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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

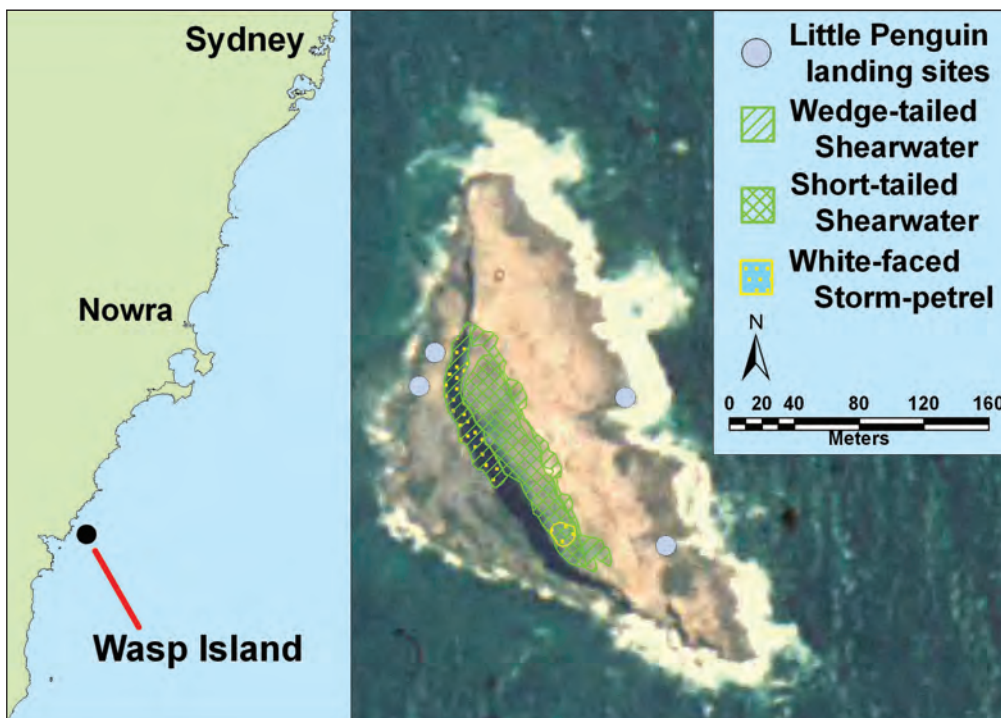


Figure 1. Wasp Island, New South Wales

slopes on the north-western and eastern sides; a total area of approximately 0.5 hectares.

At its northern end, the plateau is dominated by Coastal Wattle *Acacia longifolia* and Seaberry Saltbush *Rhagodia candolleana* interspersed with clumps of Spiny-headed Mat-rush *Lomandra longifolia*. In the south the plateau is dominated by Seaberry Saltbush with patches of Ruby Saltbush *Enchylaena tomentosa* and Boobialla *Myoporum boninense*. Sea Rocket *Cakile* sp. occurs amongst Spiny-headed Mat-rush and Coastal Wattle on the north-western slope, with Sand Couch *Sporobolus virginicus* and Pigface *Carpobrotus glaucescens* prevalent on the eastern slope. Exotic species included Prickly Sowthistle *Sonchus asper*, a Ryegrass *Lolium* sp., and *Solanum* sp. Other vegetation not mentioned in Lane¹ includes:

Commelina cyanea, *Cotula australis*, *Dianella caerulea*, *Ficinia nodosa*, *Kennedia prostrata*, *Leucopogon parviflorus*, *Poa poiformis* and *Tetragonia tetragonioides*.

Landing: Landing onto rocks near the northern end of the western shoreline requires calm conditions. The area of shingle recommended as a landing site in 1973¹ is no longer evident.

Ornithological History: Lane¹ detailed the ornithological visits to Wasp Island up until 1973. In 2000, members of the Southern Oceans Seabird Study Association made a day-visit to the island to band Sooty Oystercatcher *Haematopus fuliginosus*². NPWS staff made multiple day-visits to the island between 2004 and 2010 to monitor the population of this species as part of the South Coast Shorebird Recovery Program (contact NPWS for annual reports). On 24–25 November 2009 we visited the island to count Little Penguins *Eudyptula minor* and to survey burrow-nesting seabirds; however, soils were too dry and friable at this time to allow access to the plateau beyond the White-faced Storm-petrel *Pelagodroma marina* colony. We visited again for a few hours on 21 January 2010 to map burrows and vegetation, and to identify threats³; on 23–24 September 2010 to assess penguin numbers; and on 12–13 December 2010 to survey other nesting seabirds.

Breeding Seabirds and Status

Pelagodroma marina White-faced Storm-petrel – Nests on the plateau and on the north-western slope. Burrows were sparsely and patchily distributed on the plateau, particularly along the western edge wherever the soil was too shallow for shearwaters to burrow. The largest concentration was in a dense patch of saltbush (161 m²) near the southern end of the plateau, which we surveyed separately. In 2009, a single transect (4.5 m x 2 m) through this colony under the saltbush contained 18 burrows; a density of 2.0 burrows per square metre (a total of 322 burrows for this area). Elsewhere on the plateau, data from the five transects used to sample shearwaters in 2010 gave a nest density of just 0.02 storm-petrel burrows per square metre (a total of 60 burrows). A search of the north-western slope located 44 burrows among those of Wedge-tailed Shearwaters and Little Penguins. The eastern slope was heavily used by Wedge-tailed Shearwaters and we found only one White-faced Storm-petrel burrow. Overall, we estimate a total of 382 burrows on the plateau and 45 on the slopes. Assuming an occupancy rate of

50 per cent⁴, we estimate the total population for the island to be approximately 200 pairs. This is significantly greater than the previous estimate of 50 pairs¹.

Ardena pacifica Wedge-tailed Shearwater – Nests throughout the plateau and slopes, sometimes in shallow burrows under shrubs. On the plateau, burrows are interspersed predominantly with those of Short-tailed Shearwaters *Ardena tenuirostris*, and on the slopes with those of Little Penguins and White-faced Storm-petrels. Population size on the plateau was estimated by sampling burrows within a series of five random transects (20 m x 4 m). The area surveyed was approximately 15 per cent of the area of the plateau. At the time of the survey, adult birds were incubating eggs. 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 five transects contained 204 burrows, of which 89 (44%) were occupied, 81 (40%) were empty and 34 (16%) indeterminable. On the plateau, where shearwater colonies were mixed, the occupancy rate was 52 per cent and 58 per cent of birds were Wedge-tailed Shearwaters. We estimate the total number (\pm s.e.) of shearwater burrows on the plateau to be 1350 \pm 97, and the population of Wedge-tailed Shearwaters to be 413 \pm 43 pairs. Additionally, from observations we estimate there to be about 50–100 pairs on the north-western slope and another 50–100 pairs on the eastern slope, giving an overall population of approximately 470–656 pairs. This is significantly greater than the previous estimate of just 50 pairs¹.

Ardena tenuirostris Short-tailed Shearwater – Nests throughout the plateau, in a mixed colony predominantly with Wedge-tailed Shearwaters. Forty-two per cent of the shearwaters on the plateau were Short-tailed Shearwaters. We estimate the population (\pm s.e.) of Short-tailed Shearwaters to be 294 \pm 50 pairs. The previous estimate of 200 pairs¹ is below the range of the current estimate.

Eudyptula minor Little Penguin – Nests across both the north-western and eastern slopes; burrows are patchily dispersed but more dense at lower elevations. There were also about 20 burrows scattered across the plateau. In November 2009 and September 2010, the coastline of the island was searched and all landing sites ($n = 4$) were identified from the trails of excrement present. In 2009, 105 penguins landed at these sites from the time of the first landing (2035 hr) until no penguins were observed within a 15-minute period (2135 hr). In October 2010, penguins landing at each of these sites were counted from dusk until no penguins arrived within a 30-min period (2000 hr); a total of 110 penguins landed. In October 2010, we sampled 33 occupied nests (those containing at least one adult or chick) during the day to estimate the proportion of breeding adults ashore; all nests contained one adult. Assuming that all breeding adults at sea would come ashore (to incubate eggs or feed chicks), we calculated that each arriving bird represented 1.0 nest, and estimated the nesting population to be 110 pairs. This estimate is significantly smaller than the previous estimate of 200 pairs in 1973¹.

Factors Affecting Status

A pair of Peregrine Falcons *Falco peregrinus* nest on the western cliffs, and were seen consuming a Little Penguin. No other threats were identified. As recorded earlier by Lane¹, the sandy soil on the plateau is extremely friable, and walking on the surface will invariably break burrows. To avoid such damage, we conducted the survey on the plateau by using the vegetation to support our weight and by crawling prostrate on the ground.

Vegetation on the plateau has changed significantly since 1973. Coastal Wattle, previously unrecorded, now dominates the northern end of the plateau and parts of the north-western slope. On the plateau, these shrubs were affected by salt-spray and were not sufficiently dense to encumber nesting activity, but on the slope, they formed a dense canopy, restricting access and reducing nesting opportunities.

The apparent decline in Little Penguin numbers may be because previous estimates were based on the number of burrows on the slopes, rather than the number of birds ashore. In 2010, many of these burrows were either empty or occupied by Wedge-tailed Shearwaters. There seems to have been an increase in the population of Wedge-tailed Shearwaters since 1973, the species now nesting on the slopes as well as on the plateau. The White-faced Storm-petrels may also have increased. Alternatively, the apparent increase in storm-petrels may have resulted from Lane's reluctance to venture far across the plateau, such caution causing him to miss the major concentration of this species.

Other Seabirds Recorded

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|--------------------------------|--------------------------------|
| <i>Anhinga novaehollandiae</i> | Australasian Darter |
| <i>Phalacrocorax carbo</i> | Great Cormorant |
| <i>Egretta novaehollandiae</i> | White-faced Heron |
| <i>Egretta sacra</i> | Eastern Reef Egret (breeding) |
| <i>Haematopus fuliginosus</i> | Sooty Oystercatcher (breeding) |
| <i>Vanellus miles</i> | Masked Lapwing |

Other Vertebrates Recorded

Temperate Water Skink *Eulamprus heatwolei* was abundant.

Banding

Two visits: 18 January 1969 and 4 December 1973. Data from second visit yet to be submitted to ABBBS. No recoveries to date.

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|-----------------------------|-----------------|
| <i>Ardenna pacifica</i> | – 14 adults. |
| <i>Ardenna tenuirostris</i> | – 15 adults. |
| <i>Pelagodroma marina</i> | – 13 nestlings. |

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