

## THE NUMBERS OF TERNS AND SHEARWATERS NESTING ON HERON IS. IN 1965

Each summer White-capped Noddy Terns *Anous minutus* and Wedge-tailed Shearwaters *Puffinus pacificus* breed abundantly on Heron Island (23°26'S Lat., 151°57'E Long.), a small coral cay at the southern end of the Great Barrier Reef. At this time they make up the great majority of the island's birdlife, the terns nesting almost exclusively in the *Pisonia* trees and the shearwaters in burrows in the sandy soil beneath.

In December 1965 I surveyed the numbers of nests of these two species. Five transects, each 10 m wide and consisting of quadrats averaging 30 m in length, were pegged out 150 m apart and running across the island between high water marks. The numbers of nests and burrows in each quadrat were counted. A shearwater burrow was considered to be occupied only if the entrance was completely clear of leaf debris, sticks and spider's webs. A tern nest was considered to be occupied only if an adult tern or chick was seen on it. This may have produced an underestimate of the number of shearwater burrows used at some time in this breeding season. It certainly produced an underestimate of used tern nests because both adult terns may leave the nest at the same time and many chicks fall out of their nests. Furthermore, high nests were difficult to see and some may have been missed. The area sampled was 6.1% of the area of the island above high water (188,300 m<sup>2</sup>). The results are given in Table I.

Tern nests were restricted to the dense central forest, mainly of *Pisonia* trees. No nests were found in the belt of *Casuarina* trees which fringed the forest, nor in the research station and tourist resort where most trees had been cleared away. Shearwater burrows were not found among the casuarinas, but were common in the research station and resort, even under buildings and beside well-used paths.

Occupied shearwater burrows and tern nests over all quadrats averaged 0.044 and 0.045 per m<sup>2</sup> respectively. The mean density of burrows and nests respectively in each quadrat was calculated and the mean of these means was taken as an estimate of the densities of nesting sites over the entire island. This indicated there were about 8300 pairs of Wedge-tailed Shearwaters and 8500 pairs of White-capped Noddy Terns nesting on the island.

The same method indicated there were also about 9600 unoccupied tern nests on Heron Island in December 1965.

A. K. SHIPWAY, *Zoology Dept, University of Sydney.*  
*Present address: c/- Box 1870 GPO, Sydney, NSW 2001.*  
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