

Recent nesting records for Sooty Oystercatcher within the Broughton Island group

Neil Fraser

8 Flannel Flower Fairway, Shoal Bay NSW Australia 2315, neil8fff@gmail.com

Received 19 December 2020, accepted 11 January 2021, published on line 15 January 2021

INTRODUCTION

This note describes recent observations of Sooty Oystercatcher *Haematopus fuliginosus* nesting within the Broughton group of islands. The Sooty Oystercatcher has a widespread but low-density population on rocky coastal shorelines and near islands around all parts of Australia (Marchant & Higgins 1993; Geering *et al.* 2007). The species is listed as Vulnerable under the NSW *Biodiversity Conservation Act* 2016. This listing reflects its relatively low numbers and limited areas of suitable habitat (NSW Scientific Committee 2008; Harrison 2009; NSW Department of Planning, Industry and Environment 2011).

Sooty Oystercatcher were first reported on Broughton Island in 1959 (Hindwood & D’Ombraim 1960). The only two confirmed breeding records for that island were in January 1998, when dependent young were present with adult birds (Stuart 1999), and January 2008, when a pair had a nest with eggs (Stuart *et al.* 2017). Also, a pair was exhibiting defensive behaviour on the northwest of the island in mid-January 2014 (L. Crawford pers. comm.), suggesting that they may have been breeding. A pair of Sooty Oystercatcher with a nestling were present on Gandja-Baa in December 2011 (Carlile *et al.* 2013); the location of the record is indicated in **Figure 1**.



Figure 1. Location of known Sooty Oystercatcher nest sites within the Broughton Island group.

A recent review of Sooty Oystercatcher in the Hunter Region (Wooding 2019) identified Broughton Island as one of the most important sites for the species in the region. Surveys of terrestrial avian species on the island from 2012 to 2020 by members of the Hunter Bird Observers Club (HBOC) on behalf of NSW National Parks and Wildlife Service (NPWS) identified an estimated 30-35 birds regularly present around the rocky shores of the island (Stuart 2020). Four nests described here were discovered by members of HBOC while conducting surveys on the island in 2019 and 2020. A fifth nest was discovered by a consultant working for NPWS on Little Broughton Island in 2020.

Sooty Oystercatcher nests are typically located on shorelines, rocky islands, headlands, ledges and cliffs up to 15 m above sea level and up to 250 m from shore; and in sandy and shell-strewn areas, among pebbles, at the foot of steep sandy banks, in sandy hollows, on top of rocks, between rocks and in clefts of rock or on the floor of caves. Nests have been located in close proximity to other shorebird species nesting simultaneously in the same habitat. The nest consists of a scrape in the ground, either unlined or else lined with gravel, pebbles, shells, grass, samphire, twigs, seaweed or seagrass. Clutch-size is 1-2 eggs that are laid between October and January in southern Australia. Nest scrapes may be surrounded by or close to vegetation and pairs exhibit a high level of site fidelity during breeding (Lane 1987; Lauro & Nol 1995; Marchant & Higgins 1993). Nests on Chalky Island in Bass Strait were 50-100 m apart (Wakefield & Robertson 1988) but on the north coast of NSW, nest densities were low (0.11-0.53 pairs/ha) and with only one pair per island during nesting (Harrison 2009).

Nest Descriptions

Nest 1. This nest was discovered on 26 October 2019 on the southern shoreline of Coal Shaft Bay (**Figure 1**). The nest contained two eggs laid on a bed of medium to coarse gravel and shell fragments, surrounded by larger cobbles and boulders of local sandstone (**Figure 2**). The nest was at the boundary between the coastal vegetation and the rocky shoreline. The site was 12 m from, and approximately 50 cm above, the high-tide line. This site was used again in 2020. Two eggs were present in the nest on 30 October 2020.

Nest 2. This nest was found on 26 October 2019 on the northern shore of Looking Glass Bay (**Figure 1**). The nest contained two eggs laid on a bed of coarse

to very coarse gravel surrounded by larger cobbles and boulders of local sedimentary rocks, and was located at the base of a massive, steep-sided sandstone outcrop. Dried vegetation fragments, wood flotsam and dried grass were present (**Figure 2**). The site was on the boundary between the coastal vegetation and the rocky shoreline. The site was 20 m from, and approximately two metres above, the high-tide line. This site was again used in 2020. Two eggs were in the nest on 30 October 2020.

Nest 3. This nest was discovered on 30 October 2020 on the southwestern shore of Esmeralda Cove (**Figure 1**). The nest contained two eggs laid within a small patch of medium-sized rock fragments on an elevated platform of volcanic rock (**Figure 2**). The site was close to the boundary between the coastal vegetation and the rocky outcrop. The site was 20 m from, and approximately three metres above, the high-tide line.

Nest 4. This nest was found on 28 November 2020 on the central part of the Coal Shaft Bay shoreline, at the base of a cliff (**Figure 1**). The nest contained one egg laid on grey sand with a small number of medium to coarse rocky fragments and cobbles (**Figure 2**). The site was at the foot of a slope resulting from a land slip of volcanic rock. It differed from the other four sites as it had an adjacent sandy shoreline. The nest was within a metre of, and only a few cm above, the high-tide line, and was located at the boundary between a small patch of coastal vegetation and the sandy scree.

Nest 5. This nest was discovered on 30 October 2020 on the northwestern tip of Little Broughton Island, at the base of a low cliff (**Figure 1**). The nest contained two eggs laid within an area of shell grit on a raised sandstone platform. A photo of this nest was not obtained. The site was near the boundary of the coastal vegetation which was present at the top of the cliff. The nest was 16 m from, and eight metres above, high-tide level.

The substrate of all sites on which eggs were laid did not appear to have been excavated and external material had not been brought in to line the nests. Eggs were well camouflaged by the nest substrate and surrounding materials. The distances between nests ranged from 345 m to 1,560 m (measured as shoreline length, not as the direct distance). In the area south from the huts in Esmeralda Cove to Looking Glass Isle, the nest density was 0.15 pairs/ha. The area (26.2 ha), including Looking Glass Isle, was determined using the NSW Spatial

Services Six Maps area tool (www.maps.six.nsw.gov.au). All nest sites were adjacent to areas of shallow rocky reefs and tidal platforms that could be used for foraging at low tide.

There was an active nest of a pair of Osprey *Pandion haliaetus* on a small knoll, 100 m southwest of nest 3 (location of the Osprey nest is indicated in **Figure 1**). In 2019 many pairs of

Greater Crested Tern *Thalasseus bergii* nested on the slopes surrounding the Osprey nest. In the same period, a colony of Silver Gull *Chroicocephalus novaehollandiae* nested in the same area. No agonistic behaviour between Sooty Oystercatcher and the other species was observed during visits to the nest sites.



Figure 2. Sooty Oystercatcher nests, Broughton Island. Top left: nest 1, photo by N. Fraser, 30/11/2019. Top right: nest 2, photo by N. Fraser, 30/11/2019. Bottom left: nest 3, photo by T. Clarke, 30/11/2020. Bottom right: nest 4, photo by G. Little, 28/11/2020.

Breeding Success

Breeding success for the pairs from nests 1 and 2 was confirmed on visits to Broughton Island in December 2019 and January 2020. Both pairs were accompanied by dependent chicks. Breeding outcomes for 2020 are unknown at the time of writing.

DISCUSSION

The nests discovered on Broughton Island and Little Broughton Island were present in a variety of different surroundings and the eggs had been laid on a number of different substrates. It is probable that many factors influenced the selection of nest sites. These factors could include competition from other breeding pairs, the availability of foraging

resources, the presence of camouflage materials, partial vegetation cover and the absence of human disturbance. The nest sites conformed with the descriptions of Lane (1987), Lauro & Nol (1995) and Marchant & Higgins (1993). Nest site fidelity was also confirmed.

Territories were widely-spaced across sections of the southern coastline of Broughton Island where there are large areas of shallow rocky reefs and tidal platforms suitable for foraging at low tide. The low nest density and large distances between nest sites suggests there could be opportunities for additional pairs to nest on the island. It is likely that additional breeding territories are present on the northeast and northwest shores of the island where there are extensive sections of rocky coastline with suitable foraging and nesting conditions, in areas with minimal human disturbance. Pairs and small parties of Sooty Oystercatcher have been recorded in surveys of this section of the island but as yet no nests have been located. A pair was observed behaving defensively near Providence Point in January 2014, suggesting they were concealing dependent young (L. Crawford pers. comm.). The previously reported occurrence on Gandja-Baa in 2011 is 175 m northwest of nest 5.

It is problematic to compare the recent breeding successes with previous years. The earlier surveys, especially those during 2012-2017, were not focused on obtaining breeding/nesting records and most surveys of any particular section of the island were of relatively short duration. While pairs and small groups were often seen around the southern areas of the island, no specific nest searches were conducted. Also, prior to 2017, the surveys were only carried out twice yearly, in autumn and spring (Stuart *et al.* 2017). That timing was outside the normal breeding period for Sooty Oystercatcher. Hence, it is quite possible that breeding activity on the island was overlooked until recently. However, breeding success will probably have increased following eradication of ship rats *Rattus rattus* from the island in 2009. Rats were known predators of shorebird eggs and chicks on the island (Priddel *et al.* 2011; Fawcett *et al.* 2016).

CONCLUSION

The recent discovery of multiple Sooty Oystercatcher nests and confirmation of breeding success on Broughton Island and Little Broughton Island further emphasises the importance of the Broughton Island group for the species in the Hunter Region.

ACKNOWLEDGEMENTS

Thanks are extended to the NPWS Ranger Susanne Callaghan, for her support of the HBOC bird studies on Broughton Island and the provision of travel, catering and accommodation for the survey crews. Tom Clarke and Greg Little are thanked for providing details and photographs of nests 3 and 4, and Martin Schulz is thanked for providing details of nest 5.

REFERENCES

- Carlile, N., Priddel, D. and Callaghan, S. (2013). Seabird Islands No. 255: Gandja-Baa, Broughton Group, New South Wales. *Corella* **37**(3): 69-70.
- Fawcett, A., Armstrong, R., Callaghan, S. and Carlile, N. (2016). Eradication of rabbits and rats from Broughton Island, NSW: a local perspective. (NSW Vertebrate Pest Management Symposium: Orange, NSW, Australia)
- Geering, A., Agnew, L. and Harding, S. (2007). 'Shorebirds of Australia'. (CSIRO Publishing: Melbourne.)
- Harrison, A.E. (2009). 'The ecology of Pied and Sooty Oystercatchers in northern New South Wales, Australia: implications for conservation and management.' PhD. Thesis, University of New England, Armidale, NSW.
- Hindwood, K.A. and D'Ombra, A.F. (1960). Breeding of the Short-tailed Shearwater (*Puffinus tenuirostris*) and other Seabirds on Broughton Island, N.S.W. *Emu* **60**: 147-154.
- Lane, B. A. (1987). 'Shorebirds in Australia'. (Nelson: Melbourne.)
- Lauro, B. and Nol, E. (1995). Patterns of habitat use for Pied and Sooty Oystercatchers nesting at the Furneaux Islands, Australia. *Condor* **97**: 920-934.
- Marchant, S. and Higgins, P.J. (1993). 'Handbook of Australian, New Zealand and Antarctic Birds, Volume 2'. (Oxford University Press: Melbourne.)
- NSW Department of Planning, Industry and Environment. (2011). Sooty oystercatcher - vulnerable species listing. <https://www.environment.nsw.gov.au/determinations/SootyOystercatcherVulSpListing.htm> (Accessed 18 December 2018).
- NSW Scientific Committee (2008). Sooty Oystercatcher *Haematopus fuliginosus*. Review of current information in NSW, May 2008. Unpublished report arising from the Review of the Schedules of the Threatened Species Conservation Act 1995. (NSW Scientific Committee: Hurstville.)
- Priddel, D., Carlile, N., Wilkinson, I. and Wheeler, R. (2011). Eradication of exotic mammals from offshore islands in New South Wales, Australia. In: 'Island invasives: eradication and management' (Eds C.R. Veitch, M.N. Clout and D.R. Towns) Pp. 337-344. (IUCN: Gland, Switzerland.)
- Stuart, A. (Ed.) (1999). Hunter Region of New South Wales Annual Bird Report Number 6 (Hunter Bird Observers Club Inc.: New Lambton, NSW.)

- Stuart, A., Clarke, T., van Gessel, F., Little, G., Fraser, N. and Richardson, A. (2017). Results of surveys for terrestrial birds on Broughton Island, 2012-2016. *The Whistler* **11**: 46-53.
- Stuart, A. (2020). Bird studies on Broughton Island 2017-2020. Hunter Bird Observers Club Special Report No. 9. (Hunter Bird Observers Club Inc.: New Lambton, NSW.)
- Wakefield, W.C. and Robertson, B.I. (1988) Breeding resource partitioning of a mixed population of Pied and Sooty Oystercatchers. *Stilt* **13**: 39-40.
- Wooding, L. (2019). A review of the Sooty Oystercatcher on the Hunter Region coastline of New South Wales, Australia. *The Whistler* **13**: 83-89.