



# The Planetary Coral Reef Foundation #18

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The Planetary Coral Reef Foundation (PCRF) launched its seagoing coral reef science program in 1996 to assess coral reefs in the Red Sea, Indian Ocean, Southeast Asia, Melanesia, Polynesia, and the Great Barrier Reef. PCRF's scientists post 100% of the data for each coral reef study site online free of charge to encourage collaboration, and to provide a trusted source of data about remote coral reefs for users in science, education, and conservation. Methodologies at each study site include: Reef Report, Coral Condition (Vitareef), Coral and Fish Species presence, Percent Cover (Pointcount99), and Reef GPS mapping.

## Lizard Island, Australia Mermaid Cove Reef S14°39.72' E145°26.41' July 11<sup>th</sup>-14<sup>th</sup>, 2006

### Reef Report:

#### Geography and Background:

Lizard Island rests within the Great Barrier Reef Marine Park. Under The Great Barrier Reef Park Zoning Plan 2003, Lizard Island's reef, waters, sand and accompanying satellites are designated as a Marine National Park Zone, a Scientific Research Zone and a Conservation Park Zone.



#### Reef Topography:

Mermaid Cove, protected from the strong southeasterly trade winds, has a beach with rocky outcroppings at both ends. Around the rocky spits of Mermaid Cove, fringing reef extends from the low tide mark to a depth of 8 meters where it meets sandy bottom. Coral bommies lie directly off the beach in the cove starting in 1 meter and extending to 8 meters.



#### Coral Observations:

A high diversity of coral genera was observed on the four transects with a total of 42 genera present. Other genera were observed during the Vitareef data collection. A total of 46 coral genera were observed over the course of the entire study.



#### Bleaching:

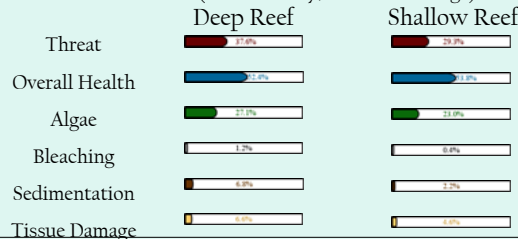
Slightly over 1% of the corals in the deep zone and less than 0.5% in the shallow zone showed signs of bleaching.

#### Crown of Thorns Starfish (*Acanthaster planci*):

One crown of thorns was sighted along the transects and three were observed just outside the transect area.

### Stony Coral Condition:

Vitareef methodology was used to analyze the health and vitality of individual hard coral colonies at Mermaid Cove Reef. 1,000 coral colonies in each zone (shallow and deep) were given a Vitareef score from 2-19 (ie. 2 = healthy, 5 = tissue damage)



### Coral and Fish Biodiversity:

Coral and fish identification was conducted on 4-80m<sup>2</sup> transects throughout the survey area. Corals were identified to the genus level and fish were identified to the species level.



#### Number of Coral Genera:

36 (Shallow Zone)  
39 (Deep Zone)

#### Most Abundant Coral Genera:

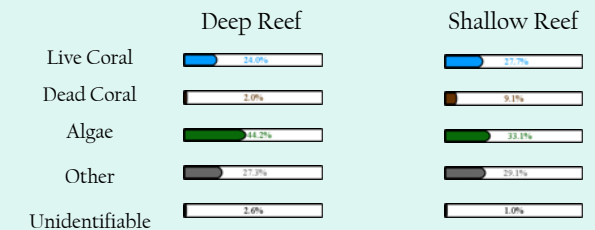
*Acropora* and *Porites*

#### Number of Fish Species: 123

#### Fish Population Count: 3056

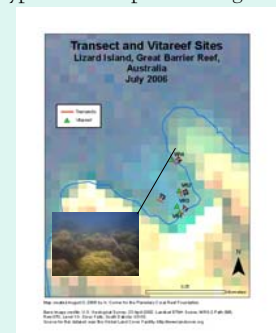
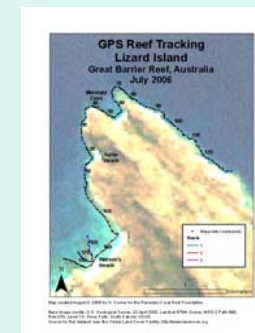
### Percent Cover:

4 digital still image transects were conducted in each zone (shallow and deep). Transect images were analyzed using Pointcount 99.



### GPS Mapping :

A team of 3 individuals was used to create a GPS track: a driver, recorder, and observer. The driver follows the reef contour at a depth of 3-5m, the observer is towed in the water and makes observations on the bottom composition, and the recorder takes GPS waypoints and depth soundings.



Maps created August 3, 2006 by Kitty Currier