

# SEABIRD ISLANDS

## No. 201

### Lady Elliot Island, Great Barrier Reef, Queensland

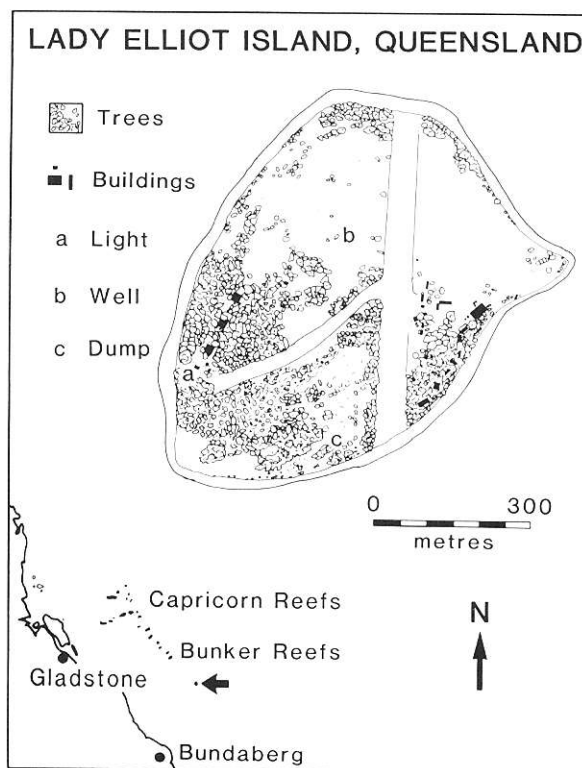
**Location:** 24°07'S., 152°43'E.; the southernmost island and reef of the Great Barrier Reef. The nearest mainland is 80 kilometres to the south-west at Bundaberg, Queensland.

**Status:** Commonwealth Department of Transport lighthouse reserve, 21.5 ha; tourist resort and airstrip lease, 13.5 ha.

**Other Names:** Lady Elliott Island, Lady Elliot's Island.

**Description:** 35 ha; 850 m × 550 m (measurements at high tide). A coral cay situated at the north-western side of a rounded 180 ha reef. The surface consists primarily of phosphate rock with areas of rubble or sand. The rock surface is grooved and ridged following extensive guano mining<sup>1,2,4</sup>. An airstrip and cross-runway were graded in 1969. At the western side of the cay there is a lighthouse and three houses built in 1872. At the south-eastern side of the cay there is a tourist resort with 20 buildings, all but two of which were constructed after 1984.

Almost half the cay is forested with *Casuarina equisetifolia*<sup>12</sup>. Other native trees include *Pandanus tectorius*, *Pisonia grandis*, *Argusia argentea* and *Ficus opposita*. Fields are dominated by weeds (e.g., *Lantana camara*, *Tridax procumbens*, *Bryophyllum tubiflorum*) and grasses but native herbs predominate in some areas (e.g., *Melanthera biflora*, *Canavalia rosea*, *Abutilon indicum*, *Boerhavia tetrandra*). Over 70 non-cultivated species are present and many ornamental plants occur around buildings.



**Landing:** Across the reef at high tide usually at the north-western or western side. The anchorage is poor and most visitation is by aircraft from Bundaberg.

**Ornithological History:** In the 1800's guano miners reported that the cay "was occupied by countless seabirds"<sup>1</sup> and this was illustrated by Jukes in 1847<sup>7</sup>. MacGillivray<sup>9</sup> reported it as "one of the great breeding places of the sea-birds of this portion of the coast". Serventy briefly recorded birds on 10 May 1954, but few records were published<sup>11</sup>. An account of the island birds in November 1971 was given by Fien<sup>3</sup>. G. Smith<sup>6</sup> visited in January 1983 and L. Shinkarenko<sup>6</sup> visited in January 1984. Walker<sup>12</sup> described birds during the 1985–86 nesting season and from visits in 1984. T. A. Walker made 12 visits between March 1986 and January 1989. P. Ogilvie made summer visits in recent years.

### Breeding Seabirds and Status

*Puffinus pacificus* Wedge-tailed Shearwater — Adults arrive regularly in September and the last fledglings depart in May. Nesting was recorded in 1954 and 1971<sup>3,11</sup>. In 1982–83 and 1983–84 there were fewer than 1 000 birds estimated<sup>6</sup>. In 1985–86 about 700 active burrows were estimated<sup>12</sup>.

*Phaethon rubricauda* Red-tailed Tropicbird — A pair first nested in December 1983. They were joined by a second pair in December 1985 and by two more pairs in early 1989. Adults return annually to the same nest scrapes under *Argusia* near the beach at the south-eastern side of the cay. Breeding occurs between September and April.

*Egretta sacra* Eastern Reef Egret — Six were noted in 1954 and nesting was reported by light-house keepers. Nesting was noted in 1971<sup>3</sup>. Up to nine white and two dark coloured birds have been present in recent years. Five occupied or empty nests were found at widespread sites in 1985 and 1986.

*Haematopus longirostris* Pied Oystercatcher — Nesting was reported in the late 1970's<sup>12</sup>. Two to four birds have been regularly present in recent years with suspected nesting behaviour at the eastern point.

*Haematopus fuliginosus* Sooty Oystercatcher — Nesting was reported in the late 1970's<sup>12</sup>. One to four birds have been regularly present in recent years with suspected nesting behaviour at the eastern point.

*Larus novaehollandiae* Silver Gull — About 150–200 were present from 1986–1989. Nesting occurs throughout the year. Nests are well hidden but up to 30 have been found during a search. Fifty gulls were present in 1954 and although not nesting they exhibited aggression. Nesting was not observed in 1971<sup>3</sup>. Banding has shown that the population consists partially of transient birds or birds from the mainland that visit to nest.

*Sterna dougallii* Roseate Tern — Two to three pairs nested in the Black-naped Tern colonies in the late 1970's<sup>12</sup>. One pair nested with the Black-naped Tern colony in 1986–87 and 1987–88. They are absent in winter.

*Sterna sumatrana* Black-naped Tern — Summer nesting was recorded in the late 1970's and early 1980's (up to 100 birds<sup>12</sup>), in 1985–86 (52 birds in two colonies), in 1986–87 (140 birds, >53 nests), in 1987–88 (>69 nests in two colonies) and in December 1988 when the colony was lost to rough seas. Colonies occurred often at the eastern corner beneath *Argusia* trees.

*Sterna anaethetus* Bridled Tern — Arrival and nesting commences in October. Most have departed by February but a few may still occupy nests in April. They are absent during winter. Nests are dispersed under vegetation over most of the cay with the largest concentration on the northern and eastern fields. In 1971 there were "hundreds of nests"<sup>3</sup>, in 1982–83 and 1983–84 there were about 300 nesting<sup>6</sup>, in 1985–86 there were over 400 nesting and in 1986–87 and 1987–88 there were over 500 nesting.

*Sterna albifrons* Little Tern — A "small colony" was nesting in November 1971 near the light-house<sup>3</sup>. Sightings of this species are rare.



• *Lady Elliot Island from the air (looking north-west).*

Photo: T. A. Walker

*Sterna bergii* Crested Tern — Large breeding colonies occur on the north-eastern herb flat each summer: 1953–54 (two colonies); 1971 (“hundreds” of birds); 1982–83 (403 birds); 1983–84 (6 000 birds); 1985–86 (7 000 birds); 1986–87 (4 500–6 000 birds); 1987–88 (thousands) and 1988–89 (thousands). Small numbers of birds are present throughout the year.

*Anous stolidus* Common Noddy — Usually absent in July and August but arrive in September. Nesting commences in October and a few eggs are still present in May. Nests are dispersed over the northern and eastern fields and all stages of young are present from December onwards. About 100

adults were present in 1971–72, 1982–83 and 1983–84<sup>3,6</sup>. From 200 to 300 adults were present in 1985–86. In 1986–87 there were at least 360 adults, and in 1987–88 over 450 adults. Lighthouse keepers reported nesting in 1953–54 but the eggs were washed away by a cyclone.

*Anous minutus* Black Noddy — Prior to 1985 few visited the cay. In summer 1985–86 there were several thousand roosting birds and the first colony of 30 nests<sup>12</sup>. This was followed by 427 nests in 1986–87, 455 nests in January 1988 and 570 nests in January 1989. Most nests are in *Casuarina* followed by *Argusia*. Thousands roost in trees at night during summer.

### Factors Affecting Status

Guano mining was devastating to the cay. In 1819 it was wooded<sup>8</sup> but the surface was stripped in the late 1800's and kept bare by goats until the late 1960's. A 1954 photo of the cay<sup>10</sup> shows only a small stand of *Pisonia grandis* trees and grazed "lawn". In 1969 Heatwole<sup>5</sup> considered that "Lady Elliot Island has been virtually destroyed and will probably never regain its natural state". Revegetation following the removal of the goats was initially slow but accelerated rapidly in the late 1970's and 1980's. There are no records of the bird fauna present before mining and the depositors of the guano are unknown.

Areas with shearwater burrows have been compacted for buildings and airstrips. The runway is kept free of nesting birds by daily air traffic and bird strikes occur during summer. Aircraft noise causes terns and noddies to fly off their nests but the impact on breeding is unknown.

Predation on Crested Tern eggs by gulls is high particularly when people disturb parents from their nests. Destruction of tern nests by laying turtles is negligible. Dogs were resident in the 1890's, 1960's and probably at other times. There is a report of a resident cat in the 1970's.

Lady Elliot is the first Great Barrier Reef island encountered by seabirds coming from the south Coral Sea and this may explain why it is the only island in the region where Common Noddies and Red-tailed Tropicbirds nest.

The cay is undergoing great change. Plants, seabirds, landbirds and people are increasing<sup>12</sup>. Seabirds with an affinity for trees or people (e.g., Black Noddy, Silver Gull) should continue increasing while man-shy species that nest in open areas (e.g., Crested Tern) may decline.

### Other Seabirds Recorded

<i>Sula leucogaster</i>	Brown Booby (up to 400, summer)
<i>Fregata minor</i>	Great Frigatebird (common)
<i>Fregata ariel</i>	Least Frigatebird (rare)
<i>Ardea novaehollandiae</i>	White-faced Heron (rare)
<i>Sterna fuscata</i>	Sooty Tern (rare)
<i>Sterna bengalensis</i>	Lesser Crested Tern (rare)

### Banding

*Phaethon rubricauda* — 6 adults, 6 chicks  
*Larus novaehollandiae* — 15 adults, 6 chicks  
*Anous minutus* — 20 adults

### Bibliography

1. Crowther, W. E. L. H. (1939). The development of the guano trade from Hobart Town in the fifties and sixties. *Pap. and Proc. R. Soc. Tasmania*: 213–220.
2. Ellis, A. F. (1936). *Adventuring in coral seas*. Angus and Robertson, Sydney.
3. Fien, I. (1971). A note on the avifauna of Lady Elliot Island. *Sunbird* 2: 63–67.
4. Heatwole, H. (1984). The cays of the Capricornia Section, Great Barrier Reef Marine Park, and a history of research on their terrestrial biota. In *The Capricornia Section of the Great Barrier Reef — Past, present and future*. R. Soc. Qld and Aust. Coral Reef Soc., Brisbane. Pp. 25–44.
5. Heatwole, H. (1984). Terrestrial vegetation of the coral cays, Capricornia Section, Great Barrier Reef Marine Park. In *The Capricornia Section of the Great Barrier Reef — Past, present and future*. R. Soc. Qld. and Aust. Coral Reef Soc., Brisbane. Pp. 87–139.
6. Hulsman, K. (1984). Survey of seabird colonies in the Capricornia Section of the Great Barrier Reef Marine Park. Part III. Unpublished report to the Great Barrier Reef Marine Park Authority. 38pp.
7. Jukes, J. B. (1847). *Narrative of the surveying voyage of HMS Fly*. Vol. 1. Boone, London.
8. King, P. P. (1827). *Narrative of a survey of the inter-tropical and western coasts of Australia, 1818–1822*. 2 vols. J. Murray, London.
9. MacGillivray, J. (1852). *Narrative of the voyage of HMS Rattlesnake*. Vol. 1. Boone, London.
10. Serventy, V. (1955). *Australia's Great Barrier Reef*. Georgian House, Melbourne.
11. Serventy, D. L., Serventy, V. and Warham, J. (1971). *The handbook of Australian sea-birds*. Reed, Sydney.
12. Walker, T. A. (1986). The birds of Lady Elliot Island. *Sunbird* 16: 73–82.

Date compiled: April 1987

Revised: February 1989

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