

SEABIRD ISLANDS

No. 211

Bramble Cay, Great Barrier Reef, Queensland

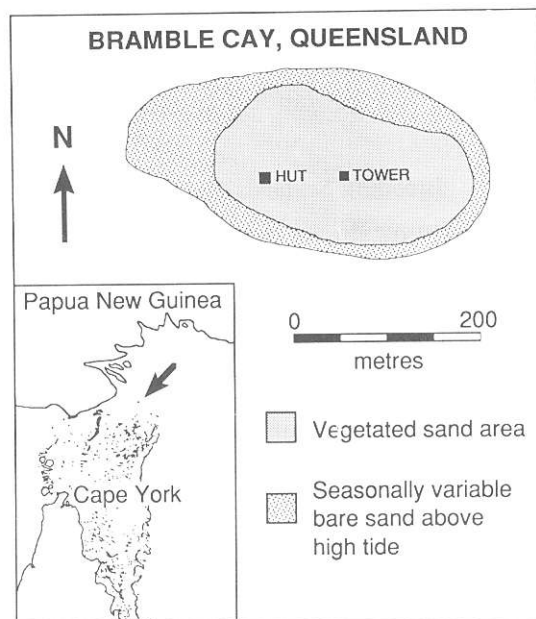
Location: 9°07'S, 143°53'E; Australia's northernmost island, in the Gulf of Papua 50 kilometres south-east of the delta of the Fly River and 225 kilometres north-east of Cape York, Queensland.

Status: Department of Transport Lighthouse Reserve.

Other Names: Caedha, Kaedha and Massaram-coer are traditional names.

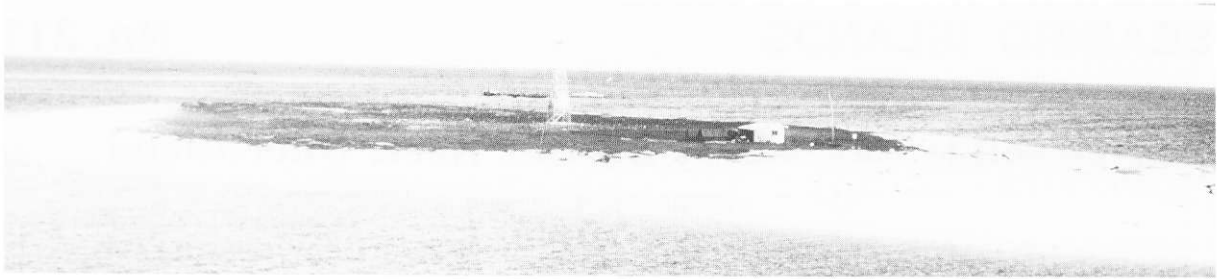
Description: About 4 ha, 330 m by 140 m with maximum elevation of 3 m (high tide dimensions). A sand cay at the western edge of a coral reef about 1.3 km in diameter^{3,9,12}. The cay's outline changes seasonally with up to 30% or more of the island eroding at the western end during the north-west monsoon and being redeposited subsequently during the south-east winds^{5,9}. The cay centre has moved west over past years with sand spilling off the reef to deep water. A thin cap of soft phosphate rock is present, giving rise to south-eastern cliffs up to 2 metres high following beach erosion. Volcanic rocks just emerge above spring high tide about 300 metres to the east of the cay near the reef centre².

Half of the cay is covered with low herbs^{3,9,12}. The dominant species is *Boerhavia repens* L.^{5,6,10} which forms a pure, thick, west-central cover. The eastern half of the cay is a mixture of *Boerhavia*, mats of *Portulaca oleracea* and bare hardpan depressions that hold stagnant water during the wet season. Clumps of *Amaranthus viridis* grow seasonally in the central areas and *Bulbostylis barbata* forms a grassy fringe to the western vegetated area. Other species including *Lepturus repens* and *Ipomea pes-caprae* have been recorded at times. A navigation light tower and a derelict hut are conspicuous features of the cay. The western end is bare sand as a result of seasonal erosion and of summer digging by Green Turtles.



Landing: A popular deep anchorage is present at the western side. During the monsoon season (usually late December to February) the west is exposed but a poor anchorage can be found off the south-east of the reef, in which case landing at high tide by dinghy across the reef is possible with care.

Ornithological History: The cay was discovered and named from HMS *Bramble*⁵ in early April 1845 and was 'frequented by innumerable quantities of sea birds, whose eggs were a rare prize'. J. MacGillivray^{2,6} subsequently recorded breeding seabirds on 6 May 1845 and 16 December 1847. Masters⁸ listed seabird specimens collected in August 1875. W. McLennan⁷ visited on 27 July 1911 and Hedley³ visited in September–October 1924. C. J. Limpus visited on 28 November 1978. R. Elvish was resident from 9 October 1979 to 29 March 1980. Draffan and Garnett¹ visited briefly in December 1979 to band birds. C. J. Parmenter recorded birds on 9–11 January 1984. Walker¹⁰ visited from 4–6 January 1987 and 5–6 November 1988.



● *Bramble Cay (looking south-east), November 1979.*

Photo: R. Elvish

Breeding Seabirds and Status

Sula leucogaster Brown Booby — Nesting in May 1845², and with large numbers of eggs and downy chicks all over the cay in December 1847⁶. Seven eggs, five chicks and dozens of raided nests were noted in July 1911⁷. The colony is now almost extinct: four nests with eggs in November 1978; six pairs with eggs in September–October 1979; one possible nest in January 1987; one bird on a nest in November 1988. In recent visits 70–200 roosting birds were present, often on the eastern rocks.

Sterna fuscata Sooty Tern — In October 1979 a colony of 20 000 nesting pairs, many with fledged young, covered almost the entire vegetated area. Laying continued to late November but these eggs were raided. All birds departed in early January but hundreds returned after several weeks, calling from the air at night. By early March thousands were flying above during the night and day. On the morning of 14 March some birds landed and by the end of March many were defending sites. Other records are: 'breeding in prodigious numbers' in May 1845², no nesting in December 1847⁶, two small colonies of fledglings in July 1911⁷, thousands apparently breeding in September–October 1924², thousands of nesting pairs (mainly eggs) in November 1978, over 6 000 pairs occupying nest sites and increasing in January 1984, 300 pairs with eggs and 10 unfledged young in January 1987¹⁰, 2 800 feathered chicks and a few eggs and downy chicks in November 1988. The breeding season is unclear and complicated by heavy egg collecting; it seems consistent with a 9–10 month breeding interval for individual birds, broadly synchronous over 2–3 months with a spread from re-nesting of unsuccessful birds.

Sterna anaethetus Bridled Tern — MacGillivray² found small numbers with eggs in sandstone holes and under turtle shells in May 1845. About 10 pairs with large chicks were present in a group on the edge of the Sooty Tern colony in October 1979.

Sterna bergii Crested Tern — Large colonies breed each year in summer. The maximum number counted was 1 800 pairs with eggs in five colonies plus 12 runners in January 1987¹⁰.

Anous stolidus Common Noddy — An estimated 10 000 birds were present from October 1979 to March 1980; laying commenced in December and 3 000 pairs were nesting in the vegetated area by late March. Other records are: 'breeding in prodigious numbers' in May 1845², 'countless thousands' in August 1875⁸, 'very numerous' in July 1911¹¹; thousands apparently breeding in September–October 1924²; thousands of birds, old nests and fledglings in November 1978; 1 000–2 000 roosting birds in January 1984; 20 nesting pairs, 10 unfledged young, and 10 roosting birds in January 1987¹²; hundreds of feathered chicks and 2 500 adults in November 1988. Patterns of breeding are not clear.

Factors Affecting Status

Bramble Cay has the only large seabird colony in the Torres Strait region and is the most remote island from human habitation. It is the only major Great Barrier Reef seabird island where mass egg and chick harvesting continues. Traditional gathering by local islanders is facilitated by ready access to modern speedboats and crews of Papuan coastal shipping are reported to harvest eggs.

Collecting is frequent and often involves removal of all eggs (thousands) and numerous chicks. Successful breeding of terns depends upon an extended period of rough seas to discourage visits in speedboats. Brown Boobies take more than five months between laying and fledging so their reproduction has effectively ceased at Bramble Cay. Crews of survey vessels of the 19th century and other ships contributed to reduction of the booby colony by breaking all seabird eggs upon arrival in order to ensure subsequent collection of fresh eggs⁶.

Nesting Green Turtles destroy tern nests on the margin of the vegetation and occasionally in central areas in summer. Gulls take tern eggs and up to 150 frigatebirds rob food or even cripple³ breeding seabirds. Summer rain creates pools on the eastern half of the cay and can drown hundreds of Crested Tern eggs. The cay seems too small to permit peak nesting of all seabird species at the same time. In the long term there may be a reduction in the area available for breeding as cay sand spills over the reef edge.

OTHER VERTEBRATES

Green Turtle *Chelonia mydas*, Hawksbill Turtle *Eretmochelys imbricata*, Native Rat *Melomys rubicola* (a vegetarian), Northern Dtella *Gehyra australis* (house gecko) and Green Tree Frog *Litoria caerulea* (seen 1979).

Other Seabirds Recorded

<i>Sula sula</i>	Red-footed Booby (rare)
<i>Sula dactylatra</i>	Masked Booby (rare)
<i>Fregata minor</i>	Great Frigatebird (common)
<i>Fregata ariel</i>	Least Frigatebird (always present)
<i>Phaethon rubricauda</i>	Red-tailed Tropicbird (rare — overhead)
<i>Phaethon lepturus</i>	White-tailed Tropicbird (rare — overhead)
<i>Egretta sacra</i>	Eastern Reef Egret (two resident)
<i>Larus novaehollandiae</i>	Silver Gull (always up to 24 present)
<i>Sterna hirundo</i>	Common Tern (one sighting)
<i>Sterna dougallii</i>	Roseate Tern (rare)
<i>Sterna sumatrana</i>	Black-naped Tern (occasional)
<i>Sterna albifrons</i>	Little Tern (occasional)

Banding

Period October 1979–March 1980.

Sula sula — 1 adult.
Sula leucogaster — 1 adult.
Fregata minor — 6 adults, 5 immatures.
Fregata ariel — 5 adults, 1 immature.
Sterna hirundo — 1 adult.
Sterna fuscata — 236 adults, 422 runners.
Sterna bergii — 4 adults, 397 runners.
Anous stolidus — 35 adults.

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R. Elvish, P.O. Box 185, St. Lucia, Queensland 4067.
 T. A. Walker, P.O. Box 691, Townsville, Queensland 4810.