

## SITE PLAN LIZARD ISLAND LOCALITY 2 (ANCHOR BAY/RESORT BAY)

(Prepared August 1999)

**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. Lizard Island Locality 2 is now zoned Scientific Research Zone, for more information please refer to the Zoning Plan and maps.

### 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.*

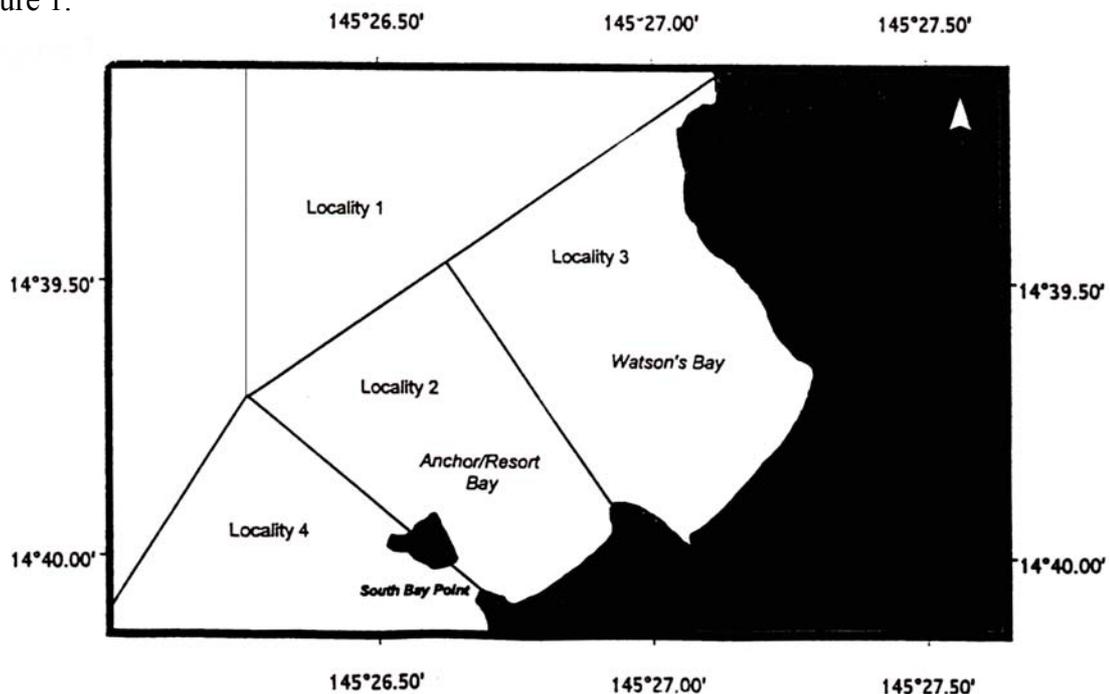
### 3. Site description and map

Lizard Island is a mid-shelf continental island with a wide range of adjacent marine habitats. Locality 2 contains reef and waters of the Marine Park located on the north-western side of Lizard Island.

Lizard Island Locality 2 of the Cairns Area is the part of the Lizard Island Sector bounded by a line which:

- (a) commences at the north-western extremity of the point immediately south east of Osprey Island (14-116e), located at low water at point of latitude  $14^{\circ}40.14'$  south, longitude  $145^{\circ}26.61'$  east
- (b) runs then generally north westerly along the geodesic on a bearing of  $305^{\circ}$  for a distance of approximately 990 metres to the point of latitude  $14^{\circ}39.80'$  south, longitude  $145^{\circ}26.20'$  east
- (c) then generally north-easterly along the geodesic on a bearing of  $55^{\circ}$  for a distance of approximately 800 metres to the point of latitude  $14^{\circ}39.55'$  south, longitude  $145^{\circ}26.56'$  east;
- (d) then generally south-easterly along the geodesic on a bearing of  $155^{\circ}$  for a distance of approximately 950 metres to the northwesternmost point of the headland of Lizard Island at Chinamans Ridge at low water; and
- (e) then generally southerly, south-westerly, north-westerly, southwesterly, south-easterly, southerly, west-south-westerly along the coastline of Lizard Island at low water to the point of commencement.

Figure 1.



## **4. Values**

### **4.1 Coral**

The majority of Lizard Island is surrounded by well-developed fringing reefs. These reefs surrounding the Island are classed as mid-shelf reefs due to their location midway between the coastline and the outer barrier reef. The reef slopes are populated by dense growth of branching and plating *Acropora* species, other corals including *Montipora*, *Porites*, *Lobophyllia*, and fleshy alcyonarians.

A survey of potential reef anchorages at Lizard Island Locality 2 (commonly known as Anchor Bay or Resort Bay) by GBRMPA in 1999 identified numerous patch reefs in this Location (refer Figure 2). Approximately 70% of waters less than 6m in depth in Locality 2 consist of reef – fringing reef on the north headland (Chinaman’s Ridge) and around Osprey Island with numerous patch reefs in the Location.

### **4.2 Seagrass**

In 1995 the Queensland Department of Primary Industries (QDPI) surveyed the Lizard Island Group to map the distribution of seagrass meadows to depths of 20m. *Halophila ovalis* was the most widely distributed species over the entire depth range examined.

As part of the QDPI’s submission to GBRMPA and QDEH on the proposed Special Management Area (the area now included in Locality 1) the report noted that deep water meadows of *H. ovalis* are likely to be important to the local dugong population but also noted that the ecological importance of the meadows in and adjacent to Watson’s Bay are poorly understood. The entire soft-bottom between Turtle and Lizard Island group contains a high cover of seagrass and is described as important to the regional dugong population.

The GBRMPA survey identified a small (approx length 300m x width 75m x depth 7-9m) but relatively dense seagrass meadow of high food value offshore from the reef edge in Locality 2 (refer figure 2). The survey recommended that the seasonal variation in the spatial extent of the seagrass meadow should be taken into account by allowing for a no anchoring area between the proposed anchoring areas and the present edge of the seagrass meadow.

### **4.3 Fish spawning**

Submissions to GBRMPA in 1997 identified a large Grouper family resides on the Anchor Bay side of Osprey Island.

No information is currently available on fish spawning aggregation sites for Locality 2.

### **4.4 Commercial**

Preferred anchorages in the Cairns planning area were identified by user groups early in 1998. Charter operations identified the north western part of Locality 2 (adjacent to Chinaman’s Ridge) and commercial collectors identified the southern part of Locality 2 (west of Osprey Island) as a frequently used anchorage (refer figure 3).

Commercial fishing, spearfishing and collection of corals or shells is not permitted in Lizard Island Locality 2 (refer to section 7).

There are no coral leases within Locality 2.

#### **4.5 Recreation**

Lizard Island is a National Park and popular destination for private vessels including cruising yachts. Visibility is usually good and diverse underwater habitats are accessible from the beach or by boat. Heenan (1990) stated that the snorkelling between Osprey Island and the Anchor Bay beach is excellent.

A number of private moorings within Locality 2 provides good access to snorkelling sites without damage to coral. Popular activities include snorkelling, diving and sightseeing.

#### **4.6 Tourism**

Locality 2 is heavily used by tourists and staff from the resort, workers from the research stations, and charter boats. In the period 1/1/96 to 31/12/96 approximately 70 tourism operators visited Lizard Island. The majority of these vessels visited irregularly, with only 23 visiting more than 10 days.

Lizard Island is a destination for cruise ships and is promoted by the Queensland Tourist and Travel Corporation (Tourism Queensland) as Australia's northern most island resort and as an anchorage for specialist cruises. There are currently 11 cruise ships permitted to access Lizard Island. During 1998 three cruise ships accessed Lizard Island. Two cruise ships made one visit each to Lizard Island and the third ship visited an average of one visit per seven days. Watson's Bay is the most popular anchorage for cruise ships at Lizard Island.

The Lizard Island Resort adjacent to Locality 2 accommodates 60 people. Activities undertaken by resort visitors include swimming, snorkelling, diving and sightseeing. An airstrip on Lizard Island provides access for visitors to the island. Locality 2 is also a popular destination as an anchorage for commercial fishing charters. The Marlin Bay adjacent to Locality 2 attracts charter vessels in the gamefishing season from September to December.

#### **4.7 Cultural**

For many thousands of years, indigenous people canoed to Lizard Island from the mainland to collect food from the shores and shallow reefs. Extensive shell middens occur on the island as well as rock formations for ceremonial purposes. The adjacent Localities 1 and 4 are identified as Locations with particular cultural and heritage significance by local indigenous groups.

Lieutenant James Cook's reports of the good anchorage and fresh water led other vessels to the area. Although the Island's anchorage and fresh water have attracted fishermen and boatmen for the past 200 years there are no shipwrecks recorded in the waters surrounding Lizard Island.

#### **4.8 Research and monitoring**

The Lizard Island research station was opened in 1975 and is located near the south west corner of the Island. Work associated with the research station has high scientific value as it contributes to the knowledge and understanding of coral-reef ecosystems.

## **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 27 referred to Lizard Island Localities.

The majority of issues raised regarding Lizard Island were relevant to, and were addressed in, the Plan of Management planning process. Any comments relevant to the more detailed site planning process confirmed the importance of Watson's bay as a safe anchorage and that the placement of moorings should not exclude access to the sand-based anchorages.

## **6. Issues**

### **6.1 Appropriate balance of use (mooring and anchoring)**

There is need to identify the appropriate number of moorings, while allowing for anchoring opportunities.

The public consultation process on the draft Cairns Area Plan of Management (August 1997) raised concerns that the placement of moorings in Localities 2 and 3 should not displace anchoring by vessels in sand (refer to section 5).

The Cairns Area Plan does not specify the number of moorings to be granted at Lizard Island Locality 2. Currently there are 5 permitted moorings within the Locality. The '50m no anchoring around moorings' provision which applies to most moorings in the Area does not apply within Locality 2 (refer to section 7). Although this provision does some way to alleviating concerns about displacement of vessels in the Locality, it is important to ensure that placement of new moorings does not restrict anchoring opportunities.

There are currently 11 cruise ships permitted to access Lizard Island. Cruise ship anchoring, if not confined to a specific site, may damage surrounding seagrass meadows. It will be necessary to identify a cruise ship anchorage site.

### **6.2 Protection of conservation values**

The 1999 GBRMPA survey of Locality 2 identified significant areas of seagrass (potential dugong habitat) in waters 7m and seawards and coral in waters 6m and inshore, which both require protection from anchor damage. These areas are identified on figure 2 and described in section 3.

## **7. Current management strategies**

### **7.1 Cairns Section Zoning Plan (Zoning Map: BRA Q155)**

The reefs and waters surrounding Lizard Island are within the Great Barrier Reef Marine Park. The waters within Lizard Island Locality 2 are zoned as Conservation Park Zone under the Zoning Plan and allow line fishing (maximum of 2 lines/rods per person, and 1 hook/lure per line), trolling for pelagic species, and amateur bait netting. Activities which are prohibited within this zone include 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 strategies for protecting the natural 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 Lizard Island Locality 2:

- Lizard Island Locality 2 is identified as intensive use location. Group size and vessel size limits do not apply. Limits of use are determined by: known values such as size of reef, coral cover and cultural significance; existing use; and zoning.
- Hovercraft and motorised watersports are permitted at Lizard Island Locality 2.  
*Note: Motorised water sport is defined as a recreational or commercial sporting activity using high-speed motorised craft and including water-skiing, jet-skiing, parasailing, jetboating.*
- The number of moorings that will be permitted at Lizard Island Locality 2 is not defined but will be determined through site planning. Anchoring is allowed within 50m of moorings within Lizard Island Locality 2.
- Lizard Island Locality 2 is identified as an anchorage for vessels greater than 70m, such as cruise ships, however only one cruise ships may be at the Location at any one time.
- Tourism operators will be restricted to 50 days per year access to the Location, unless accessing a permitted mooring. Operations using a mooring will be granted all year access.  
*Note: Some tourism operations may be eligible for exemption from the booking requirement and limits based on their existing permit and history of use.*

## **8. Site planning strategies**

### **8.1 Reef Anchorages within Locality 2**

Numerous patch reefs in this Location, and the presences of moorings, makes it difficult to recommend a Reef Anchorage for this Location. The waters 6m inshore consist of reef (approx 70% cover) and the 5 permitted moorings are located adjacent to the patch reefs (refer to figure 2).

*Note 1: Although no Reef Anchorage has been identified this does not prevent anchoring within Locality 2*

*Note 2: The Authority's Cruise Ship strategy will identify a cruise ship anchorage for Lizard Island. It is proposed that cruise ships may only anchor seawards of the seagrass meadows identified at 8 to 9m. A recommended anchorage is 14°19.75'S, 145°26.70'E, depth 12m. The site will be subject to a navigation, safety and charter assessment by the Queensland Department of Transport.*

### **8.2 Maximum number of permitted moorings in Locality 2 – seven moorings**

There are currently 5 permitted moorings. In determining an increase of 2 moorings, consideration was given to the swing of a vessel on a mooring (approx 50m), the need to continue to provide anchoring opportunities to the Locality, the number and location of anchorages and moorings in the adjacent Localities, and activities allowed in the Locality.

*Note: Anchoring in this Location is allowed within 50m of moorings.*

### **8.3 Monitor effectiveness of management strategies**

Seagrass meadows and coral in Locality 2 are identified in Figure 4 and will be included in CAPOM interpretation material. Seagrass and coral will be monitored to measure the effectiveness of the Reef Anchorage and moorings in minimising impacts of anchoring on these values. Any adverse changes will require identifying the source of the impact and if necessary changing or implementing strategies to protect these values.

### **8.4 Location of moorings**

Seven moorings have been allowed for Locality 2 (Five are already permitted). Anchoring is allowed within 50m of these moorings. QPWS is responsible for the field survey and final assessment of each mooring installation. Attachment 1 is an extract of the criteria assessed in determining the suitability of installing a mooring at a particular site.

## 9. References

Great Barrier Reef Marine Park Authority 1998, *Cairns Area Plan of Management*, Great Barrier Reef Marine Park Authority. Townsville

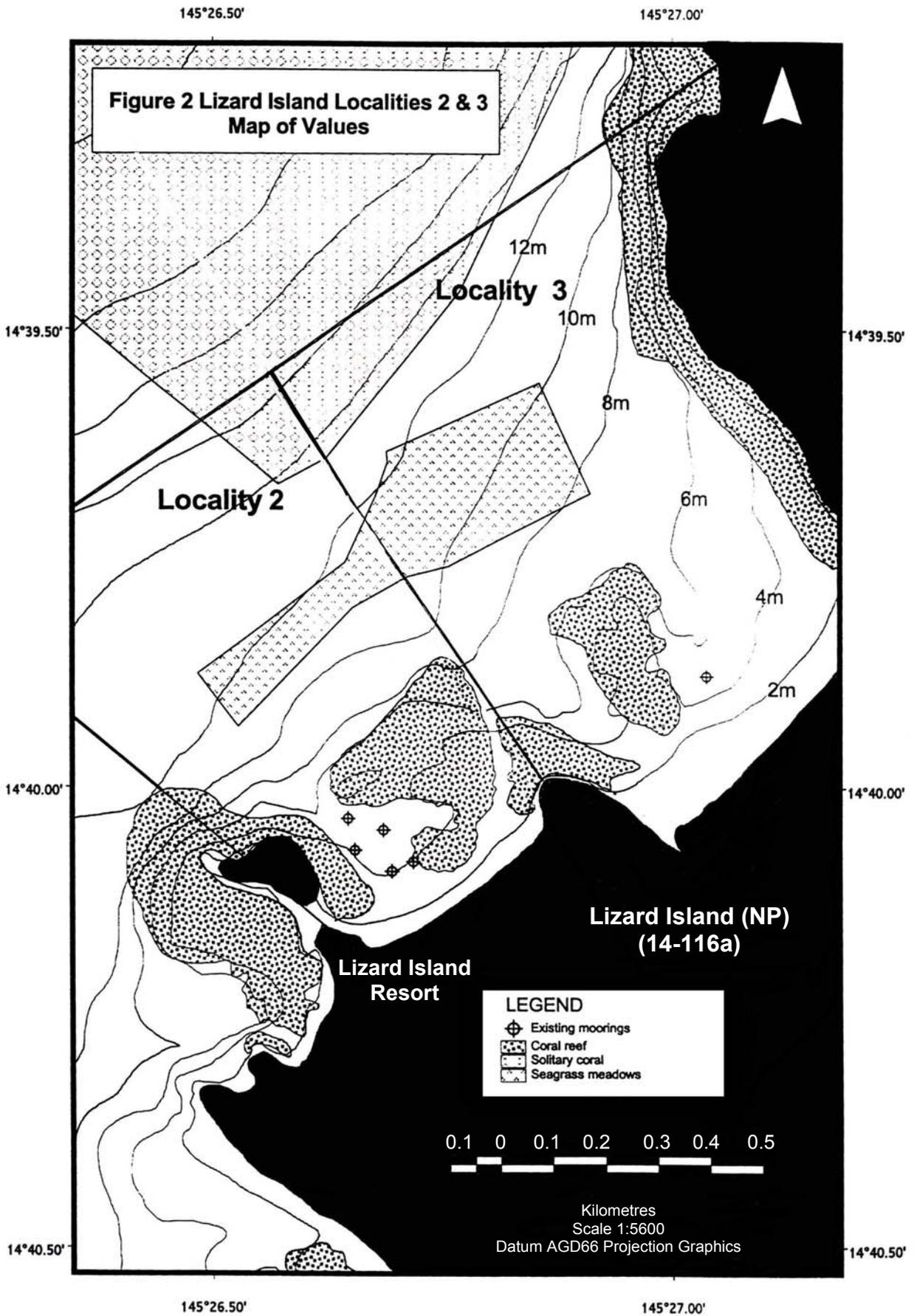
Great Barrier Reef Marine Park Authority 1997, *Submissions to the Cairns Area Plan of Management*, Great Barrier Reef Marine Park Authority, Townsville (unpublished).

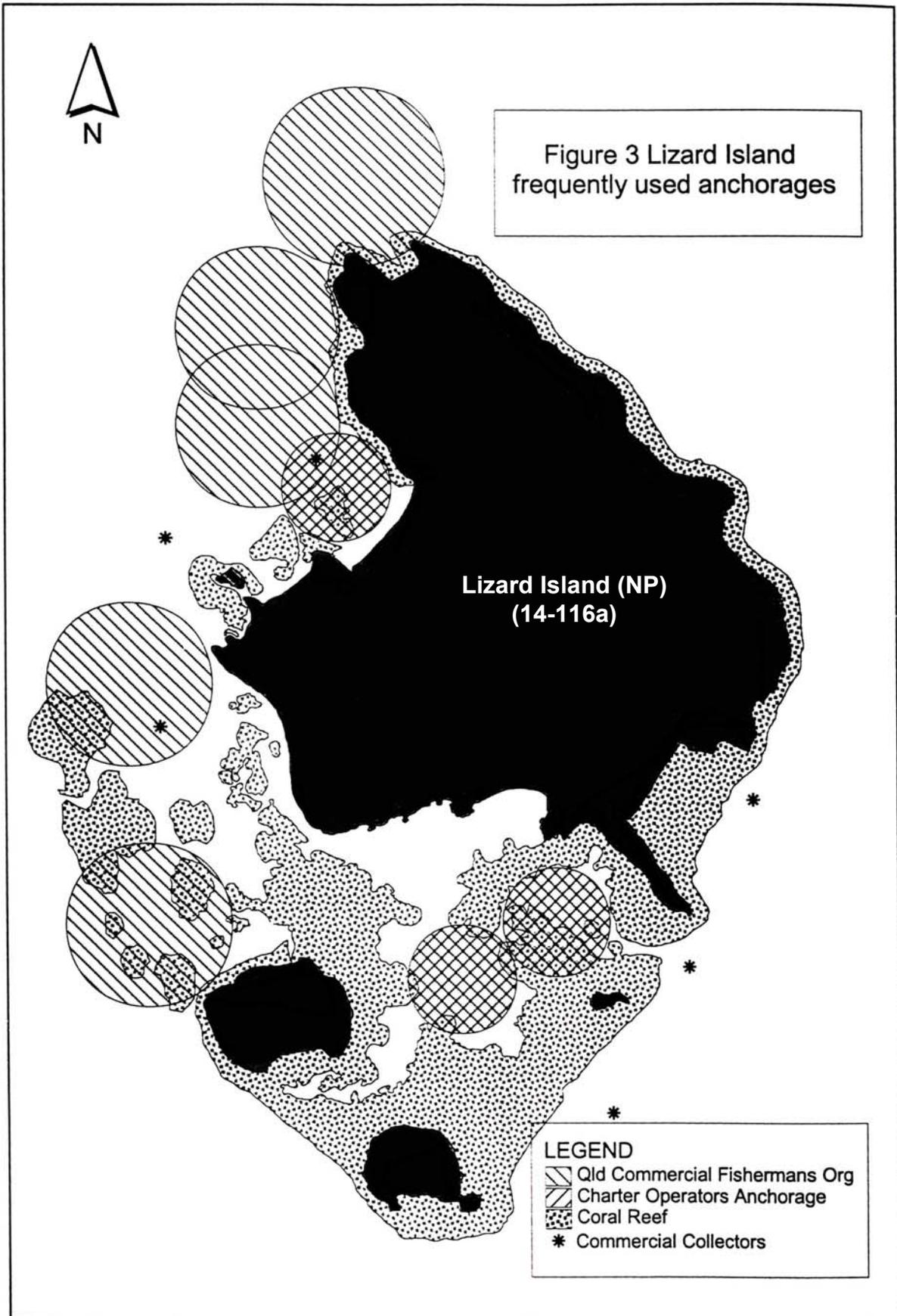
Heenan, D. 1990, *The Great Barrier Reef – A Guide to the Reef, Its Islands and Resorts* (Glenmede: Wilberforce, NSW).

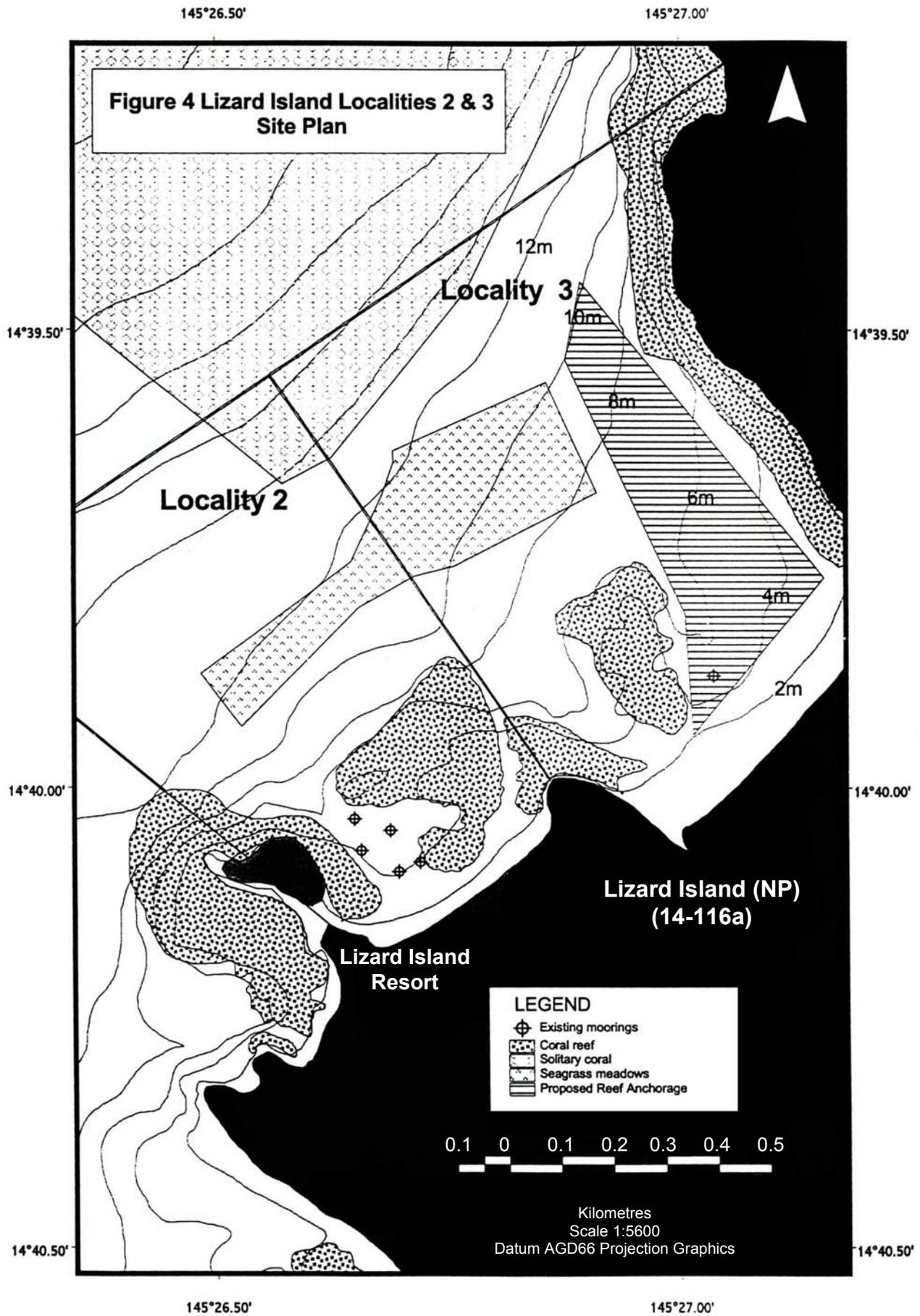
Lucas, A. 1998, *Cruising the Coal Coast*, (Horwitz Grahame Pty Ltd, Sydney).

Queensland Department of Primary Industries 1995, *Submission from – Rob Coles*. (unpublished)

Queensland Parks and Wildlife Service 1992, *Visitor Information – Lizard Island Group National and Marine Park*, Department of Environment and Heritage.







## **Guidelines for the Cairns Area Plan of Management Mooring Assessment Criteria (Extract)**

It is stated in the Cairns Area Plan of Management that applications to install or operate private moorings and pontoons will be subject to detailed impact assessment. 13AC(4) of the *Great Barrier Reef Marine Park Act 1975* outlines twelve criteria that must be considered in the assessment of any applications. QPWS, Marine Parks, is responsible for the assessment on each mooring installation.

The following criteria is an extract from the QPWS Mooring Assessment Criteria.

The suitability of a site for installing a mooring is determined by assessment of:

- consistency with the objectives of zones at the Location;
- conservation of the natural resources;  
The mooring site survey completed during the field survey will include an analysis of the following parameters:
  - aspect, depth, slope, substrate
  - area of anchorage
  - exposure of site: prevailing winds, wave action, tidal currents
  - benthic communities present
  - coral cover
  - suitability of infrastructure at the site
  - activities conducted at the site eg scuba entry level – scuba training requires sandy/rubby area for up to 12 students
  - distance to nearby bommies
  - proximity to fish spawning aggregation sites
  - impact on areas of significant meadows;
- interference with, or threat to research or monitoring sites;
- interference with, or threat to the cultural and heritage values eg. in Low use Locations no new moorings will be placed within a certain distance of hunting areas or sites of known cultural significance;
- likely effects of the proposed use on existing use and amenity of adjoining and adjacent areas, eg.
  - access to the proposed site
  - conflict with other users
  - site characteristics
  - effect on visitors' experience
  - proximity to other moorings.