

SITE PLAN LIZARD ISLAND LOCALITY 3 (WATSON'S 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 3 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).

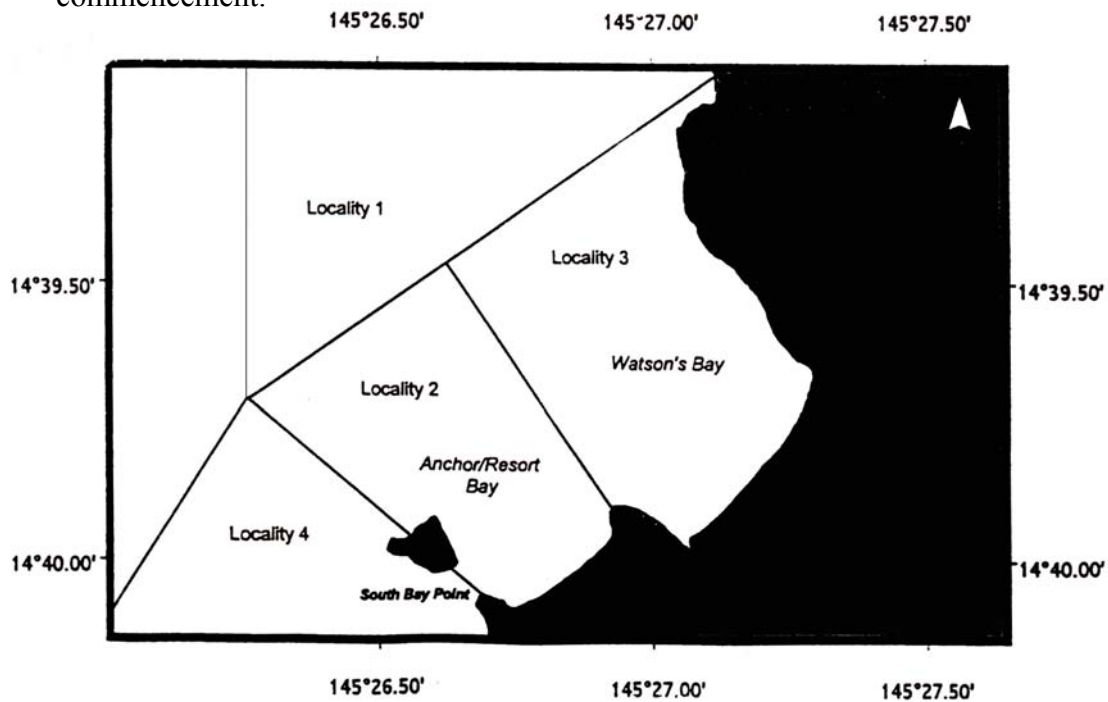
Note: Approval for new private moorings and pontoons will remain subject to detailed impact assessment.

3. Site description and map

Lizard Island is a mid-shelf continental island with a wide range of adjacent marine habitats. Locality 3 contains reef and waters of the Marine Park located on the north-western side of Lizard Island.

Lizard Island Locality 3 of the Cairns Area is the part of the Lizard Island Sector bounded by a line which:

- (a) commences at the north-westernmost point of the headland of Lizard Island at Chinamans Ridge at low water; and
- (b) runs then generally north-westerly along the geodesic on a bearing of 325° for a distance of approximately 950 metres to the point of longitude $145^{\circ}26.56'$ east, $14^{\circ}39.55'$ south;
- (c) then generally north-easterly along the geodesic on a bearing of 55° for a distance of approximately 1050 metres to the southern end of Turtle Beach at low water; and
- (d) then generally south-westerly, south, south-easterly, south-westerly, and west-north-westerly along the coastline of Lizard Island at low water to the point of commencement.



4. Values

4.1 Coral

The importance of Watson's Bay relates to the unusually high number of species in a relatively small area. Watson's Bay is also known for its unique abundance and diversity of solitary corals.

The Queensland Department of Environment and Heritage (QDEH) compiled a report on the various surveys conducted on the benthic communities at Watson's Bay since 1974. The report focuses on the area covered by the Special Management Area (the area now include in Lizard Island Locality 1) but also includes parts of Lizard Island Locality 3.

A report by Fisk (1993) on soft bottom communities in Watson's Bay noted that "most of the greater Bay area is relatively deep close to the beach and is construction-free except for some areas of fringing reef and patch reefs near shore in some of the smaller bays." The report also notes "there appears to be significant long term stability in the free living coral communities with respect to the distribution patterns and relative densities, though nothing is known of their true tolerance to anchor impacts, nor the tolerance or changes that may have occurred in other significant community components."

A survey of potential Reef Anchorages at Lizard Island Locality 3 by GBRMPA in 1999 describes the distinctive Clam Gardens in Watson's Bay as having high cover of live corals and other invertebrate life which much be protection from anchor damage. Fringing reefs and an extensive area of solitary corals in waters 10-14m within Locality 3 were also identified and recommended as areas where anchoring should be prevented (refer to figure 2).

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. In the Watson's Bay area, sites beyond the 15m contour line were dominated by *Halophila* sp and sites less than 15m contained predominately *H. ovalis* and *H. uninervis*. Species richness was greatest at shallow sites.

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. Seagrasses in the shallow part of Watson's Bay were described as likely nursery habitat for juvenile endeavour and king prawns.

The submission by QDPI also notes that anchor damage was evident throughout Watson's Bay. Anchor scars at shallower depths (5-10m) showed signs of seagrass recovery, however, deeper scars remain bare, suggesting that anchor damage was more recent or seagrass recovers more slowly with depth. The report recommended that moorings be provided in the deeper waters of Watson's Bay for the protection of deepwater seagrass meadows

The GBRMPA survey mapped seagrass meadows within Lizard Island Locality 3 and identified an area of dense seagrass starting at approximately 6m depth and extending seaward where anchoring should be discouraged (refer figure 2). The survey also recommends 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

A long established research program has identified that several sites close inshore of Lizard Island Locality 1 are annual fish spawning aggregation sites. The research program is monitoring fish spawning processes at these sites. No information is currently available on fish spawning aggregation sites in Locality 3.

4.4 Commercial

Preferred anchorages in the Cairns planning area were identified by user groups early in 1998. Charter operations, Queensland Commercial Fisherman's Organisation and commercial collectors identified part of Locality 3 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. A camp site and walking tracks are located on the north east corner of Watson's Bay and is managed by the Queensland Parks and Wildlife Service (QPWS).

Cruising the Coral Coast describes Lizard Island as "offering the best anchorage on the north coast." Watson's Bay, including Lizard Island Locality 3 provides an excellent anchorage in sand during south easterly winds. Visibility is usually good and diverse underwater habitats are accessible from the beach or by boat. The public consultation process on the draft Cairns Area Plan of Management in 1997 confirmed the importance of Watson's Bay as a safe anchorage.

A number of private moorings within Locality 3 provides good access to snorkelling sites including the clam gardens without damage to coral. Popular activities include snorkelling, diving and sightseeing. Activities including fishing, trolling, bait gathering and netting, commercial fishing and collection of coral or shells are not permitted (refer section 7).

4.6 Tourism

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.

Watson's Bay is a popular destination as an anchorage for commercial fishing charters.

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. The research station has high scientific value and the Cairns Area Plan of Management includes strategies to limit the impact of activities that may affect scientific values within Locality 1.

Locality 3 has high scientific values. Research and monitoring activities are generally concentrated around the fringing reef and solitary corals at the northern end of Watson's Bay and in the clam gardens. Research has been undertaken near Chinamen's Ridge however, research is generally undertaken in sites that are less vulnerable to human disturbance.

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.

Examples of comments:

'Moorings should not be established in sandy bottoms (eg Lizard Island Locality 3).'

'For the "Boaties" Lizard Island (Watson's Bay) is a favourite safe base for reef excursions.'

'Watson's Bay is a favoured anchorage in prevailing winds, the 400m triangle reef free area ... could easily be blocked by new moorings ... no other craft could use Locality 3. I would like the ability to anchor in Locality 3.'

6. Issues

6.1 Appropriate balance of use (mooring and anchoring)

The public consultation process on the draft Cairns Area Plan of Management (August 1997) raised concerns that the placement of moorings in Locality 3 should not displace anchoring by vessels in sand at Watson's Bay (refer to section 5).

The Cairns Area Plan allows a total of 6 private moorings to be granted at Lizard Island Locality 3. Currently there are no permitted moorings within Locality 3. The '50m no anchoring around moorings' provision which applies to most moorings in the Area does not apply within Locality 3 (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 good anchoring opportunities continue to be available which are not inhibited by moorings remains an important consideration.

There are currently 11 cruise ships permitted to access Lizard Island. The GBRMPA 1999 survey identified that the site used more frequently for anchoring by cruise ships is within an area of patchy seagrass well offshore from the reef. 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

Locality 3 includes significant areas of coral and seagrass which require protection from anchor damage including clam gardens, solitary corals and seagrass in waters 6m seaward. 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 National Park Zone under the Zoning Plan and allow diving, boating, anchoring and photography. 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 3:

- Lizard Island Locality 3 is identified as intensive use location. Group size and vessel size limits do not apply. Limits of use are determined by environmental sustainability.
- Hovercraft and motorised watersports are not permitted at Lizard Island Locality 3. *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.*
- A total of 6 private moorings will be allowed at Lizard Island Locality 3. Anchoring is allowed within 50m of moorings within Lizard Island Locality 3.
- Vessel or aircraft must not be attached to the public mooring at Lizard Island Locality 3 for more than 4 hours in any period of 24 hours.
- Lizard Island Locality 3 is identified as an anchorage for vessels greater than 70m, such as cruise ships, however only one cruise ship may be at the Location at any one time.
- All year access by tourist programs is permitted to Lizard Island Locality 3 where permittees use a private mooring.

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 Anchorage

A Reef Anchorage has been allocated within Locality 3 to provide reasonable access for vessels where access will not be inhibited by moorings and to encourage the use of an anchorage that is least likely to cause damage to coral and seagrass (refer to figure 4). The Reef Anchorage is located between the clam gardens and the fringing reef in the north east of Watson's Bay in waters approximately 2 to 10 metres depth and avoids areas of solitary coral, fringing reef or dense seagrass.

Note 1: The Reef Anchorage is a preferred area for anchoring but does not prevent anchoring elsewhere within Watson's Bay. No new moorings will be installed in the Reef Anchorage.

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 Monitor effectiveness of management strategies

Seagrass meadows and coral in Watson's Bay 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.

8.3 Location of moorings

In the CAPOM six moorings have been allowed for Locality 3. 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.

Note: The installation of six moorings will only be permitted if the criteria for the detailed site assessment undertaken by QPWS are met.

9. References

Fisk, D.A. 1993, *Soft Bottom Communities in Watson's Bay, Lizard Island* Report to Far Northern Regional Section, Department of Environment and Heritage. Cairns.

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

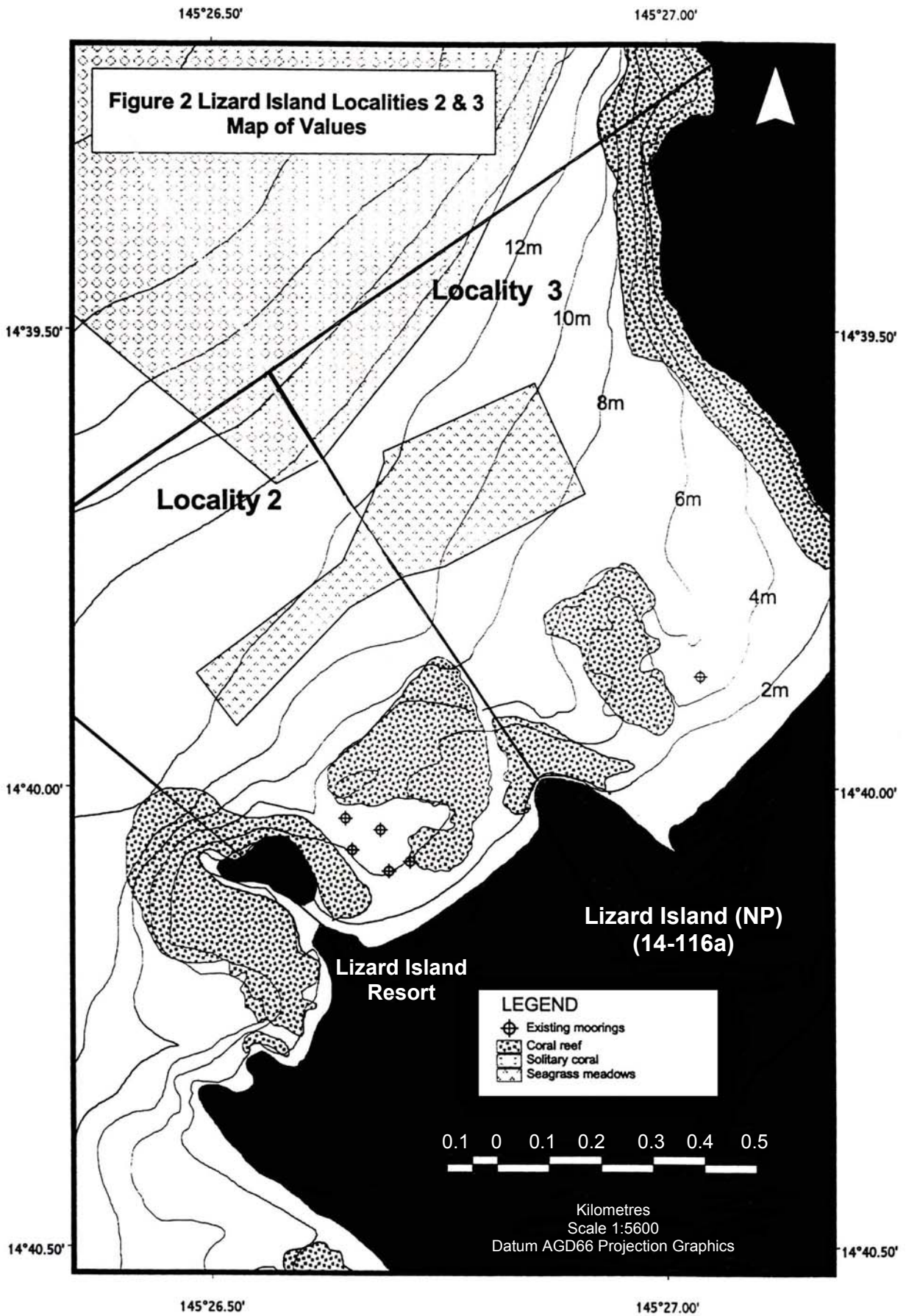
Great Barrier Reef Marine Park Authority 1997, *Submissions to the Cairns Area Plan of Management*, Great Barrier Reef Marine Park Authority, Townsville (unpublished).

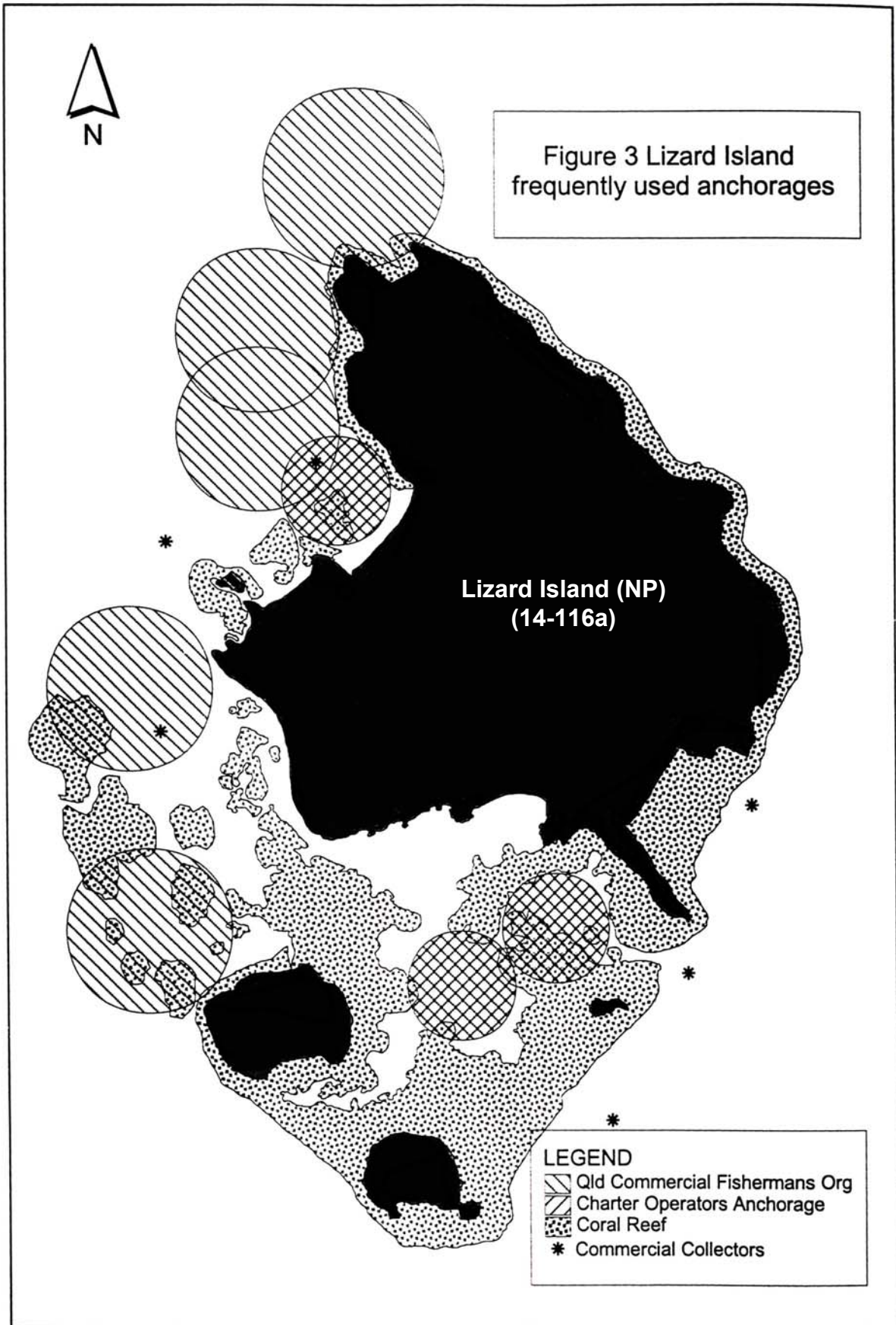
Great Barrier Reef Marine Park Authority 1999, *Reef Anchorages, Watson's Bay, Lizard Island* (unpublished internal report by Ken Anthony).

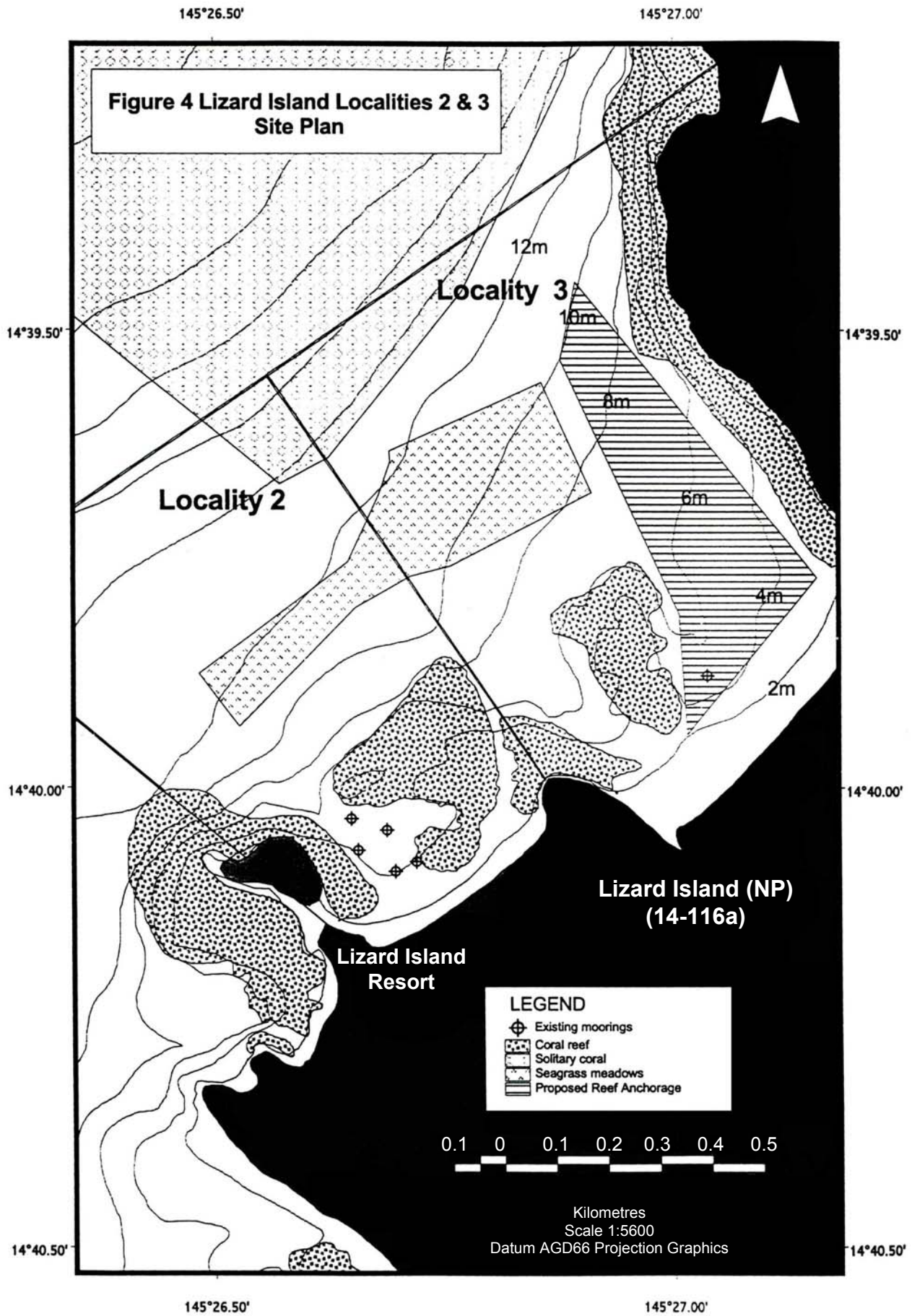
Lucas, A. 1998, *Cruising the Coal Coast*, (Horwitz Grahame Pty Ltd, Sydney).

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.