

GREEN ISLAND REEF LOCALITY 1 SITE PLAN (Prepared August 2001)

Note 1: On 1 July 2004, the Great Barrier Reef Marine Park Zoning Plan 2003 came into effect. It changed the zoning and activities allowed in zones for the Marine Park. Green Island Reef Locality 1 is now zoned Scientific Research Zone and Marine National Park Zone, for more information please refer to the Zoning Plan and maps.

Note 2: Pursuant to paragraph 4.2.1(1)(b) of the Zoning Plan 2003, the following Special Management Area has been designated over Green Island Reef:

- Green Island Reef No Dories Detached (Marine National Park Zone) Special Management Area.

1. Background

Site planning is an integral part of the Cairns Area Plan of Management. Site planning was required at a number of Locations in the Cairns Area to provide for a balance of recreational and commercial access consistent with the protection of conservation, scientific and cultural values.

Site plans were prepared for the following Locations: Lizard Island Localities 2 and 3; Opal Reef; Tongue Reef; Agincourt Reefs; Hastings Locality 1; Briggs Reef; Norman Reef; Michaelmas Cay Locality; Upolu Cay Reef; Green Island Reef Locality 1; Flynn Reef; Milln Reef; Moore Reef Locality 2; Normanby Island Reef; Russell and Round Island Reefs.

Site planning occurred progressively and draft plans were presented for comment to all the interested parties. Site plans for Lizard Island Localities 2 and 3 were finalised in August 1999, while the remaining draft plans were discussed at site planning meetings held in Cairns and Port Douglas from 11 to 14 December 2000. All comments received were considered in the preparation of the final plans.

2. Site planning objectives

The following summarises the objectives of site planning in the Cairns Area:

- Provide an appropriate balance of private and public access opportunities
- Provide for Reef Anchorages where reasonable access will not be inhibited by moorings.
- Minimise damage to fish spawning aggregation sites and disturbance of fish spawning aggregations when determining the location of Reef Anchorages, moorings and pontoons.
- Minimise the impact on significant dugong habitat when determining the location of Reef Anchorages, moorings and pontoons.
- Minimise disturbance to significant cultural and heritage values when determining the location of Reef Anchorages, moorings and pontoons.
- Ensure that Reef Anchorages, moorings or pontoons are not located within an existing research or monitoring site if the project design would be adversely effected by anchoring.
- Minimise damage to coral from anchoring when determining the location of Reef Anchorages, moorings and pontoons.
- Determine a maximum number of moorings and pontoons for Locations with no limit (refer to Schedules 6 and 7 of the Cairns Area Plan of Management).

Note: Approval for new private moorings and pontoons will remain subject to detailed impact assessment.

3. Site description and map

Green Island Reef (16-049) is an inner shelf planar reef with an area of 7.1 sq.km (Figure 1). Locality 1 (16-049) is the north western section of the reef bounded by a line which:

- (a) commences at the intersection of the geodesic between the point of latitude $16^{\circ}46.00$ south, longitude $145^{\circ}57.40$ east and the point of latitude $16^{\circ}45.00$ south, longitude $146^{\circ}00.00$ east by the coastline of Green Island at low water on the southern side;
- (b) runs then generally south-westerly along that geodesic to a point 500 metres seaward from the coast of Green Island at low water;
- (c) then generally north-westerly, northerly, north-easterly, south-easterly always remaining 500 metres seaward from the coast of Green Island at low water to the intersection of the geodesic between the points of latitude $16^{\circ}46.00$ south, longitude $145^{\circ}57.40$ east and latitude $16^{\circ}45.00$ south, longitude $146^{\circ}00.00$ east;
- (d) then generally south-westerly along that geodesic to its intersection with the coast of Green Island at low water;
- (e) then generally north-westerly, southerly and south-easterly along the coast line of Green Island at low water to the point of commencement.

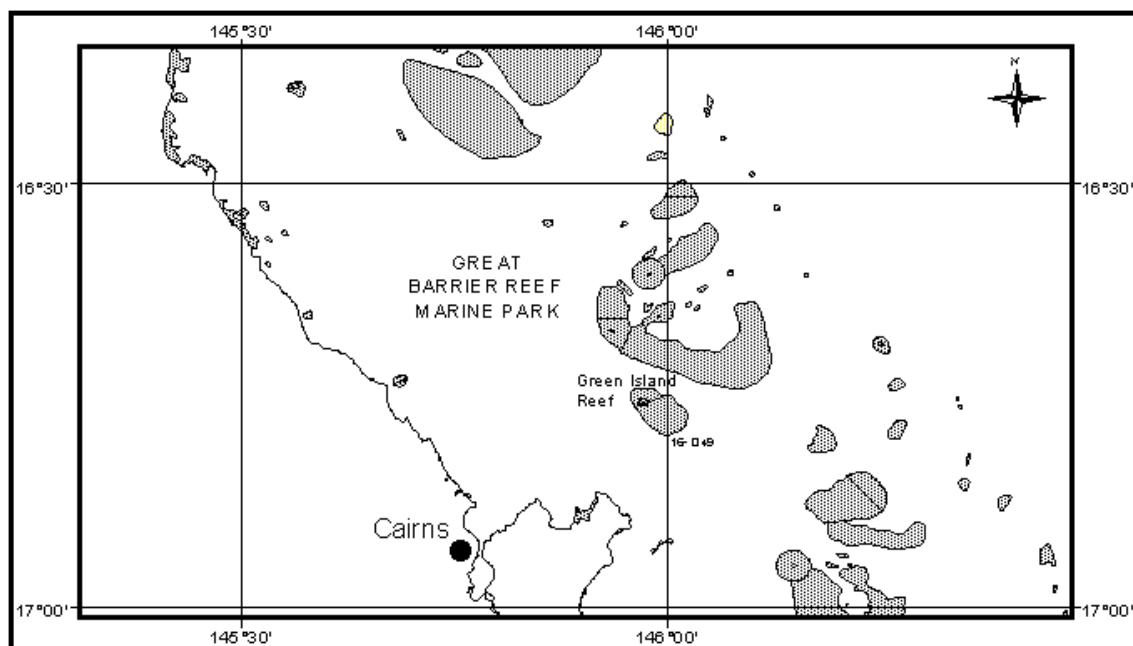


Figure 1: Location of Green Island Reef in the Offshore Cairns Sector

4. Values

4.1 Coral

Since 1993, survey sites monitored by AIMS show that hard coral cover at this reef is the lowest recorded of all survey sites on the GBR, with cover declining or stable in all coral groups. Although COTS populations on this reef are below what would be considered outbreak levels, resident COTS populations are clearly having an impact on coral cover. Green Island is currently classified as Recovering, however there have been few signs of this in 12 years of continuous monitoring and the prognosis for recovery remains poor. Low levels of bleaching have also been recorded on this reef.

4.2 Seagrass

Green Island cay is a well documented seagrass-reef complex within the Great Barrier Reef World Heritage Area. An extensive seagrass meadow surrounds most of Green Island, including Locality 1. These meadows have been most recently been studied and mapped by Udy et al. (1999).

4.3 Fish spawning

Fish spawning aggregation sites have been identified at Green Island Reef Locality 1. Further research and monitoring will be undertaken to establish the significance of these sites.

4.4 Commercial

Green Island Reef and waters are zones National Park and Buffer Zone under the Cairns Marine Parks Zoning Plan. Collecting and fishing are not permitted in this Locality.

4.5 Recreation

Despite increasing tourist numbers, Green Island has retained its tranquil natural setting and is used as an anchorage for local recreational vessels and small sailing yachts.

4.6 Tourism

Green Island attracted over 230,000 visitors during the year 1998/99. There are five tourist operators who hold permits to visit the island daily. Roving tourism operators visiting Green Island Reef are required to make a booking, with a limit of 4 vessels per day. There are 27 moorings in total in the Green Island reef area, 15 of these moorings are within Green Island Reef Locality 1.

4.7 Cultural

Green Island and its associated reef and waters are of cultural significance for the traditional owners of the area, the *Gungandji* and the *Mandingalbay Yidinji* people. The site is within the traditional sea country of these indigenous people and holds traditional and contemporary significance.

The reef was and still is a significant resource base for the indigenous people from Yarrabah, who hunt, fish and collect there on a seasonal basis. Marine Park zoning provisions allow for these activities to occur under relevant permits assessed and issued by the Service and GBRMPA.

4.8 Research and monitoring

There currently three research permits for Green Island Reef (G95/545, G00/561, G98/194). Green Island Reef is also part of the Australian Institute of Marine Science Long-term Monitoring Program.

5. Summary of submissions received – Cairns Area Plan of Management

The draft Cairns Area Plan of Management was released for public comment in August 1997. A total of 160 submissions were received on the Plan. Of the 160 submissions received 17 referred to Green Island.

Examples of comments received:

“Activities within the Green Island Reef locality should have a speed limit for motor boat to 4 knots maximum as there are a number of marine turtle migrating to the area” (Submission no 1054)

“no waste” discharge should be a general provision’. (submissions 1059, 1071)

“Green Island.....used to and should be accessible to the residents and visitors for their weekend recreational activities” (1096)

“...vessel speed 6 knots in Locality 1 rationale speed limit - safety for entire area- suggest condition relating to aircraft take off and landing. Locality is no limit to mooring, note take into consideration turning area of aircraft” (submission 1104).

“Provision should be made for the existing sewage pipeline that traverses locality 1 to discharge effluent at a level of 10m below the low tide level within Locality 2” (submission 1141).

“Provision should be made for the continued allowance of Great Adventures helipad at Green Island and access to that helipad under its current permit entitlement” (submission 1141)

“The provisions for anchoring and access in relation to specific reefs and islands (...Green Island...) appear generally compatible with research logistics and safety” (submission 1145).

“For Green Island, the no anchoring within 50 m of moorings provision would exclude a number of long term studies from the northern tip, if those moorings are among those referred to” (submission 1145).

“Peoples access is limited eg not hunting near a tour operator; maybe the operator needs to consider the needs of the position of the traditional owner in that instance. Cultural activities discouraged by Green Island Resort” (submissions 1084, 1083, 1085, 1086).

“Provide for public moorings on Green Island Reef to protect coral from anchor damage. Allow for the continued use of the existing sewage discharge pipeline in Locality 1” (submission 1126).

“Provide for the continued use of moorings, and new moorings where necessary, associated with control efforts for the Crown of Thorns Starfish” (submission 1126).

“Public Anchorage: this must be addressed as soon as possible to protect the coral reef system at Green Island. The most damage that I have seen over the past 5 years is

by private boats coming from Cairns and dropping anchor or running aground on the reef” (submission 1147).

“Locality 1 should allow for an increase in moorings while not restricting access to the public. A Public Anchorage Area should be identified and declared...” (submission 1146).

“Currently, 50 people per day are allowed to access Green Island and Reef through the booking system. The booking system in the Plan should not increase this number, as is currently the case” (submission 1146).

6. Issues

6.1 Appropriate balance of use (mooring and anchoring)

There are currently a total of 15 permitted moorings within Green Island Locality 1. The existing pattern of commercial mooring use in the Locality is high hence the exemption of the CAPOM 50 metre no anchoring provision applying to most other localities. Commercial access to the Locality has been restricted to limit visitation to 2240 persons per day. Recreational access is unrestricted.

6.2 Protection of conservation values

Green Island Reef Locality 1 has significant areas of seagrass meadows and coral communities. Anchoring or inappropriate mooring placement and design can damage fragile coral communities. The designation of reef anchorages and pre-selection of potential mooring sites required an assessment of the bio-physical characteristics of identified areas to ensure that conservation values are upheld. Broad surveys of all potential sites were conducted and their suitability as mooring sites or reef anchorages was assessed.

Fish spawning aggregation sites (FSASs) have been identified at the Location. There is potential for disturbance of spawning activity by tourism activity during spawning events. FSASs will be considered in the selection of new mooring, pontoon or reef anchorage sites.

7. Current management strategies

7.1 Cairns Section Zoning Plan (Zoning Map: BRA Q156)

The reefs and waters comprising Green Island Reef Locality 1 are within the Great Barrier Reef Marine Park and are zoned as National Park under the Zoning Plan. Activities allowed include diving, boating, anchoring and photography. Activities which are prohibited in this zone include line fishing, trolling, bait gathering and netting, commercial fishing, spearfishing and collection of coral or shells.

7.2 Cairns Area Plan of Management

The Cairns Area Plan of Management was released by the Great Barrier Reef Marine Park Authority in June 1998 to provide new strategies for protecting values of the offshore areas from Cairns and Port Douglas, the Ribbon Reefs, Lizard Island and the Frankland Islands. The following is a summary of the major strategies in the Cairns Area Plan relevant to Green Island Reef Locality 1:

- Green Island Reef Locality 1 is identified as a Moderate Use location. Maximum group sizes of 60 people per vessel or aircraft (including crew) apply.
- No anchoring of vessels more than 35 metres in overall length
- Anchoring is allowed within 50 metres of moorings
- No motorised water sports
- Green Island is a designated Sensitive Location. Tourism operators must book to access Sensitive Locations, with daily limits on bookings. Tourism operators may not book to visit an individual Sensitive Location on more than 50 days a year. No aircraft operations are permitted in a Sensitive Location.
- The Plan identifies the need for site planning to determine the number of allowed permitted moorings.

7.3 Green Island Recreation Area Plan of Management

The Green Island Recreation Area was declared in March 1990, under the *Recreation Areas Management Act 1988*. A draft management plan for the Green Island Recreation Area is currently being finalised to update the 1995 Green Island and Reef Management Plan. The draft plan proposes strategies for a range of issues for management of the Recreation Area.

Green Island Recreation Area is a high use site and has a range of conflicting marine activities. A 'Reef Activities Plan' specifies the types of activities and structures permitted in the Green Island Recreation Area. It provides a level of specific site zoning for marine activities not covered by the Commonwealth and State zoning plans.

The Reef Activities Plan is given effect by the management plan to:

- i. restrict recreational activities to designated portions of the reef;
- ii. separate incompatible activities; and
- iii. restrict activities that are unreasonably obtrusive.

Two reef activities precincts (recreation and conservation) are defined, which complement the CAPOM.

8. Site planning strategies (refer to figure 2)

8.1 Reef Anchorages

Consideration of existing use and conservation issues has lead to the conclusion that no Reef Anchorage should be designated at Green Island Locality 1. Instead, public access to the Locality will be provided through the strategic placement of public moorings.

8.2 Public moorings

Much of the back reef area of Green Island Reef is shallow with numerous bommies. Two public moorings are therefore required at the western side of Locality 1 to facilitate safe and easy access to larger vessels. A suitable area to the east of the official anchorage as marked on navigational charts has been identified. The installation of public moorings at this site will be investigated.

A second site suitable for small vessels (less than 6 metre length) was identified just off the northern end of Green Island beach. The installation of public moorings at this site will be also be investigated.

8.3 Private moorings

Green Island Reef Locality 1 already has a large number of private permitted moorings. The 50 metre no anchoring provision does not apply at this Location because of the density of moorings. No new site-specific permits are being issued for Green Island and access to new operations and operations without historic use are restricted to 50 days per year, 4 operators to the Location per day, and subject to a booking. The number of allowed moorings has not increased above the number permitted on 22 June 1998. The total number of allowed moorings in Location 1 is shown in Schedule 6 of the CAPOM.

9. References

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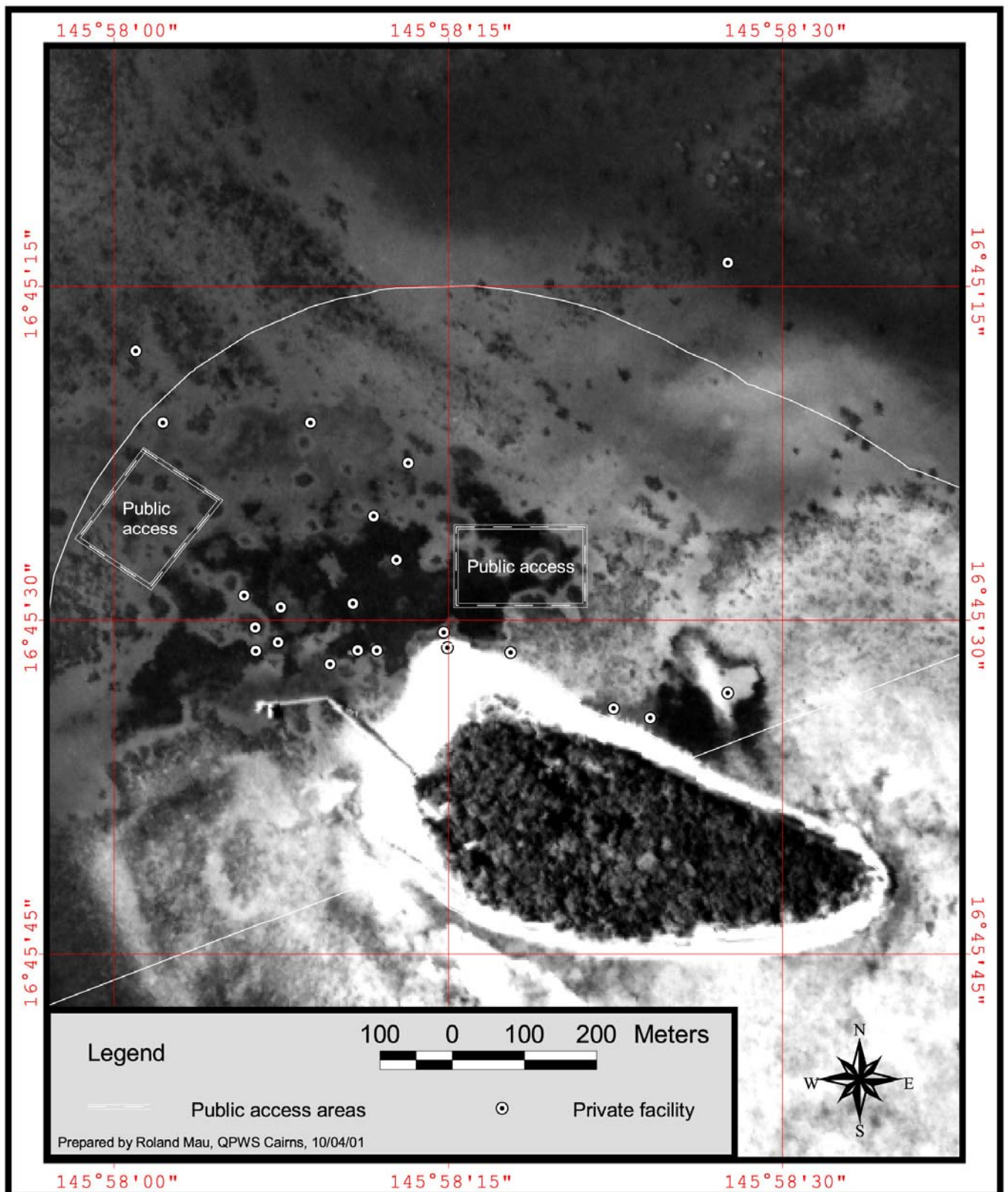


Figure 2: Green Island Reef Locality 1 Site Plan