ISLANDS AND REEFS SURVEYED FOR CYCLONIC DISTURBANCE

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Reconnaissance of certain islands and reefs likely to be affected by cyclonic disturbance, offshore between Port Douglas and Mission beach, were carried out by Service Officers.

Table 1 lists the islands and reefs visited, the method of surveillance, and date of visit.

For all sites visited, the aerial survey, ground reconnaissance and underwater manta-tows provided only a rapid indication of the overall type and extent of disturbance.

Quantitative surveys that could indicate specific areas and scales of disturbance were only carried out at two locations; Michaelmas Cay and Green Island. Only at these sites did recent pre-cyclone data exist that would allow before and after comparisons. Specifically, this data related to Green Island cay morphology and sea-bird populations at Michaelmas Cay.

MICHAELMAS CAY

The sand spits on either end of the cay have been re-oriented to form a crescentic shaped cay. A steep erosional scarp 1.5 m high had been cut into the beach face and vegetated area at the north-west end of the cay. The distance between the high water mark and the vegetation edge on the northern beach was 4 m, this distance was approximately 10 m in late January, 1986.

A bank of vegetation 5 m high, adjacent to the northern beach was partly smothered by wind-blown sand. Vegetation on the western quarter of the cay was noticeably windburnt, sand smothered and sparse. Vegetation on the remainder of the cay appeared unchanged. There was no evidence of storm waves having washed over the top of the cay.

In comparison with sea-bird counts conducted over the past 18 months, the post-cyclone counts indicate that the Common Noddy nesting activity has been delayed and reduced in actual numbers nesting or occupying sites.

The peak nesting period in 1985 was in February, with 5 800 breeding pairs present. On the February 4, 1986, only 800 pairs were nesting or occupying sites. By late March, the number of pairs had increased to 2 100.

The exact reasons for this interruption are not easily identified, but are probably a direct effect of the cyclone.

Data for the two other major species nesting on the cay (Sooty Terns and Crested Terns), indicate no significant difference in numbers present or nesting patterns.

Table 1. Islands and reefs reconnoitred by Q.NPWS after cyclone Winifred.

Location	Date	Method of surveillance		
		Aerial Survey	Ground Recon.	Underwater
HIGH CONTINENTAL ISLANDS				
High	5.2.86	X		
Normanby	5.2.86	X		
Russel	5.2.86	X		
Nth Barnards	5.2.86	X		
Stephens	5.2.86	X		
	20.2.86		X	
Sisters	5.2.86	X		
	20.2.86		X	
Dunk	5.2.86	X		
	20.2.86		X	
SAND CAYS				
Low Islets	5.2.86	X		
Michaelmas	4.2.86		X	
	5.2.86	X		
Upolu	4.2.86		X	
	5.2.86	X		
Green	4.2.86		X	
	5.2.86	X		
Taylor	5.2.86	X		
	12.2.86		X	
Beaver	5.2.86	X		
	12.2.86		X	
REEFS				
Hastings	4.2.86		moorings only checked	
	5.2.86	X		
Green	4.2.86		moorings only checked	
	5.2.86	X		
Taylor	5.2.86	X		
	12.2.86			X
Beaver	5.2.86	X		
	12.2.86			X

GREEN ISLAND

Vegetation damage was the most severe on the western side of the island with the foreshore vegetation for 200 m, being approximately 50 percent defoliated and salt abraded. Two trees had fallen across the Green Island Resort staff quarters. No trees were observed to have fallen in the National Park area, however, five large limbs were removed from across tracks.

Beach profile surveys were carried out pre-cyclone (November 20, 1985) and post cyclone (February 6, 1986). Table 2 summarises the extent of beach profile change for geographic sections around Green Island.

Table 2. Summary of Green Island cay profile changes between November 21, 1985 and February 6, 1986.

Q.NPWS sites*	Distance of beach crest removed (m)	Foreshore beach face (net change) (m)	Nearshore intertidal (net change) (m)
North-western corner			
2.5	1.0	+ 11.0	N/A
3.0	17.0	- 60.0	N/A
3.5	6.0	- 12.0	N/A
Northern side			
4.0	0	- 8.0	N/A
5.0	0	- 4.0	N/A
Eastern corner			
6.0	1.5	0.0	+ 7.0
7.0	1.0	- 5.0	0.0
8.0	0	- 3.0	0.0
Southern side			
9.0	0	- 2.0	N/A
10.0	0	- 1.0	N/A
South-western corner			
11.0	0.2	- 1.0	0.0
12.0	0	- 1.0	0.0
13.0	0	+ 4.0	+20.0

* Q.NPWS permanent profile sites (by code number).

Key: + = accretion
- = erosion