



**Note:** Information in this document may now be superseded. Additional public moorings and no-anchoring areas marked by reef protection markers may have been installed see [GBRMPA website](#). Observe and comply with all instructions as directed on public infrastructure.

## Keppel Bay and Islands

<b>Location Summary - High continental islands with fringing reefs</b>	
<b>Latitude/longitude</b>	Great Keppel Island – Lat: 23° 10.7' S, Long: 150° 57.6' E North Keppel Island – Lat: 23° 4.4' S, Long: 150° 53.8' E
<b>Distance from mainland</b>	Great Keppel Island - 18km North Keppel Island – 15km
<b>Accessibility</b>	Some parts of the Keppels are in Marine National Park (Green) Zones and Conservation Park (Yellow) Zones. Peak Island is located in a Preservation (Pink) Zone.
<b>Traditional Owners</b>	Woppaburra

### Zoning Maps and Guides

- Marine Parks Zoning Map 16
- Marine Parks Zoning Map 17

### Keppel Bay Resilience Project - No Anchoring Areas

Four sites within Keppel Bay have been selected for No Anchoring Areas following feedback from the community. The four sites are Barren Island, Great Keppel Island (Big Peninsula and Monkey Beach Reef) and Humpy Island.

The markers were installed in early November 2008 to protect these areas from future anchor damage. This will help to keep the reefs healthy and give them a greater chance of surviving the impacts of climate change.

### The Keppels

This region is a popular recreation and tourism destination, with a focus around Great Keppel Island and several other islands, which provide campsites and other amenities. Boating, fishing, camping, diving and snorkelling are the most popular activities in the area. Ready access for Central Queensland University and local schools means that the Keppels are a focus for research and education programs. A relatively small but longstanding marine aquarium fish and coral collecting industry is also based in the Keppel Bay region.

Many of the islands in the Keppel Bay region are National Parks and provide camping and day visitor facilities such as toilets and picnic tables. Visit the Department of National Parks, Recreation, Sports and Racing for more information.

### Coral Reefs

Many of the islands are surrounded by fringing reefs. In many areas the coral communities are abundant and have an unusually high coral cover (60 to 70 per cent). Most areas are dominated by fast growing *Acropora* species which extend into shallow waters. Plate corals and small bommies are also present.

Reefs within the Keppel Bay region have been affected by both flooding and bleaching events at regular intervals over the last 20 years. Most notably, a severe flood devastated reefs in the area in 1991, the mass bleaching events of 1998 and 2002 impacted reefs here, and in the summer of 2006 most sites experienced at least 40 per cent bleaching-induced mortality of corals due to a

highly localised and severe warming event. Further, during the latter half of 2006 an extreme low tide coincided with a heavy rainfall event killing reef flat corals in several localised bays in the region.

An extreme La Niña-induced monsoon season in north-east Australia during 2008 resulted in another major flood of the Fitzroy River, but surveys have shown that both bleaching and bleaching-induced mortality was minimal (<5 per cent of corals). For more information, visit the Fitzroy Basin Association.

A biophysical survey of the reefs was undertaken in 2007.

The results have been published in the following document: Biophysical assessment of the reefs of Keppel Bay: a baseline study April 2007

### *Climate Change*

As climate change starts to affect the Great Barrier Reef, it is important that management approaches evolve to deal with this emerging threat.

The following reef-wide management responses have been employed to help mitigate the threats of climate change:

- The Great Barrier Reef Marine Park Zoning Plan ensures all of the habitat types in the Great Barrier Reef are adequately protected. By preserving a portion of each habitat type in a network of protected areas, plants, corals and animals are protected, and connectivity between habitats is maintained.
- The Great Barrier Reef Marine Park Authority (GBRMPA) is also working to reduce pressure on the reef from declining water quality through the Reef Water Quality Protection Plan. The aim is to develop on-ground initiatives that help decrease water pollutants from entering the reef. The latest results for marine water quality can be found in the Annual Marine Monitoring Report 2006.
- The Coral Bleaching Response Plan has improved our ability to predict bleaching risk, detects early warning signs of major coral bleaching events, involves the community in monitoring the health of the reef, and raises awareness about bleaching.

At a local level, reefs within Keppel Bay have been affected by coral bleaching, making the area a suitable location to trial management responses to climate change. No Anchoring Areas are one approach being employed that will increase the resilience of Keppel Bay against future impacts from climate change and other disturbances such as flooding.

In consultation with the community, four sites have been selected for the installation of reef protection markers to create No Anchoring Areas. This project is an opportunity to trial management responses to help maintain the health of the reef so that it is more resilient to the impacts of climate change.

For more information on this exciting project visit Keppel Bay No Anchoring Areas.

Following the 2006 bleaching event, the peak Queensland marine aquarium fishing industry body, Pro-Vision, instigated a voluntary moratorium on the commercial take of certain anemonefish and anemone species, as a pro-active measure to aid their recovery. Read more in Issue 20 of the SeaRead newsletter.

They are also conducting a monitoring program linked to BleachWatch, to provide information on ecosystem health at sites they regularly visit.

### *Turtles*

Peak Island is a major nesting site for flatback turtles, and forms one of the two largest nesting populations in eastern Australia. To protect this valuable nesting site the island and surrounding waters are located in a Preservation (Pink) Zone. Entry to this zone is prohibited unless in accordance with a written permission.

## *Cultural and heritage values*

The Woppaburra people are the Traditional Owners of the Keppel Islands. Archaeological evidence linking the Woppaburra to the islands include midden sites, burial sites, a bora ring, huts, stone artefacts and campsites. Some of these remains are thought to be approximately 5000 years old<sup>2</sup>. The totem of the Woppaburra is the humpback whale.

On 22 June 2007 the Dharumbal-Woppaburra Traditional Use of Marine Resources Agreement (TUMRA) was accredited, prepared by the Woppaburra Traditional Owners. The Great Barrier Reef Marine Park Authority (GBRMPA) and the Queensland Government have accredited the TUMRA, recognising the responsibility of the Traditional Owners for managing the traditional use of marine resources and associated sea country issues for the Keppel Islands region. The GBRMPA is assisting the Woppaburra with the implementation of their agreement.

Captain Cook sailed through the bay from 25-27 May 1770 and gave the bay it's current name, after his superior Rear Admiral Keppel<sup>3</sup>.

There are 14 shipwrecks in Keppel Bay, which were sunk between 1847 and 1913.

## *Anchoring and mooring*

No Anchoring Areas were installed at Barren Island, Great Keppel Island (Big Peninsula and Monkey Beach Reef) and Humpy Island in November 2008. For more information visit Keppel Bay No Anchoring Areas.

There are currently a small number of permitted private moorings in the Keppel Bay region. The GBRMPA encourages permitted mooring owners to develop agreements to allow other operators to use their mooring when the permittee is not using it.

View Responsible Reef Practices for Anchoring and Mooring.

## *Spearfishing*

Two Public Appreciation Areas are located in the planning area.

One is adjacent to the western coastline of Great Keppel Island, and another in Considine Bay adjacent to North Keppel Island. In these areas the following activities are prohibited: spearfishing, aquaculture and harvest fisheries.

Additional spearfishing closures are in effect along the western coastlines of Great Keppel and North Keppel Islands under Queensland fisheries legislation. For further information, refer to the 'Boating and fishing in the waters of the Capricorn Coast' brochure.

## *Tourism operators*

A range of tourism experiences are offered within the Keppel Bay region, such as sailing, charter fishing, bareboat hire, snorkelling and scuba diving.

Prospective and current tourism operators are encouraged to visit Onboard the Tourism Operators Handbook for the Great Barrier Reef.

## *Further information*

### **CapReef community-based monitoring project**

CapReef was formed in 2005 to collect information on the effects of management changes on fish and fishing in the Capricorn Coast region. This is primarily achieved through recreational fish catch surveys and fish tagging and monitoring programs.

### **Capricorn Coast Local Marine Advisory Committee (LMAC)**

The Capricorn Coast LMAC is a key advisory group for marine management issues in the region. Find out about the Capricorn Coast LMAC.

The Capricorn Coast LMAC has produced a brochure – Boating and fishing in the waters of the Capricorn Coast - which provides useful information for recreational users of the Keppel Bay

region. This can be ordered from the GBRMPA's Public Information Unit by calling (07) 4750 0700 or emailing [info@gbmpa.gov.au](mailto:info@gbmpa.gov.au).

If you would like more information, please contact the Authority on (07) 4750 0700 or email [policyandplanning@gbmpa.gov.au](mailto:policyandplanning@gbmpa.gov.au).

### *Fitzroy Basin Association*

The Fitzroy Basin Association is the natural resource management group for the central Queensland region, including the catchments of the Fitzroy River and adjacent coastal waters including the Keppel Bay area.

Updated November 2008

1. Limpus, C. 2007, A biological review of Australian marine turtles, Queensland Government.
2. Queensland Heritage Council, 2003, Time and Place: Indigenous Heritage, Issue 6.
3. Lucas A. 2003, Cruising the coral coast, 8th edition, Alan Lucas Cruising Guides, Point Clare.

# Keppel Bay Resilience Project

## - No Anchoring Areas

Reef Protection Markers (RPMs) are white, pyramid-shaped buoys (joined by an imaginary line) with blue Marine Park labels. They create the boundary of a No

Anchoring Area, where anchoring is not allowed inshore of the line of buoys. RPMs must not be used to moor vessels, but may be used as descent lines for diving. The Great Barrier Reef Marine Park Authority (GBRMPA) and Environmental Protection Agency (EPA), in consultation with the community, have selected four sites for No Anchoring Areas in Keppel Bay. These sites are:

- o Barren Island - north-western side
- o Great Keppel Island – Big Peninsula
- o Great Keppel Island – Monkey Beach Reef, allowing access to beach
- o Humpy Island - west of the campground



### What activities can I do in a No Anchoring Area?

You can undertake any activities that are normally allowed in that area in accordance with the Zoning Plan. The only activity that is disallowed is anchoring. Reef Protection Markers cannot be used to moor vessels, but may be used as descent lines for diving.

### Why install No Anchoring Areas?

Reefs within Keppel Bay have been affected by both coral bleaching and flooding and are also experiencing increased levels of use. With increasing use comes a greater pressure on the plants and animals that call Keppel Bay home.

Unfortunately, some reefs in Keppel Bay are showing signs of anchor damage. Minimising these impacts helps to increase reef resilience (helping to keep the reefs healthy and strong so that if they are faced with a disturbance or an ongoing pressure, such as climate change, they are able to survive).

No Anchoring Areas are currently in place in other areas throughout the Marine Park, such as the Whitsundays, Magnetic Island and Lady Musgrave Island, and have proven successful in these places. A healthy reef is good news for all users of the Marine Park, as it enhances their marine experience and ensures they can continue to do the activities that they enjoy.

### Will the sites be monitored?

Yes. Annual monitoring will occur at the four sites, and the resilience assessment of each site will be compared to their profile from the baseline assessments in 2007 and 2008. The results of the monitoring will be made available. This is a trial to look at how No Anchoring Areas can help maintain the health of the reef in Keppel Bay. The amount of time the No Anchoring Areas are in place depends on how the reef responds to this protection measure.

### Trialling management responses to climate change

Normally when we install Reef Protection Markers, the decision is based solely on anchor damage. However, in this project, we used additional criteria such as how healthy the site is compared to others in Keppel Bay, as well as how likely the sites are to respond to the management measures. In addition to this, an individual profile (health assessment) was carried out at each site.

The individual profile described:

- o The current level of resilience of the reef (high or low)
- o The level of management influence (how much the site will benefit from management tools like No Anchoring Areas)
- o Habitat type (Type A, B, C or D)
- o Current zoning for the area.

It was important that we were able to select sites with a mix of high and low resilience and habitat types. This ensures that reefs with a low resilience level are given the opportunity to recover, and sites with a high resilience are protected in case of a significant bleaching event. The table on the next page provides the summary profile on each site selected for consideration, as well as the final four sites selected.

Site Name	Level of Management Influence*	Resilience Rank*	Habitat Type	Zoning
Bald Rock (23-032)	Medium (15)	Low (22)	Sloping to depth, branching and tabulate corals (Type A)	Habitat Protection (dark blue)
Barren - Hole in Wall (23-031)	Medium (16)	High (9)	Sloping to depth, branching and tabulate corals (Type A)	Habitat Protection (dark blue)
Great Keppel Island - Big Peninsula (23-012b)	Low (23)	High (5)	High turbidity and/or wave energy, high coral diversity (Type C)	Habitat Protection (dark blue)
Great Keppel Island - Monkey Beach Reef (23-012e)	High (8)	Low (28)	Slopes to sand base, low coral diversity (Type B)	Marine National Park (green)
Half Tide Rocks (23-802)	High (5)	Low (30)	Slopes to sand base, low coral diversity (Type B)	Habitat Protection (dark blue)
Humpy Island (23-016)	High (2)	Low (31)	Slopes to sand base, low coral diversity (Type B)	Conservation Park (yellow)
Pelican Island (23-017)	High (1)	Low (29)	High turbidity and/or wave energy, high coral diversity (Type C)	Habitat Protection (dark blue)
West of Pleasant (Conical) Island (23-002)	High (7)	Low (25)	Rocky, complex structure, low coral cover and diversity (Type D)	Habitat Protection (dark blue)

\* Categories - High (1-10), Medium (11-20), Low (21-31). Thirty-one sites were assessed as part of this project, from which the eight sites above were selected. The rankings for the level of management influence and resilience have been obtained by comparing all 31 sites with each other.

## Community consultation

Community input was sought to help select the four sites within Keppel Bay. A targeted approach to stakeholder consultation was used for this project. Discussions were held with individual members of the Capricorn Coast Local Marine Advisory Committee, Traditional Owners (including the members of the Woppaburra Steering Committee), commercial and recreational fishers, Great Keppel Island residents, yachties, tourism operators, Rockhampton and Yeppoon residents, Fitzroy Basin Association, Rockhampton Regional Council, key researchers and CapReef. Information has also been available on the GBRMPA website under Have Your Say.

## Is this part of a larger project?

Yes. The No Anchoring Areas are one approach being employed that will help to increase the resilience of Keppel Bay against future impacts from climate change and other disturbances. In 2009, the GBRMPA and EPA will further develop a management framework with the community for addressing future use in Keppel Bay.

For more information on this project, please contact the Planning Unit on 07 4750 0700 or the Southern Regional Office (Rockhampton) on 07 4921 4055.



**Australian Government**  
Great Barrier Reef  
Marine Park Authority



**Queensland Government**  
Environmental Protection Agency