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SEABIRD ISLANDS No. 245

Wreck Island, Great Barrier Reef, Queensland

Location: 23°20'S, 151°57'E; 90 kilometres north-east of Gladstone on the central Queensland coast. It is in the Capricorn Group of islands.

Status: National Park. The surrounding reef is a Preservation Zone under the *Great Marine Parks Act* and *Queensland Marine Parks Act.*

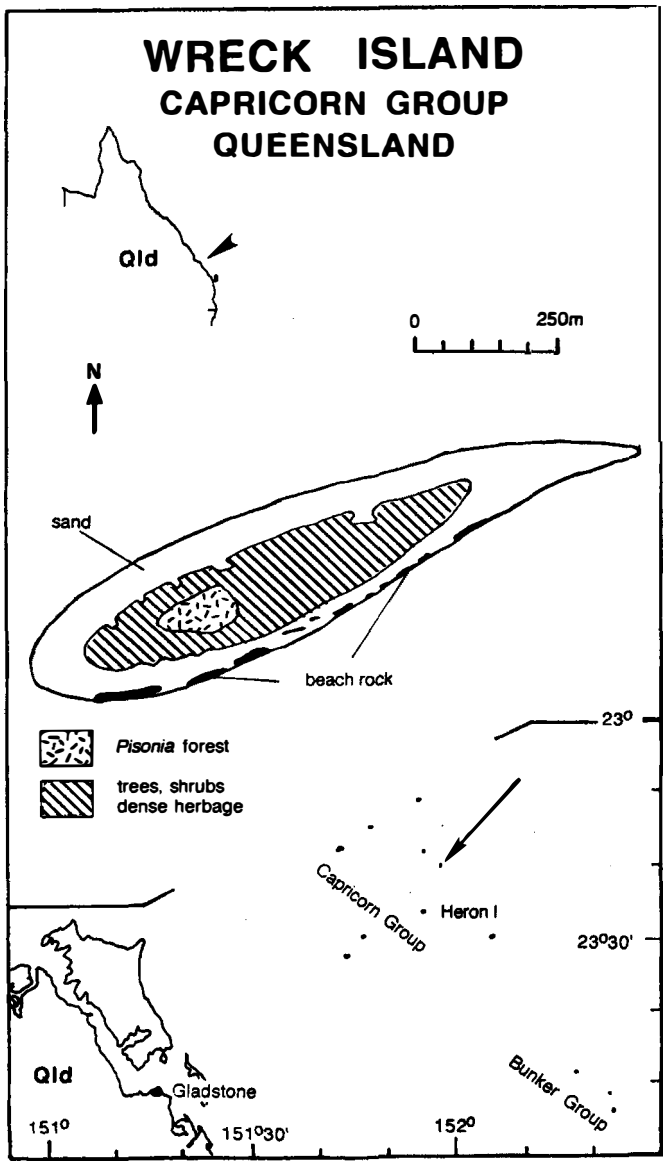
Description: 5.5 ha; 680 m long by 105 m wide (above high tide). The island is aligned on an east-west axis and consists entirely of coraline sand and rock. Dunes form a high ridge along the southern shore which is edged by beach rock. The cay is low wooded with *Argusia argentea* and *Scaevola sericea. Pandanus tectorius* and *Ficus opposita* trees are present, and a small *Pisonia grandis* forest occurs behind the western end of the southern dune. *Casuarina equisetifolia* trees (>8 m tall) are present at the eastern end and the wood shrub *Suriana maritima* covers part of the dune face along the southern shore. *Melanthera biflora* is abundant in unwooded areas. A total of 34 plant species has been recorded[2,5].

An old dilapidated wooden hut, unsuitable for any occupation, exists on the island.

Landing: Access to the cay requires a permit from the Great Barrier Reef Marine Parks Authority and Queensland Environmental Protection Agency to traverse the surrounding Marine Preservation Zone. Permits to land are given only in exceptional circumstances.

Ornithological History: Nebe visited the island in December 1931[9], and Cooper visited in December 1946[3]. Booth lived on the island during 1970 and compiled a checklist of the island's avifauna[1]. M. Vanek studied shearwaters during the early 1980s. Hulsman censused seabird and wader populations in December 1982, January 1983 and January 1984. Lane censused seabirds and waders (for Hulsman) in January 1984, and visited the island twice in December 1986 to check breeding seabirds. Domm visited in the late 1960s and recorded birds on 13 occasions between February 1983 and July 1984. Limpus recorded breeding birds on nine occasions between January 1978 and December 1986.

Walker recorded birds on 25 November 1983, 29 June 1984 and on 11 occasions between December 1985 and March 1987.



Breeding Seabirds and Status

Puffinus pacificus Wedge-tailed Shearwater — Breeds in summer and nests over the entire island. The birds return to the island in mid-October to clean out burrows, to make new ones, and commence their breeding cycle. Booth[1] reported about 500 birds arriving at night on 18 October 1970. The highest burrow densities occur in the *Melanthera*-dominated areas. There were an estimated 6 500 pairs nesting in 1982/83 and 5 200 pairs in 1983/84[6,7].

Egretta sacra Eastern Reef Egret — Old nests were reported in 1946[3]. In recent years nesting has been recorded annually between August and December. Five occupied nests were located in December 1982 in *Argusia, Scaevola* or *Pandanus* along the transects. Up to 90 egrets (mostly white) have been counted on the cay. There were 53 individuals on the island during December 1982 and January 1984[6,7].

Haematopus fuliginosus Sooth Oystercatcher — Recorded nesting by Booth[1]. There are no recent nesting records but a pair is often present on the cay.

Larus novaehollandiae Silver Gull — Nesting has been recorded in all months except June and July[1,6,7]. Limpus found gulls breeding on each of his visits to the island. He estimated that between 100 and 200 pairs were breeding in January 1978. In January 1982 he also estimated that between 250 and 300 adults were on the island, while 30–50 begging juveniles and chicks were found. There were more than 100 pairs nesting on the island during December 1982 and January 1983. Some formed a colony on top of a grassed section of the dune whereas others nested far apart under *Melanthera*, but away from main concentrations of shearwaters[6,7].

Sterna bergii Crested Tern — This species was found nesting by Limpus in December 1975, 1980 and January 1982, in a cleared or grassed area to the east of the cabin. Between 200 and 300 pairs nest on the island. During the 1981/82 season, Crested Terns nested successfully, producing more than 200 chicks (Limpus, pers. obs.).

Sterna dougallii Roseate Tern — Most Roseate Terns nested along the upper southern beach. There were 60 to 81 pairs in 1982/83 and 1983/84 respectively[6,7]. They nested during December and reared young during January. There were at least 40 nests (eggs) among a Black-naped Tern colony above the south-western beach on 6 February 1986[11]. No nesting occurred in summer 1986/87. Small numbers of birds were sometimes present at other times of the year.

Sterna sumatrana Black-naped Tern — Breeds in summer. A small colony was reported at the north (east?) end of the cay in December 1931[10]. Twenty pairs were found on nests among the southern rocks in January 1979 (Limpus, pers. obs.). This species nested on the upper part of the southern beach just above the spring high water mark, in about the same place during December 1982 and January 1984. There were about 20 and 27 pairs in the colony during January 1983 and January 1984 respectively[6,7]. In January 1984 a colony of 156 pairs nested on a sandy tract at the eastern end of the island[7]. On 6 February 1986 there were 130 nests (eggs and newly hatched chicks) above the south-western beach[10]. On 22 March 1987 there were 107 nests (eggs and small chicks) above the south-eastern beach. Small numbers of birds were sometimes present at other times of the year.

Sterna anaethetus Bridled Tern — Breeds from late October to March and is absent for the rest of the year. This species nests under *Melanthera* and *Argusia*. There were an estimated 64 pairs in 1982/83 and 62 pairs in 1983/84[6,7]. Limpus found many hundreds of birds nesting in January 1982.

Factors Affecting Status

Factors affecting status of breeding seabirds on the island are predation (mammalian and avian), the amount of turtle activity on the island and possible interference between species of seabirds. Rats prey on eggs and possibly chicks[1,6,7]. Rats were thought to be responsible for egg/chick mortality of Black-naped Terns, Roseate Terns and perhaps Crested Terns.

When rats were plentiful, ground-nesting terns did not breed successfully (Limpus, pers. obs.). The production of Black-naped and Roseate young increased after a rat baiting programme was begun in 1982. Silver Gulls also prey on eggs and chicks of other seabirds especially Black-naped and Roseate Terns. The feeding perch of a White-bellied Sea-Eagle *Haliaeetus leucogaster* in a *Pisonia* tree was surrounded by remains of adult shearwaters and fledgling Silver Gulls[7].

Large numbers of turtles come ashore and lay their eggs when the birds are nesting. Turtles crawling through a nesting area can break eggs and squash chicks. Such disturbances may increase intraspecific aggression between adults and neighbouring chicks leading to increased stress and its consequences on adults and chicks. Black-naped and Roseate Terns tend to nest on the southern shore where turtle activity is lowest. Turtle activity prevents shearwaters

• *Strand vegetation on Wreck Island* — Casuarina and Scaevola.
Photo: T. A. Walker

nesting successfully on the periphy of the island. The distribution and density of Bridled Tern nests seem to be affected by the presence of shearwaters. The activity of shearwaters around the entrance of their burrows may prevent Bridled Terns from nesting close to the burrows.

Other Seabirds Recorded

Pachyptila turtur	Fairy Prion[1] (beachwashed)
Sula leucogaster	Brown Booby (rare)
Phalacrocorax melanoleucos	Little Pied Cormorant[1] (common, max. 65)
Phalacrocorax sulcirostris	Little Black Cormorant[1] (occasional, 1–4)
Haematopus longirostris	Pied Oystercatcher (occasional, 1–4)
Sterna bengalensis	Lesser Crested Tern (common, max. 60)
Sterna albifrons	Little Tern (summer, max. 30)
Anous minutus	Black Noddy (summer, thousands roost at night)

Banding

Period 5 January 1984 to 28 March 1987.

Puffinus pacificus	— 12 adults (20 Dec. 86)
Larus novaehollandiae	— 36 chicks (29 Sept. 86 to 28 Mar. 87)
Sterna dougallii	— 7 runners (5 Jan. 84)
Sterna sumatrana	— 14 runners (5 Jan. 84)

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• *A view of some centre vegetation* — Scaevola *(background),* Melanthera *(centre) and* Pandanus.

Photo: T. A. Walker