

# SEABIRD ISLANDS

# No. 236

## Adele Island, Western Australia

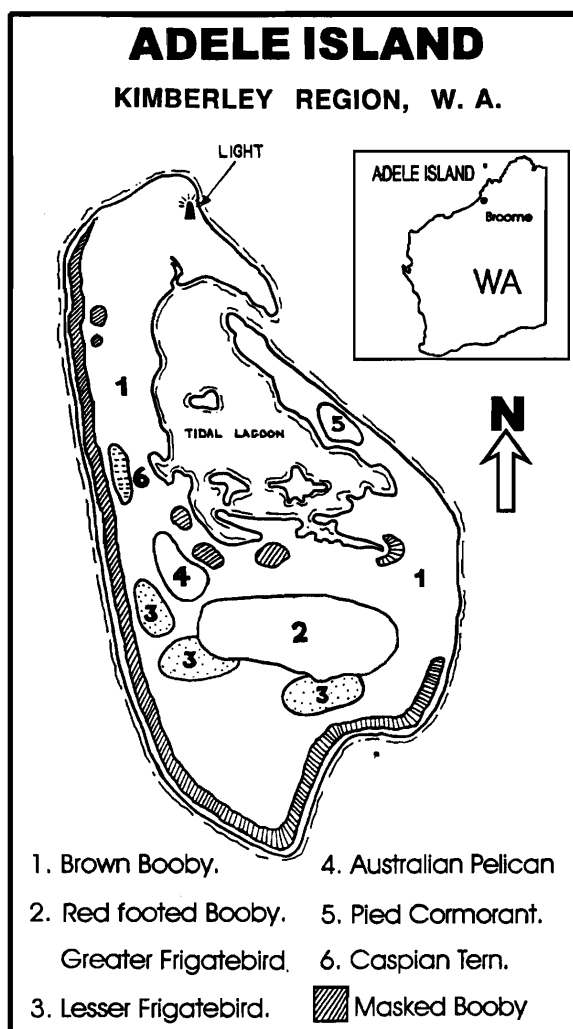
**Location:** 15°31'S, 123°09'E; about 100 km north of Cape Leveque, Western Australia.

**Status:** Currently under the jurisdiction of the Commonwealth Government. It is expected to come under the control of the Western Australian Government and be declared either a Class "A" or Class "B" Nature Reserve.

**Description:** The island, initially thought to be the cape of a large bay, was discovered by Commander Thomas Nicolas Baudin<sup>7</sup>, during the French scientific expedition to Australia in 1801. It is 2.9 km long by 1.6 km wide, rises no more than 4 m above high water mark and is surrounded by extensive reefs and sandbanks 25 km long by 11 km wide. These are laid bare twice a day for a considerable distance from the shoreline, making access difficult. Spring tides can rise and fall 7 m. The Island, composed almost entirely of sand, is well vegetated and has a large tidal lagoon entering from the north-eastern end. Situated at the northern end is a transmitting mast, a racon or radar beacon and solar-powered automatic weather station. Hidden in long grass above the high water line near the communication tower, are a few stones marking a lonely grave, thought to be that of an Indonesian fisherman.

Vegetation over the island is predominantly *Spinifex longifolius* interspersed with *Sporobolus virginicus*, *Ipomoea macrantha* (a morning glory type vine), *Canavalia rosea* (commonly known as the sea bean), *Sesbania cannabina*, *Achyranthes aspera*, *Amaranthus pallidiflorus*, *Boerhavia burbridgeana*, *B. dominii*, *Cucumis melo* ssp. *agrestis*, *Cyperus javanicus*, *Digitaria bicornis*, *Portulaca pilosa*, *Salsola kali*, *Sesuvium portulacastrum* (on low lying areas around the lagoon), *Eragrostis cumingii*, *Triraphis mollis* and *Abutilon indicum* (towards the southern end).

**Landing:** From the north end near the transmitting tower or along the east side at high tide.



**Ornithological History:** The first birds were recorded in May 1891 by Captain J Walker<sup>11</sup>, of HMS *Penquin*. S. Fowler<sup>8</sup> made aerial surveys in early October 1945 and D. L. Serventy<sup>8</sup> made a brief visit of about one hour to the eastern side of the island on 1 October, 1949 during a fishery survey to the Sahul Shelf. The next recorded observations by A. A. Burbidge, J. Dell and L. A. Smith<sup>9</sup> on 18 June 1972 as an adjunct to a survey of the Bonaparte Archipelago were brief. I. Abbott<sup>1</sup> visited on 4 June, 1978 during a 47-day voyage along the mid- and north-west coast. A series of visits by the Department of Fisheries and Wildlife personnel in 1982 were associated with the supervision of environmental conditions for a wildcat well drilled by Brunswick Oil N.L. These were P. J. Fuller on 2 June and daily visits from 30 August to 8 September and by S. A. Moore<sup>2</sup> from 19 July to 2 August. Since then K. H. Coate<sup>4,5</sup> accompanied by other naturalists has visited Adele Island on seven occasions: 7 June, 1989; 2 June, 1990; 8 July, 1990; 28 May, 1992; 11 May, 1993; 1 June, 1993; and 17 May, 1995. Time spent on the island during these visits varied between 2 and 14 hours.

### Breeding Seabirds and Status

*Sula dactylatra* Masked Booby — Recorded by Walker<sup>11</sup> on his visit in 1891, these birds are well established and mostly breed close to the shoreline along the western, southern and south-eastern end of the island. Some birds nest around the western and southern end of the lagoon and a few amongst *Spinifex* between the lagoon and the western side. Smith *et al.*<sup>9</sup> estimated about 100 pair on 18 June, 1972. Abbott<sup>1</sup> counted 177 nests on 4 June, 1978 and Moore<sup>2</sup> counted 320 nests between 19 July and 2 August, 1982.



• Red-footed Booby chick on Adele Island (first photos ever taken in Western Australia).

Photo: K. Coate

On 28 May, 1992 a count was undertaken along approximately three-quarters of the western side recording 263 nests with breeding at all stages from eggs to large downy young. A year later on 11 May, 1993 a count in the same area, but over a lesser distance recorded 160 nests with breeding at all stages from eggs to large downy young. Total breeding population would be estimated at 400–500 pairs.

*Sula sula* Red-footed Booby — Discovered breeding for the first time on Adele island on 2 June, 1990. There were 10 light phase and four intermediate phase birds nesting on *Abutilon* 0.5 to 1.5 m above the ground. The nests were a loose assemblage of sticks. One nest contained a large downy youngster, indicating that breeding commenced in late February or early March. The other 13 contained either eggs or newly hatched young. Three bushes held nests of both a Greater Frigatebird and a Red-footed Booby. The nests on these bushes were approximately 0.5 m apart. The next visit was 8 July, 1990, when a thorough search of the island failed to find any more breeding birds. The large downy youngster seen on the previous visit was now fledged and almost ready to fly.

On 28 May, 1992, due to dry seasons, the entire area of *Abutilon* was devoid of living plants. Eleven Red-footed Boobies (seven intermediate morph and four white phase) nests were on upturned roots and dead remnants of the *Abutilon*. Nestlings were at all stages of development. One fully fledged bird appeared to be without a nest. Three of the four white phase birds had the golden wash over their head and neck, characteristic of those on Christmas Island. The golden wash was not evident on any birds on the previous visit.

The next visits were 11 May, 1993 and 1 June, 1993. After good rains the island was lush and green. There was a significant increase in breeding seabirds between the lagoon area and the *Abutilon* nesting-site. As predatory Silver Gulls had also increased in number, the breeding status of the Red-footed Booby was not pursued. On both visits three Red-footed Boobies were seen flying from the direction of the breeding area.

The Island was again visited on 17 May, 1995. There was extensive regeneration of *Abutilon* to a height of 2 m. Only part of the breeding area was checked and six Red-footed Boobies nests with eggs or newly hatched young were recorded.

*Sula leucogaster* Brown Booby — Concentrated in large numbers, these birds breed over much of the island — along the shoreline, around the lagoon and in open areas between *Spinifex* and *Abutilon*. Nests varied from scrapes in the ground to well made nests of *Spinifex* and seaweed and contained one or two eggs. On every visit breeding was at all stages from freshly laid eggs to fully fledged young. Smith *et al.*<sup>9</sup> on 18 June, 1972 estimated 1 500–2 000 breeding pairs. Fuller and Moore<sup>2</sup> during 19 July–2 August estimated approx.  $7\,500 \pm 940$  occupied nests (from quadrat sampling).

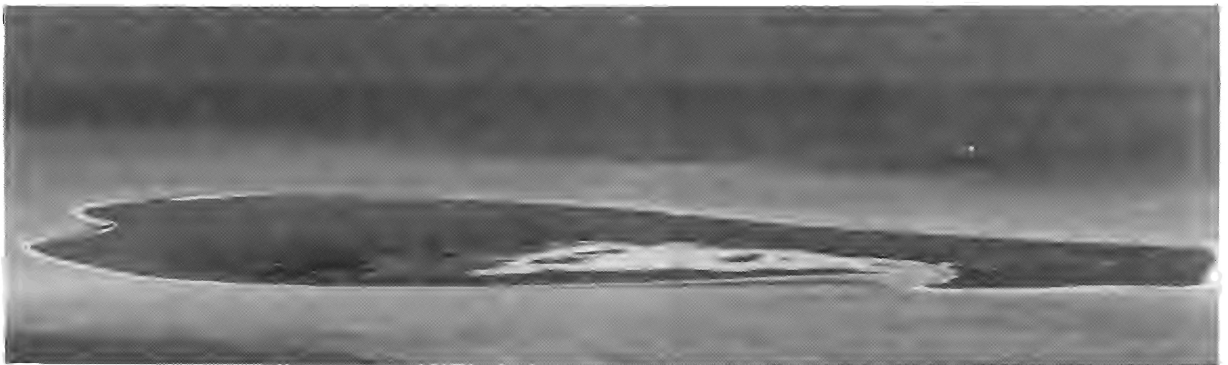
*Phalacrocorax varius* Pied Cormorant — Common resident on all visits. They were first recorded by J. Walker<sup>11</sup> on 2 May, 1891 as breeding and on eggs near the centre of the island on *Sida* bushes. Walker's reference to *Sida* bushes would most likely be *Abutilon*. Abbott on 4 June, 1978 counted 400 nests toward the south-west corner of the island.

On 8 July, 1990 on the eastern side of the Island, about 100 m from the shoreline amongst *Spinifex* in an area not previously looked at, there was a colony with about 300 advanced young. Two years later, on 28 May, 1992, close to this site were two colonies, one with nests containing eggs, and the other with large unfledged young. On 11 May, 1993 there were about 200 nests most containing young. On 17 May, 1995 Pied Cormorants were seen from a distance arriving and leaving from the same area, but no attempt was made to determine their breeding status.

*Pelecanus conspicillatus* Australian Pelican — Pelicans are moderately common on the sand banks around the island. Their breeding area is several hundred metres south-west of the southern end of the lagoon. On 2 June, 1990 and 7 July, 1990, 29 partly fledged young were counted. Three breeding colonies, some distance apart, were seen on 28 May, 1992 and, with the aid of binoculars, 35 partly fledged birds were observed in two of them. In the third, which was visited, were 26 scrapes on dead and flattened *Spinifex*, that contained either two newly-hatched young or two eggs. No attempt was made to visit nesting sites on 11 May, 1993 and 17 May, 1995. From a distance eight partly fledged birds were seen on 1 June, 1993.

*Fregata minor* Greater Frigatebird — Previously unrecorded as breeding on Adele Island, until 2 June, 1990, when Coate *et al.*<sup>4,5</sup> visited an area not looked at in 1989. As with the Red-footed Boobies, the Greater Frigatebird preferred the small woody shrubs of *Abutilon* for nesting. No estimate was made of their breeding numbers on this visit, but three birds were observed each sharing an *Abutilon* with a Red-footed Booby. Nest platforms were an assemblage of sticks, and breeding was in all stages from eggs to almost flying young. On the next visit on 8 July, 1990, the numbers were estimated to be between 200–300 nests.

Only 15 nests were seen on 28 May, 1992 and, like the Red-footed Booby, these were placed on



• Adele Island (from the air) looking west.

Photo: Customs Coast Watch, Broome.

the upturned roots and remnants of dead *Abutilon*. The Lesser Frigatebirds and Brown Boobies had abandoned the area. On 11 May, 1993 and 1 June, 1993 no attempt was made to visit the breeding area. However, Greater Frigatebirds were observed at a distance to be nesting on top of *Spinifex* clumps on the south-eastern side of the lagoon. Some birds were seen displaying their red gular pouches in courtship display. On 17 May, 1995 about 100 nesting birds with eggs or small young were noted during a brief visit over portion of the regenerated *Abutilon* area.

*Fregata ariel* Lesser Frigatebird — On all visits large numbers were observed in either two or three separate colonies. Nest platforms of sticks and pieces of *spinifex* were positioned on flattened clumps of *Spinifex* or on the ground. Fowler<sup>8</sup> estimated 5 000 birds nesting in October 1945. Smith *et al.*<sup>9</sup> on 18 June, 1972 estimated 2 000–4 000 breeding pairs. Abbott<sup>1</sup> made a partial count on 4 June, 1978 and estimated 2 000+ nests. Moore<sup>2</sup> made a count between 19 July and 2 August, 1982 of 5 700 nests.

There were three colonies observed on 7 June, 1989. In a colony on the western side of the island all birds were sitting on eggs. The other two colonies toward the southern end had all stages of breeding from eggs to newly hatched and fully fledged young.

On 2 June and 8 July, 1990 there were two main colonies, one toward the southern end and the other on the western side of the island. The southern colony had expanded to include the area of *Abutilon* favoured by the Red-footed Boobies and Great Frigatebirds. On 28 May, 1992 the Lesser Frigatebird had deserted the area of *Abutilon* stands and the southern group had moved more toward the south-east of the island. There did not appear to be as many birds as in 1990.

During visits on 11 May, 1993 and 1 June, 1993 there was a marked increase in the number of birds and a corresponding extension of their breeding areas. Birds were nesting around the lagoon where they had not previously been seen. On 17 May, 1995 Lesser Frigatebird were nesting close together outside the south-eastern end of the *Abutilon* area with some nests scattered through it. Two other colonies were observed towards the western side of the island.

*Egretta Sacra* Eastern Reef Egret — Resident; one nest with two eggs found 2 June, 1990 and 28 May, 1992.

*Sterna caspia* Caspian Tern — Common on the western side of the island where they nest colonially. On 4 June, 1978 Abbott<sup>1</sup> recorded 19 nests with eggs or one large chick as well as empty scrapes. On 2 June, 1990 there were about 140 nests with eggs situated about 50 m from the shoreline. On 28 May, 1992 there were about 100 nests with eggs on the shoreline, just back from the high tide mark. On 1 June, 1993 and 17 May, 1995, birds could be seen congregating in the vicinity of the previous nesting area. However, no attempt was made to determine their breeding status.

*Sterna bengalensis* Lesser Crested Tern — Recorded as breeding by J. Walker<sup>11</sup> on his visit in 1891. Lesser Crested Terns were observed on all visits, but no nesting was recorded.

#### Factors Affecting Status

Very little human interference to the breeding colonies is likely to occur, due to the remoteness of the island from the mainland. However, some disruption occurs on the northern end at times of maintenance to the weather station. It affects only a small number of Brown Boobies that nest around these facilities.

It is possible that seabirds are harvested on occasional illegal visits by Indonesian fishermen, as recorded on Ashmore Reef by D. L. Serventy<sup>8</sup> and K. F. Kenneally<sup>6</sup> (unpubl. report 1977). Geological survey teams exploring offshore oil and gas reserves have, in the past, been temporarily based on the north end of the island.

With the advent of more charter boats operating along the Kimberley coast, the island could attract birdwatchers in the future. However, most birdwatchers would probably be content to visit the Lacepede Islands which are much closer to the mainland.

Silver Gull *Larus novaehollandiae* are present and predate eggs and young of Brown Boobies. Eastern Reef Egrets *Egretta sacra* are plentiful and have been observed stalking through the breeding areas of the Brown Boobies, no doubt taking eggs or small chicks. There is a colony of 30–40 Nankeen Night Heron *Nycticorax caledonicus* that would also predate nests. Large Saltwater Crocodiles

*Crocodylus porosus* have occasionally been seen (pers. comm.) on the beach and would possibly take nesting Masked Boobies or their chicks from along the shoreline.

Mr H. Shugg (pers. comm.) a former Conservator of Wildlife, stated that in the 1960s he received a report from Captain H. C. W. Piesse of the departmental research vessel, of his sighting of a Fox *Vulpes vulpes* on the island. It would be interesting to know how it arrived there. There is now no evidence of foxes on the island. The introduced Polynesian Rat *Rattus exulans* is present, but to what extent it affects the birds is not known.

Failure and disappearance of *Abutilon* in drought years is one factor detrimental to the status of Red Footed Boobies and Great Frigate-birds. Both seem to depend on trees or shrubs on which to nest.

Cyclones and high spring tides affect some of the nesting Masked and Brown Boobies. During a spring tide on 17 May, 1995, inundation of some nests occurred along the shoreline and around the lagoon; a number of Brown Boobies nests were abandoned. One Masked Booby was seen standing over eggs in water near the lagoon, endeavouring to keep position above its flooded nest.

#### Other Seabirds Recorded

<i>Nycticorax caledonicus</i>	Nankeen Night Heron — resident; 30–40 birds.
<i>Haematopus longirostris</i>	Pied Oystercatcher — 7.6.90, 8.7.90, 28.5.92, 11.5.93.
<i>Larus novaehollandiae</i>	Silver Gull — Present on all visits, but no breeding recorded.
<i>Sterna nilotica</i>	Gull-billed Tern — A small flock of about 20 birds on 2.6.90.
<i>Sterna bergii</i>	Crested Tern — Present on most visits.
<i>Sterna dougallii gracilis</i>	Roseate Tern — One bird; 2.6.90.
<i>Sterna anaethetus anaethetus</i>	Bridled Tern — Recorded by D. L. Serventy <sup>3</sup> in 1952.
<i>Anous stolidus</i>	Common Noddy — One 7.6.89, one 8.7.90, about 200–300 roosting on beach 28.5.92.

#### Banding

Nil.

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#### ACKNOWLEDGMENTS

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