

SEABIRD ISLANDS

No. 8/1

Brush Island, New South Wales

Location: 35°32'S, 150°25'E; 360 metres offshore from Wilfords Point between the townships of Bawley Point and Kioloa on the south coast of New South Wales (NSW).

Status: Nature Reserve administered by the NSW National Parks and Wildlife Service, Office of Environment and Heritage. Entry permit required.

Description: Roughly triangular in shape, the island is approximately 950 metres long and 680 metres wide, 40 hectares in area and rises to 36 metres asl. Soils are basaltic, with areas of consolidated wind-blown sand. Approximately 70 per cent of the island is vegetated. The north-west facing slopes are somewhat protected from the prevailing southerly winds and support woodland almost to the shoreline. The more exposed southern and eastern shores support low growing shrubs, sedges and grasses. Vegetated dunes and associated swales dominate the elevated areas of the island providing habitat for stands of Swamp Oak *Casuarina glauca* and Coast Banksia *Banksia integrifolia* interspersed with some rainforest species. The only discernible change to the vegetation associations described by Morris in 1974¹ has been the addition of a number of notable weeds, including Sea Spurge *Euphorbia paralias*, Blackberry *Rubus spp* and Kikuyu Grass *Pennisetum clandestinum*. Fifty species of vascular plants have been recorded on the island, but no rare or threatened species².

Landing: Landing possible in moderate conditions along the north-western shore.

Ornithological History: Morris¹ detailed the ornithological visits to Brush Island up until 1973. NPWS staff made multiple day-visits to the island between 2000 and 2010 to monitor the population of Sooty Oystercatcher *Haematopus fuliginosus* as part of the South Coast Shorebird Recovery Program (contact NPWS for annual reports). In August 2005, Black Rats *Rattus rattus* were eradicated from the island using rodenticide baits placed in bait stations³. We made overnight visits on 27–28 October 2008 to assess penguin numbers and nesting activity, on 10–11 November 2008 to search for burrows of the White-faced Storm-petrel *Pelagodroma marina*, and on 1–3 December 2008 to survey nesting shearwaters.

Breeding Seabirds and Status

Pelagodroma marina White-faced Storm-petrel – A burrow consistent in size to those used by storm-petrels was found on the north-eastern corner of the island during October 2008, and another two found in the same area a month later. Four flying adults were observed at the same site by spotlight in December 2008. Despite targeted searches, there has been no previous record of storm-petrels breeding on Brush Island, although several individuals were observed flying overhead in 1967¹. If now breeding on the island, the population is unlikely to exceed ten pairs. White-faced Storm-petrels may be colonising (or recolonising) Brush Island following the removal of rats. The nearest colony of this species is on Belowla Island, three kilometres to the southwest, where the population exceeds 1600 pairs⁴.

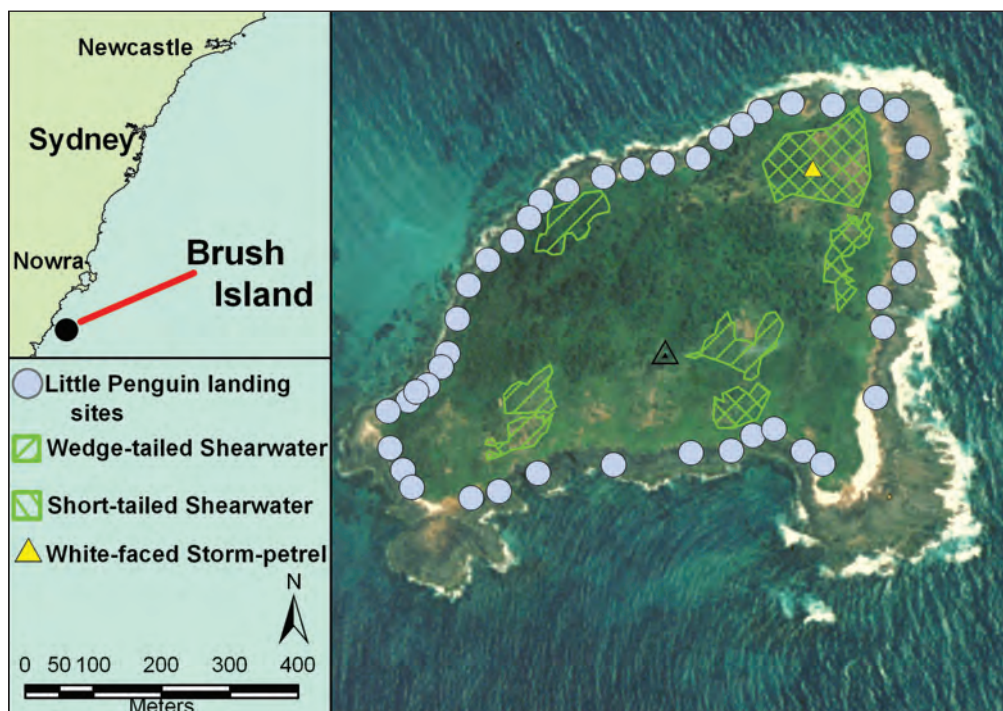


Figure 1. Brush Island, New South Wales

Ardenna pacifica Wedge-tailed Shearwater – Nests in several disjunct colonies; burrows interspersed with those of the Short-tailed Shearwater *Ardenna tenuirostris* and Little Penguins *Eudyptula minor*. Shearwater colonies were identified from diurnal ground searches to locate burrows and nocturnal surveys to locate calling birds. The extent of each colony was delineated by walking the perimeter with a handheld GPS. Data were then mapped using GIS, and the area of each colony calculated. The total area of all colonies ($n = 7$) was 4.0 hectares. The density of shearwaters incubating eggs was estimated from a series of 13 systematic transects that sampled all colonies. Transects were four metres wide and of varying length (30–60 m). The total area surveyed was 2040 square metres, approximately five per cent of the total area of the colonies. All burrows within each transect were counted and searched; if occupied, the occupant was extracted and identified to species. Burrows that were too long to determine if they were occupied were classified as “indeterminable” and assumed to have the same occupancy rate and species ratio as shorter burrows.

In total, the transects contained 304 burrows, of which 114 (37%) were occupied, 139 (46%) were empty and 51 (17%) indeterminable. The overall occupancy rate was 45 per cent. Wedge-tailed Shearwaters were found only in three colonies on the eastern side of the island (see figure). The number of pairs in each colony was calculated as the multiple of the density of occupied nests within the colony and area of the colony. Numbers from each colony were summed to estimate the total population (\pm s.e.) on the island: 209 ± 45 breeding pairs. This estimate is just outside the approximation of 300–500 pairs recorded by Morris in 1971¹.

Ardenna grisea Sooty Shearwater – Occasional aerial calls were heard at night and one adult was found without egg in a burrow within the north-east part of the island; therefore breeding was not confirmed. This species has not been recorded previously on Brush Island.

Ardenna tenuirostris Short-tailed Shearwater – Nests in several disjunct colonies; sometimes in mixed colonies with Wedge-tailed Shearwaters and Little Penguins. Short-tailed Shearwaters were present in all seven colonies. Population size (\pm s.e.) was estimated to be 1909 ± 332 breeding pairs, greater than Morris’s approximation of 500–1000 pairs¹.

Eudyptula minor Little Penguin – Nests dispersed across the entire island. In October 2008, the coastline of the island was searched and all landing sites were identified from the trails of excrement present. We counted the numbers of penguins that came ashore at a random subsample of these sites between dusk and midnight. The total number (\pm s.e.) of birds landing (3223 ± 896) was calculated as the multiple of the mean number of birds recorded landing per site (73.3, range = 36–125, s.e. = 20.4, $n = 4$) and the number of sites ($n = 44$). During the day we sampled 61 occupied nests (those containing at least one adult or chick) to estimate the proportion of breeding adults ashore; 33 nests contained a single adult, and 28 contained unattended chicks. Assuming that all partners at sea would come ashore (to incubate eggs or feed chicks), we calculated that each arriving bird represented 0.69 nests, and estimated the nesting population to be 2209 ± 614 pairs. This estimate accords with Morris’s approximation of 2000–3000 pairs in 1971¹.

Factors Affecting Status

The eradication of rats in 2005 removed the only significant threat. The possible recolonisation by White-faced Storm-petrel is likely to be a direct consequence of this action, as rats are known to prey heavily on seabirds of that size⁵. Sea Spurge, Blackberry and Kikuyu Grass were recently recorded on Brush Island. These highly invasive species are currently being subjected to weed control and are not presently a threat, but could become problematic for nesting seabirds, as well as the native flora, should control measures not be sustained.

A White-bellied Sea-eagle *Haliaeetus leucogaster* and Swamp Harrier *Circus approximans* were seen hunting over the island and could prey on seabirds. The Australian Raven *Corvus coronoides* occurs on the island and may take unattended eggs, as has been observed on Grasshopper Island⁶.

Given the lack of detail on how previous estimates were obtained, it is not possible to determine reliably if there has been discernible change in the numbers of shearwaters nesting on Brush Island over the past three or four decades. In 2008, Wedge-tailed Shearwaters were absent from many colonies and, where present, they were in relatively low density. This patchy distribution may explain why previous estimates of this species¹ vary so markedly. Their previously mapped distribution¹ was more likely indicating nesting areas for all shearwaters.

Other Seabirds Recorded

<i>Ardea sacra</i>	Eastern Reef Egret
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher

Other Vertebrates Recorded

Eastern Water Skink *Eulamprus heatwolei*, Common Garden Skink *Lampropholis guichenoti*, Common Eastern Froglet *Crinia signifera*, Brown-striped Frog *Limnodynastes peroni* and Australian Fur Seal *Arctocephalus pusillus* have all been recorded on the island.

Banding

First banding visit	– 3 December 1961
<i>A. pacifica</i>	– 21 adults.
No recoveries to date	
<i>A. tenuirostris</i>	– 225 adults; 22 nestlings.
Two recoveries at banding place and two away: 29 kilometres south 11 months after banding, and 179 km north almost 10 years after banding.	

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SEABIRD ISLANDS

No. 26/1

Wasp Island, New South Wales

Location: 35°40’S, 150°19’E; 250 metres offshore from Wasp Head near South Durras on the south coast of New South Wales (NSW).

Status: Part of Murramarang National Park administered by the NSW National Parks and Wildlife Service (NPWS), Office of Environment and Heritage. Entry permit required.

Description: Approximately 340 metres long by 170 metres across, covering 3.3 hectares. A narrow plateau (c. 170 m by 25 m; 0.3 ha) rises to 15 metres above the extensive rock platform. Soils are derived from the conglomerate, sandstone and silty sandstone bedrock. Soil depth is sufficient to support vegetation and burrowing seabirds on the plateau and the eroded

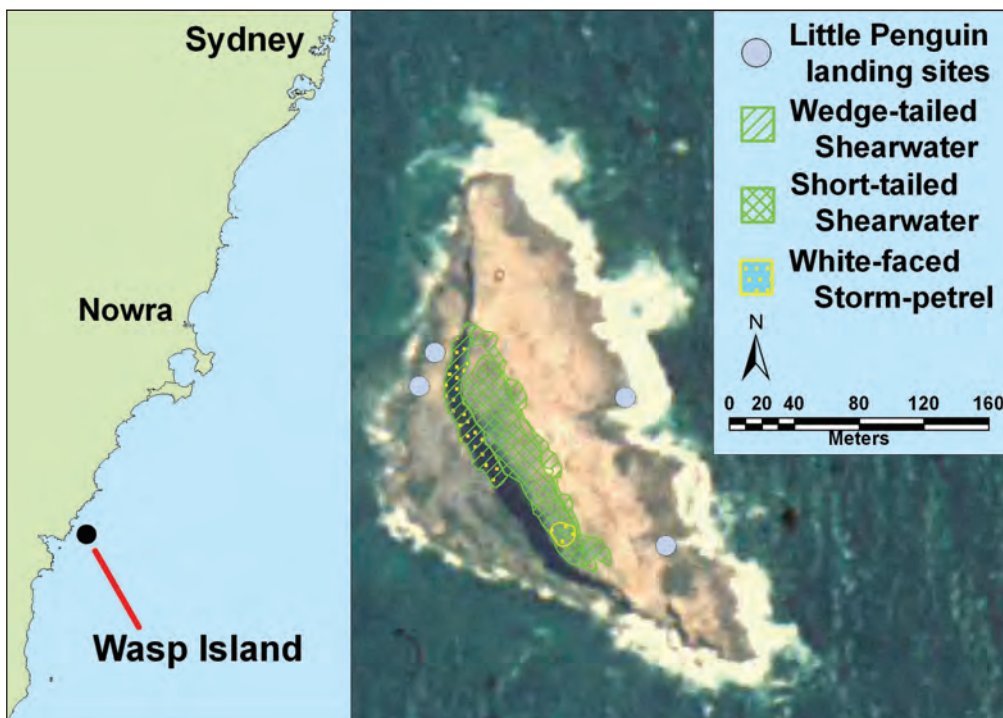


Figure 1. Wasp Island, New South Wales