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LADY MUSGRAVE ISLAND AND REEF

MANAGEMENT PLAN

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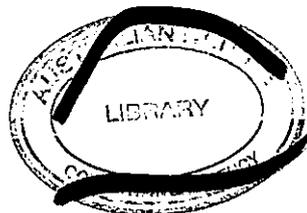
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1. INTRODUCTION

Lady Musgrave Island is a Queensland National Park located 106 kms north of Bundaberg and 116 kms east of Gladstone (Figure 1). The surrounding reef is subject to Queensland and Commonwealth Marine Park legislation. It has been zoned under the Queensland Mackay/Capricorn Marine Park Zoning Plan and the Great Barrier Reef Marine Park Mackay/Capricorn Section Zoning Plan as General Use B zone, with a smaller area of Marine National Park B zone covering the northern reef margin.

Lady Musgrave Island is a coral cay composed of sand and fragments of coral rock derived from the surrounding reef. The island provides a habitat for several species of seabirds and two species of seaturtles. The island's vegetation has suffered in the past from the introduction of feral goats, but these animals were removed in 1971 and the vegetation allowed to recover. The island is an important landmark to shipping in the area and the Department of Transport and Communications is responsible for the maintenance of a navigation aid on the southern side of the island.

The lagoon provides a sheltered area for a wide variety of water based activities while the surrounding reef is a popular fishing and diving location. The area is readily accessible from Gladstone and Bundaberg and has traditionally been used by campers, yachtsmen and fishermen.

In recent years there has been an escalation in the public use of the area. A commercial day trip operation, seaplanes and commercial camping operations now regularly use the island and reef. The Queensland National Parks and Wildlife Service (Q.NPWS) and the Great Barrier Reef Marine Park Authority (GBRMPA) are concerned that the unplanned expansion of use of this area may lead to a reduction in the resource value of the area.

A regional management plan has been developed by the Q.NPWS for the Capricorn/Bunker islands which sets the broad planning goals and objectives for use of the islands (Appendix 1). In that plan Lady Musgrave Island is zoned for commercial and private camping, and commercial and private day visitation.

This Lady Musgrave Management Plan provides strategies to manage existing and future use of the island and reef. It documents an inter-government commitment between Queensland and The Commonwealth to complementary management of the island and reef. This plan provides a framework for decision making regarding permit applications.

It is anticipated that day to day management will be guided by this plan and be implemented through the 3 year rolling program and the annual program.

It is intended that this management plan be reviewed as required and subject to joint approval from GBRMPA and Q.NPWS.

2. PURPOSES OF MANAGEMENT

Lady Musgrave Island and Reef will be managed for the following purposes in order of priority.

- (1) Environmental protection and conservation.
- (2) Visitor use.
- (3) Scientific research.

2.1. RESOURCE VALUES AND MANAGEMENT OBLIGATIONS

2.1.1. Environmental protection and conservation

The primary value of the area is for the conservation of its natural resources. Lady Musgrave Island is part of the Capricorn/Bunker group of islands which together form one of the richest representations of coral island ecosystems on the Great Barrier Reef. Lady Musgrave Island is the second most southerly cay on the reef and provides a habitat for a variety of interesting wildlife and vegetation. The island supports a Pisonia grandis forest and provides a habitat for noddy terns(Anous minutus), mutton birds(Puffinus pacificus) and, to a lesser extent, bridled terns(Sterna anaetheta). Green turtles(Chelonia mydas) and loggerhead turtles(Caretta caretta) nest on the beach during the summer breeding season.

The surrounding reef supports a biological community typical of coral reefs in this region. The reef contains one of only two accessible, deep water lagoons in the region and is the only one of these associated with a coral island. Lady Musgrave Island and Reef has a high degree of aesthetic appeal.

The value of the area for conservation has been recognised by its status under Commonwealth and Queensland legislation. Lady Musgrave Island is a Queensland National Park and lies within the boundaries of the Mackay/Capricorn Section of the Great Barrier Reef Marine Park. In addition, the entire Great Barrier Reef has been inscribed on the World Heritage List in recognition of its outstanding universal value. Management of Lady Musgrave Island and reef will conform with the objectives set out in the following Acts, Regulations and Zoning Plans.

- (i) Great Barrier Reef Marine Park Act (1975), Great Barrier Reef Marine Park Regulations(1983), Mackay/Capricorn Section Zoning Plan.
- (ii) Marine Parks Act (1982), Marine Parks Regulations (1983), Mackay/Capricorn Marine Park Zoning Plan.
- (iii) National Parks and Wildlife Act (1975-1982). National Parks Regulations (1987).
- (iv) Fauna Conservation Act (1979), Fauna Conservation Regulations (1985).
- (v) World Heritage Properties Conservation Act (1983).

2.1.2. Visitor Use

Lady Musgrave Island and Reef will be managed to provide for reasonable use and access of the area by visitors, subject to environmental protection and conservation

The island is accessible to visitors at all stages of the tide. It has an established camping area on the lee side and a well defined walking track through the pisonia forest. The lagoon and surrounding reef provide a safe and strategic anchorage for boats and seaplanes and a safe area for swimming, snorkelling and fishing. The area has excellent scuba diving and coral viewing opportunities. The area generally has high aesthetic appeal because of its natural values.

Management of the area for reasonable use and access by the public is provided for under the Great Barrier Reef Marine Park Act (1975), the Mackay/Capricorn Section Zoning Plan, the Marine Parks Act (1982) and the Mackay/Capricorn Marine Park Zoning Plan.

Further obligations exist to ensure, to the greatest possible extent, the safety of visitors to Lady Musgrave Island and Reef and that visitors be informed and educated about the reef and the Marine Park. Management of the area shall give high regard to visitor safety and to educational and interpretive programs.

The importance of Lady Musgrave Island to navigation is recognised by this plan. A navigation aid has been erected on the southern side of the island and provision will be made for the regular servicing and maintenance of this facility by the Department of Transport and Communications.

2.1.3. Scientific Research

Subject to environmental protection and conservation, and visitor use, Lady Musgrave Island and Reef will be managed to allow for scientific research.

While several species of seabirds nest on the island the area now has only limited regional significance for their conservation. Similarly the turtle rookery is relatively small and major sites for turtle research have been established elsewhere.

While current scientific interest in the area is low the reef and island are readily accessible from the mainland and are close to established research stations at Heron Island and One Tree Island. Research undertaken at Lady Musgrave Island and reef would be compatible with the zoning under the Great Barrier Reef Marine Park Act and the Marine Parks Act.

3. OUTCOMES OF MANAGEMENT

The goal of the Authority is to provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity through the development and care of the Great Barrier Reef Marine Park. This can only be achieved with the support of the general public. The behaviour and attitudes of the public towards reef conservation will be influenced by those factors which affect their experience of the reef environment.

In particular, visitors experience of Lady Musgrave Island will be a function of:

(i) the way users perceive the quality of the natural environment, their prior expectations and actual experiences

(ii) the ways in which visitors are able to use and enjoy the environment

This management plan provides a framework by which these two components of visitor experience shall be controlled, in order to promote the wider appreciation and responsibility amongst the general public for the Great Barrier Reef and the need for its conservation.

4. MANAGEMENT OBJECTIVES AND STRATEGIES.

4.1. Environmental Protection and Conservation.

4.1.1. Objectives.

The management objectives for environmental protection and conservation at Lady Musgrave Island and Reef are the following, in order of priority.

- (1) To protect and conserve the natural resources of Lady Musgrave Island and Reef.
- (2) To have public awareness of the values of Lady Musgrave Island and Reef for environmental conservation.
- (3) To retain in its natural condition that area of the island which is currently undeveloped.
- (4) To preserve a representative area of Lady Musgrave Reef in its natural state.

4.1.2. Strategies.

Approximately 6% of the island is currently used for the camping ground and tracks. Following the removal of feral goats from the island in 1971 the island's vegetation has slowly recovered. In order for this recovery process to continue further disturbance to the flora should be avoided.

Lady Musgrave Island will be undeveloped other than areas for the provision of the delineated camping ground and related infrastructure, walking tracks, navigation aid and interpretive signs.

The introduction of feral animals has caused severe environmental degradation on Lady Musgrave Island and several other islands in the Capricorn/Bunker group.

The island will continue to be maintained free of feral animals.

Human disturbance has led to the introduction of non-endemic plant species on Lady Musgrave Island which may displace endemic species.

Non-endemic plant species will be controlled to prevent their spread using techniques which will not jeopardise endemic flora and fauna.

The ground nesting terns on Lady Musgrave Island are particularly vulnerable to human disturbance.

Colonies of ground nesting terns will be protected by delineating the nesting areas with Q.NPWS signs and ropes which deter visitor access.

A number of large casuarina trees protect and stabilise the beach profile in front of the campground. This area of the beach is vulnerable to degradation from human impact and storm surge.

Any losses to the fringing casuarina vegetation will be replaced to protect the beach profile in front of the campground using seed collected from Lady Musgrave Island. Additional cassuarinas should be planted to stabilise the beach profile as necessary.

The area of reef between the island and the entrance channel on the northern side of the lagoon has been recognised as an area worthy of high conservation status, under past and current zoning plans.

The current level of zoning for non extractive activities will be recommended for retention at Lady Musgrave Reef at future zoning reviews.

Reef fishing is a major recreational pursuit at Lady Musgrave lagoon and reef. Other than day trippers, most people visiting Lady Musgrave Island spend some time fishing. The impact of this activity on fish stocks is unknown. It is important that fish resources are maintained at reasonable levels to ensure continued viability of the fishery.

Subject to finance a monitoring program will be established to assess the effects of fishing on the primary demersal target species, that is, coral trout, red throat sweetlip, hussar, spangled emperor and brown maori cod. Direct involvement of the Department of Primary Industries will be sought in the design and conduct of this program.

A large number of private and commercial vessels use Lady Musgrave lagoon as a safe anchorage site. The potential exists for significant damage to coral in the lagoon due to the effects of anchoring.

A monitoring program will be implemented in Lady Musgrave lagoon to (i) assess the level of damage to coral caused by anchoring and (ii) provide a basis for recommendations on the installation of public moorings in the lagoon.

In order to develop an appreciation of the natural resource values of Lady Musgrave Island and Reef amongst the public, interpretive strategies need to be designed and implemented.

An island and reef guide will be developed (Project P2, Public Contact Plan, Davie 1987).

4.2. Visitor Use.

4.2.1. Objectives.

The management objectives for visitor use at Lady Musgrave Island and Reef are the following, in order of priority.

- (1) To have visitor use of the area which is compatible with the protection and conservation of Lady Musgrave Island and Reef.
- (2) To ensure public awareness of appropriate codes of behaviour while visiting the island and reef.
- (3) To provide for public access to the island and reef.
- (4) To maintain the existing range of recreational opportunities maintained at Lady Musgrave Island and Reef.

4.2.2.1. Strategies - Daytrip operations and charter vessels.

The diverse range of recreational opportunities currently available at Lady Musgrave Island and Reef include scuba diving, snorkelling, fishing, camping, reef walking and general nature appreciation. In addition, the areas recognised value as a safe and strategic anchorage has meant this reef is extremely well suited to the development of day trip operations. There is one commercial day trip operation currently operating from Bundaberg to a floating pontoon moored inside the lagoon. It is anticipated that further applications will be received to install floating offshore structures. It is essential any development of the island, reef and lagoon is carefully planned otherwise environmental degradation and loss of amenity to visitors may result.

The current pontoon operation in the lagoon will be the subject of a social survey amongst visitors to the area. Perceptions of the current operation by campers, day trippers and private users will help provide baseline information from which policy for future day trip proposals will be developed, at Lady Musgrave lagoon and throughout the entire Marine Park.

A maximum of two day trip operations, either with or without floating structures, will be permitted to use Lady Musgrave lagoon for the next 18 months (from the date of approval of this plan). During that time the results of the above mentioned social survey will be assessed and a policy will be developed to address further day trip proposals.

The second day trip operation to Lady Musgrave lagoon will be separated from the existing pontoon by at least 400 metres (between mooring points), to avoid conflict and enhance safety.

Site faithful operators can potentially cause significant damage to coral by continuously anchoring.

All day trip operators will be required to install approved moorings.

Other site faithful operators to Lady Musgrave lagoon will be encouraged to install approved moorings at their own expense and subject to Q.NPWS supervision.

Floating hotels and *semi-permanently moored vessels at Lady Musgrave lagoon are considered an inappropriate use because of the following:

- (a) Floating overnight accommodation could detract from the natural values of the island and reef.
- (b) The island is ecologically unable to cope with the greater pressure of a nearby floating structure.
- (c) Traditional use patterns would be disrupted.

Fixed or *semi-permanently moored overnight accommodation will not be permitted at Lady Musgrave lagoon.

Interpretation and education are useful management tools for influencing the behaviour of visitors. In addition there are many benefits to operators from providing a well conducted interpretive program.

Operators will be kept informed of the range of educational materials and professional assistance with interpretive programs available from Q.NPWS and GBRMPA and will be encouraged to implement interpretive and educational programs.

With increasing human impact on the island, the development of reef based recreational activities can help reduce pressure on the island while augmenting visitors coral cay experience.

The Marine National Park B zone will be investigated to determine its suitability as a site for an underwater interpretive trail.

4.2.2.2. Strategies - Camping.

Lady Musgrave Island has been used for camping for at least 50 years. The commencement of the day trip operation in 1985 increased the island's accessibility for campers (Appendix 2). In order to protect the island from human disturbance, a quota on the number of campers has been established by the Q.NPWS. This quota is subject to review.

A maximum of 50 campers per night will be permitted on Lady Musgrave Island.

The condition of the camp ground will be monitored by Q.NPWS for environmental degradation. This information will be used in reviewing the camping quota.

Camping will not be permitted outside of the delineated boundaries of the camp ground.

*NOTE: A semi-permanently moored vessel is defined as a vessel with provision for more than 8 sleeping berths which continuously operates in the one vicinity for more than 14 consecutive days or for more than 30 days in any period of 60 days.

Q.NPWS regional policy exists on certain aspects of private and commercial camping operations on Lady Musgrave Island. This management plan formalises these policies.

Compressors and engine driven equipment will be permitted on Lady Musgrave Island in the designated areas.

Camping permits will be issued for a maximum duration of 21 days, after which time all tents and equipment must be removed.

School holidays are the only opportunity for many family groups to camp on the island. A high priority will be given to maintaining suitable access for these types of campers during holiday periods.

During Queensland school holidays the maximum size of any camping group will be 20

No commercial camping operations will be permitted during Queensland school holidays.

Quotas for commercial camping operations will not exceed 50% of the total island camping quota.

In order to maintain the recreational setting of the camp ground the number and type of structures will be kept to a minimum.

Fire places, picnic tables, shelter sheds, water tanks and rubbish bins will not be installed on the island.

Wood occurring naturally on the island, including driftwood, is an important component of the ecosystem and is protected under Queensland legislation.

Fires will only be permitted using fuel bought by campers from the mainland. Gas cooking will be encouraged.

Campers must apply for a permit well in advance of their proposed trip. The opportunity therefore exists to inform campers about facilities, natural values and appropriate behaviour prior to their visit.

An information package containing relevant and site specific educational material will be distributed with each camping permit.

4.2.2.3. Strategies - Aircraft operations.

Seaplanes have been providing a convenient and safe transport service to Lady Musgrave Island for several years and they are recognised as being a legitimate use of the area. The level of operations to date has been controlled by a quota system. This quota of 12 take offs and 12 landings per day was derived from a noise pollution study of seaplanes at Green Island. The quota is currently apportioned amongst four commercial operators based upon the following:

- (a) environmental factors
- (b) ability to maintain a reasonable level of service
- (c) adherence to permit conditions

A satisfactory mechanism for the allocation of the quota is yet to be developed and the impact upon user amenity if the maximum quota were to be used, has not been tested.

A mechanism for allocation of use of Lady Musgrave lagoon by commercial seaplane operators shall be derived.

A Marine National Park B zone has been established at Lady Musgrave reef as an area where the public can appreciate the reef in its natural state. Seaplane operations in this zone would be incompatible with public safety and user amenity.

No landing or taking off by seaplanes will be permitted in Marine National Park B zones.

Noise from seaplanes and helicopters can disturb nesting seabirds and have an impact upon the amenity of users on the island.

Seaplanes will not be permitted to taxi within 300 metres of the island and aircraft should avoid overflying the island.

Helicopters will not be permitted to land on the island other than those used in servicing the navigation aid.

Private aircraft operations will be considered on a case by case basis having regard to:

- (i) environmental conservation
- (ii) safety
- (iii) user amenity

Seaplane operators will be informed of the location of all moorings and floating structures in Lady Musgrave lagoon to enhance safety.

Site faithful seaplane operators will be required to install an approved mooring.

4.2.2.4. Strategies - Other users.

Fishing vessels, yachts and other private boats use Lady Musgrave lagoon as a safe and strategic anchorage. It is important that the area remains accessible to these groups.

The lagoon and its entrance will remain free from man made hazards to boating and a clear access route will be maintained from the lagoon entrance to the island.

Interpretive and educational material will be available on the island for all users.

The navigation light is periodically serviced by light amphibious resupply craft (LARC). Access for these vehicles is essential however, in the past, their operation has caused localised damage to the reef flat.

The appropriate LARC access track will be established following consultation between DOTC and Q.NPWS.

4.3. RESEARCH.

4.3.1. Objective.

The objective for managing Lady Musgrave Island and Reef for the purpose of scientific research is the following:

To provide opportunities for researchers to study the natural and social environments of Lady Musgrave Island and Reef.

4.3.2. Strategy.

Research institutions will be kept informed of specific research needs for the management of Lady Musgrave Island and Reef.

5. MANAGEMENT PLAN EVALUATION AND REVIEW

This management plan will be evaluated periodically for its effectiveness and achievement. The following points will be assessed:

5.1. Environmental Protection and Conservation

- the extent to which protection and conservation of the natural resources of Lady Musgrave Island and Reef has occurred
- the area of the island remaining in its natural condition
- the level of awareness amongst the public of the values of Lady Musgrave Island and Reef for conservation
- whether a representative area of Lady Musgrave Reef is preserved, in its natural state, as Marine National Park B zone
- whether any feral animals exist on the island and the extent of weed invasion of the natural vegetation

5.2. Visitor Use

- the extent to which visitor use is compatible with the protection and conservation of Lady Musgrave Island and Reef.
- the range of recreational opportunities existing at Lady Musgrave Island and Reef.
- the level of public use of the island and reef
- the level of public awareness of the appropriate codes of behaviour for the area

5.3. Scientific Research

- the extent to which opportunities for research on the island and reef have been utilised

The information necessary for evaluation and review will be obtained by the following:

- environmental monitoring programs
- aerial photo interpretation
- survey of the opinions of:
 - (i) day to day management staff
 - (ii) regular commercial operators
 - (iii) scientific researchers
 - (iv) visitors to the area
- analysis of infringements
- feedback from the Q.NPWS extension program

- reviewing public representations concerning the area received during reviews of the zoning plan, submissions to environmental impact statements (E.I.S.), public environment review (P.E.R.) statements or file correspondence concerning management of Lady Musgrave Island and Reef.
- data received from reporting requirements of commercial operators under their permit conditions.