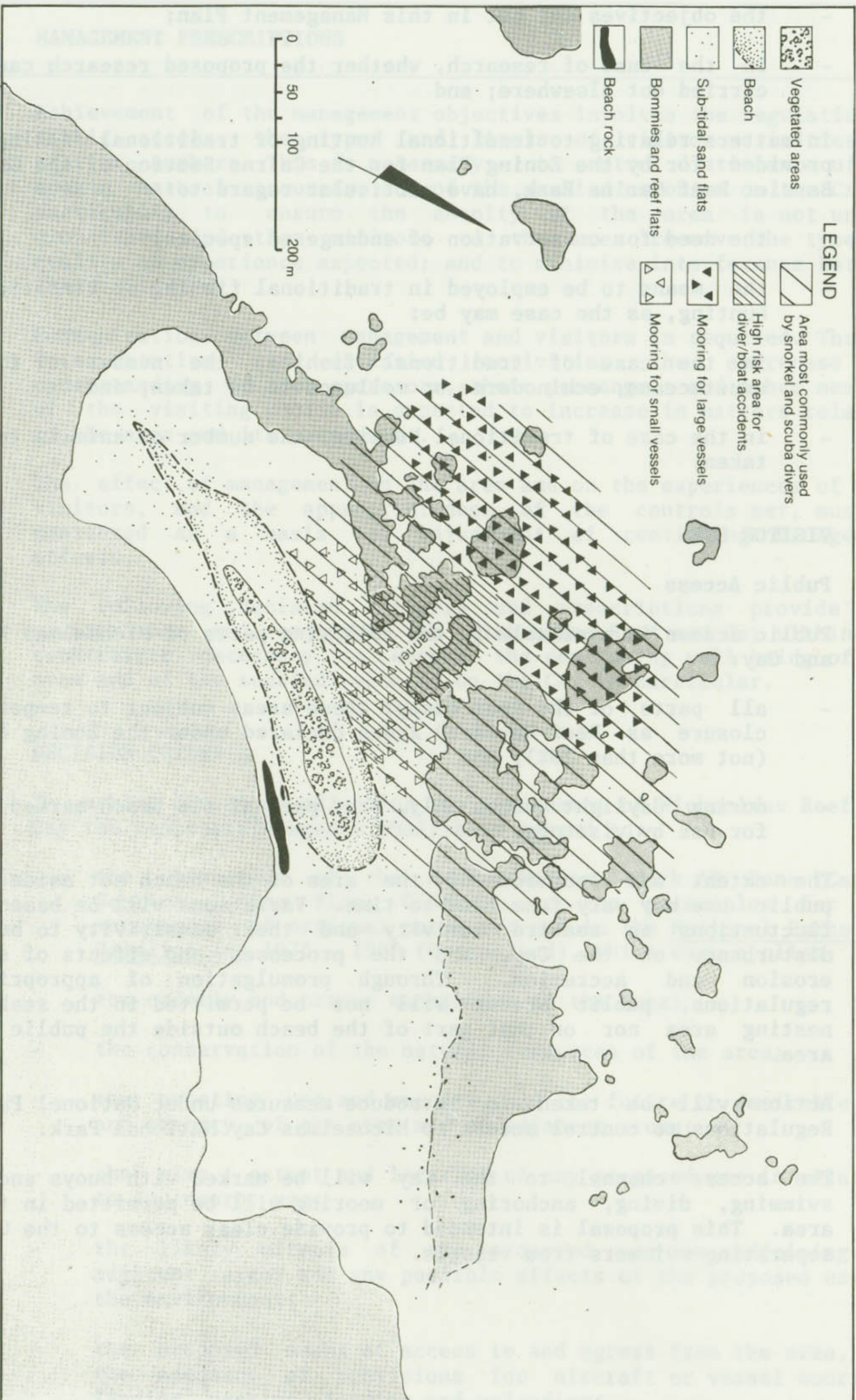


Figure 2. Michaelmas Cay — Anchorages



Public access to the Cay may be suspended following catastrophic events such as cyclone damage, fire, high seabird mortality through natural causes (including disease, starvation and abnormal weather), oil spill, inundation by storm surge, or gross human impact through accident or malicious action. Such suspension of access to the Cay will be maintained for a sufficient period to permit recovery of the seabird colony by natural processes, assisted as appropriate by management techniques.

The type and level of access to the area may vary over time subject to the results of continuing research into the impact of visitors on the area.

#### 4.2.2 Visitor Activities

Public access is available for quiet enjoyment by the visiting public. Within this general provision, opportunities for a variety of activities are available including swimming, diving, snorkelling, birdwatching and general appreciation of the natural environment.

Use of motorised vessels is permitted only to provide the minimum transport reasonably necessary to ensure the safe and comfortable passage of visitors to and from the area. Action will be taken to restrict vessel speed to not more than 4kts within 300m of the edge of the Cay at the nearest point of passing. Within this area, use of small vessels to ferry visitors from tourist cruisers is to be permitted for the sole purpose of providing access. Use of specialised reef-viewing vessels may be permitted in designated locations subject to Marine Parks permits.

As required under the Zoning Plan for the Cairns Section of the Great Barrier Reef Marine Park, tourist programs can be conducted in the area only with the permission of the GBRMPA.

Activities which, in the assessment of the responsible management agency, are inconsistent with the objectives of management stated above will not be permitted. Where such activities occur the responsible agency will exercise existing controls or where none exist, will seek to make provision for, and exercise controls to curtail the activity.

Recent investigations indicate that seaplane operations cause disturbance to nesting seabirds, allowing predation by gulls and a consequent decrease in breeding success. Seaplanes cause more disturbance when taking-off than they do when landing, with a proportion of take-offs causing mass lift-off of nesting seabirds. The investigations also showed that seabirds react quite differently to tourist vessels which caused little or no disturbance. **The operation of seaplanes to Michaelmas Cay will, therefore, not be permitted.**

Activities which, if proposed, are likely to be considered inappropriate in proximity to the Cay include ball games, water skiing, para-gliding, wind-surfing, jet skiing, kite flying, and use of noise sources including electricity generators, air compressors, radio/cassette players and the like. Proposals to use such equipment, or to organise or participate in such activities will be assessed against the criteria set out in this Management Plan. Means by which to control inappropriate activities will be examined.

Scuba diving and snorkelling are acceptable activities in the area. However, caution must be exercised by participants in these activities and by tour operators to minimise possible conflict between people in the water and surface vessels. The presence of trainee scuba divers in the access channel is a matter of concern. Commercial instruction including training in scuba diving, can be carried out in less ecologically sensitive areas. Therefore such instruction is not permitted on the Cay or in the sandy shallows immediately adjacent to it, but may be conducted on the Reef subject to Marine Parks permits.

To prevent nocturnal disturbance of nesting seabirds and the possibility of destruction of vegetation no fires may be lit on the Cay or beach.

To maintain the beauty and attractiveness of the area and to minimise attraction of scavenging species of wildlife no waste may be disposed of in the area. All tourist program vessels using the Michaelmas Cay anchorage, with the exception of coral viewing and tender craft, will be required to be fitted with waste holding tanks. All septic, galley and other effluent in holding tanks must be contained while a vessel is within the area but may be discharged to sea once 500m or more seaward of the outer edge of Michaelmas Reef. All waste, litter and rubbish must be collected, contained and removed. Non-biodegradable wastes must be removed from the area.

Fish-feeding may be undertaken by tour operators using appropriate food-stuffs discharged more than 0.3m below the water surface. Fish-feeding at Green Island may be attracting and supporting seagulls which range to Michaelmas Cay. This situation will be monitored.

Under the Cairns Section Zoning Plan fishing and collecting are not permitted in the area except for research purposes.

Overnight camping on the Cay is not permitted. All equipment must be removed from the Cay on daily departure. Tourist operators are required to supervise their passengers within the provisions of this Management Plan. This requirement will be a condition on tourist program permits.

All tour passengers landing on the Cay must be informed about appropriate behaviour. Where a tourist program involves the presence of 10 or more of the persons participating in the program being on the Cay at one time, such persons are to be accompanied and supervised by a tourist program staff member.

#### 4.2.3 Number of Visitors

Provision is made in the Management Plan for people to visit the area within the limits imposed by protection of the area's natural features and the possibility of crowding in the area.

The present level of visitor use is estimated to be not more than 100 people on the beach at any one time. The strategy sought at this stage is one which accommodates current use while providing for appropriate controls if the level of use increases. Hence an arbitrary limit of not more than 100 people on the beach at any given time has been set, subject to variation in response to day-to-day management monitoring results.

Visitor numbers will be managed according to the following strategy:

- (a) visitor access is restricted to the areas and times set out under 'Public Access' above;
- (b) visitor numbers on the beach will not be restricted pending declaration of a State marine park. Once this is done (c) and (d) will apply;
- (c) visitor places on the beach available to tour operations using vessels carrying 50 or more passengers are limited to a total of 50 places at any one time. Where two or more such operations wish to land passengers on the Cay at the same time the number of visitor places available to each operator is reduced proportional to the total number of operators involved;
- (d) visitor places on the beach available to tour operations using vessels carrying less than 50 passengers are limited to a total of 50 places at any one time. Where two or more such operations wish to land passengers at the same time the number of visitor places on the Cay available to each operator is reduced proportional to the total number of operations involved; and
- (e) tourist operations not using the Cay and members of the public visiting the locality in self operated boats are not limited by this Management Plan with respect to visitor numbers.

#### 4.2.4 Moorings/Anchorage

Anchoring by private boats causes disturbance of the seabed and may damage coral and other marine life and submarine structures. Day-to-day management will establish public moorings (4 initially, further moorings subject to need and site evaluation) for use by small vessels (length 10m or less). Private users are to make fast to such moorings or anchor in sand.

Tourist operations are required either to anchor in sand or to make fast to an established mooring provided either by the Authority or by the operator. Regular operators are required to establish a mooring at a site agreed between the operator and the day-to-day management agency. Where a mooring is causing undue damage to submarine surfaces or structures, the owner may be required to relocate it in consultation with day-to-day management staff. The operator will be required to meet all costs associated with establishing or relocating the mooring.

#### 4.3 COMMUNICATION WITH PARK VISITORS

##### 4.3.1 Education, Interpretation and Information

The following materials and services will be provided:

- leaflets containing general information about the area, its use and management;
- a program of on-site interpretative activities by day-to-day management staff to link in with regular management visits to the area; and
- interpretative and regulatory signage.

A basic training course for tour operators will be developed and conducted by Q.NPWS in consultation with GBRMPA. The course is likely to consist of 8-10 hours of instruction and a field exercise and will provide instruction for tour staff in interpretation and public education about Michaelmas Reef and Cay and its management. As a condition of permit once the course is available, tour operations should be required to carry at least one staff member who has satisfactorily completed the course on each visit to the area.

Tourist operators will be encouraged to provide information and interpretative and educational services to their passengers visiting Michaelmas Reef and Cay. Performance standards will be developed for tourist program services and tour operators will be encouraged to adopt them.

##### 4.3.2 Extension

Visits to tour operators at their operations bases will be included in the extension contact programs carried out by day-to-day management staff. The object of such visits will be to provide assistance and encouragement to operators as mentioned above and to obtain feedback from operators on matters related to the management of Michaelmas Reef and Cay.

#### 4.4 MONITORING AND RESEARCH

##### 4.4.1 Collection of Information

Day-to-day management staff will monitor the effects of use of the Reef and Cay and will continue to monitor and assess the area's carrying capacity and the effectiveness of current management strategies. This information will contribute to the continuing refinement of management effort, and will be used to update the information base for review of management and zoning plans.

Information will be collected on the performance and level of service of tourist programs as a basis for defining desirable performance criteria and for assessment of the level to which regular tourist operators could make a practical contribution to park management.

As a condition of permit, tour operators are required to provide Q.NPWS, through the Authority, with six-monthly data returns including:

- the number of passengers carried on each visit;
- an estimate of the number of passengers who went onto the Cay during each visit to the area; and
- the times of day at which the first passenger went onto the Cay and at which the last passenger left the Cay.

An annual visitor perception survey will be carried out by day-to-day management staff to determine visitor attitudes towards the area and the opportunities available to visit and use it.

A reef monitoring survey will also be carried out annually to determine changes in the condition of the Reef and its features and natural communities. In addition, the anchorage area will be surveyed every six months, taking particular note of litter accumulation and damage to underwater features.

#### 4.4.2 Research

An intensive study has been conducted to determine the impact of seaplane and vessel operations (with particular attention to noise) on the area's seabird population.

Work will also be carried out in the Michaelmas area as one of several study sites in a long-term study of the abundance and distribution of seabirds in the Great Barrier Reef Region.

Management will seek to minimise interference by visitors so that experimental equipment and sites will remain undisturbed. For this purpose it may be necessary to declare a Reef Research Area. However, if possible, disturbance will be avoided by making park users aware, through education, of research activity and their potential impact upon it.

#### 4.5 POTENTIAL MANAGEMENT STRATEGIES

To extend the range of management options available in the future for Michaelmas Reef and Cay, the feasibility and practicality of the following will be examined:

- the granting of franchise rights, or other methods of establishing exclusive use of areas of the Marine Park; and
- seasonal closure of areas during periods of high environmental sensitivity.

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## 5 ACTIVITIES GUIDE

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This section of the Management Plan provides a ready reference to the types of activities which are allowed under certain conditions, or not allowed in the public access areas of Michaelmas Reef and Cay, i.e.:

- all parts of the Reef subject to temporary closure of small areas (not more than 20%) declared as Reef Research Areas under the Zoning Plan; and
- during daylight hours only, that part of the beach marked out for use by visitors to the area.

### 5.1 CONDITIONAL ACTIVITIES

- swimming, diving, snorkelling, and public access to the Cay;
- use of motorised vessels;
- use of specialised reef-viewing vessels;
- tourist programs (as defined under the Zoning Plan);
- commercial instruction such as scuba diving training on the Reef;
- anchoring of vessels;
- fish-feeding; and
- any activity which, in the assessment of the responsible agency, is consistent under certain conditions, with the objectives of management stated in this Management Plan.

### 5.2 PROHIBITED ACTIVITIES

- vessel speed in excess of 4 knots within 300m of the Cay;
- swimming, diving, anchoring or mooring in the access channel;
- operation of seaplanes;
- in proximity to the Cay, ball games, water skiing, paragliding, wind-surfing, jet skiing, kite flying and like activities;
- in proximity to the Cay, use of noise sources including electricity generators, air compressors, radio/cassette players and the like;
- commercial instruction on the Cay or beach;
- fires on the Cay or beach;
- disposal of waste;
- fishing;
- collecting;
- camping; and
- any activity which, in the assessment of the responsible agency, is inconsistent with the objectives of management stated in this Management Plan.

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6 MANAGEMENT EVALUATION AND PLAN REVIEW

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The effectiveness and achievement of management under this plan will be evaluated periodically. The following matters will be assessed:

- the extent to which the abundance and species diversity of the seabird colonies and other key elements of the community in the area have changed;
- the extent to which the observed changes may be due to other than natural influences;
- the level to which the natural features of the area have been disturbed;
- the level and way in which the amenity of the area may have changed;
- the level to which the enjoyment of the area by visitors has been enhanced or diminished; and
- the extent to which visitor behaviour has been in accord with the provisions and intent of the Management Plan.

These criteria will be monitored and the plan reviewed and revised as required, subject to joint approval by GBRMPA and Q.NPWS. In any event, it will be revised in the context of each revision of the Zoning Plan for the Cairns Section of the Great Barrier Reef Marine Park.

The information necessary for evaluation and review will be sought by:

- research projects e.g. seabird population characteristics, and visitor use of the area and its effects;
- comparative photography of the area and of specific sites of management concern;
- survey of the opinions of:
  - (a) day-to-day management staff
  - (b) researchers currently working in the area
  - (c) operators of regular tours to the area
  - (d) a sample of visitors to the area; and
- representations referring to the area received during the public participation phases of revision of the Cairns Section Zoning Plan.