

The birds of Snapper Island, Port Stephens, NSW

Neil Fraser¹ and Noeline Karlson²

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

² 6 King Albert Ave, Tanilba Bay NSW 2319, Australia. noelinekarlson@gmail.com

Received 10 December 2023, accepted 5 January 2024, published online 14 April 2024.

Avian records from Snapper Island in the western end of Port Stephens were reviewed. The island covers 13 ha and supports a littoral rainforest community with numerous figs and other fruit-bearing plants and vines. Forty-seven avian species have been recorded. The most common species were White-bellied Sea-Eagle *Haliaeetus leucogaster*, Little Pied Cormorant *Microcarbo melanoleucos*, Brown Gerygone *Gerygone mouki*, Golden Whistler *Pachycephala pectoralis*, Grey Fantail *Rhipidura albiscapa* and Eastern Yellow Robin *Eopsaltria australis*. The island provides suitable habitat for seven frugivorous avian species, including Rose-crowned Fruit-Dove *Ptilinopus regina* and Topknot Pigeon *Lopholaimus antarcticus*. Nankeen Night-heron *Nycticorax caledonicus*, which were once the main drawcard to the island, are now present in small numbers only.

INTRODUCTION

Snapper Island (32°42'09"S, 152°00'04"E) is a small isolated, heavily vegetated, rocky island located in the western end of Port Stephens, 2 km east of the settlement of Swan Bay (**Figure 1**). It was first set apart for the “preservation of birds” in 1912 under the provisions of the *Bird Protection Act 1901* (NSW Government Gazette, 3 April 1912). The island was listed as a Nature Reserve by the NSW Government in 1982, and now is managed by NSW National Parks and Wildlife Service, Hunter Coast Branch.

The island was originally protected due to the presence of a large colony of Nankeen Night-Heron *Nycticorax caledonicus*. A trip to the island during the breeding season was a highlight for ornithologists visiting the Port Stephens area in the 1920s and 1930s. Reports from that period described hundreds of nesting pairs (Chisholm & Cayley 1928; Hordern & Hordern 1931) and thousands of breeding herons (Dungog Chronicle: Durham and Gloucester Advertiser 1931). Unfortunately, the island’s herons were regularly targeted by shooters for their breeding plumes which were highly prized by the millinery industry (The World News 1936; The World News 1939).

This report summarises the bird species recorded in recent times and describes the island’s habitat. The island is also known to provide habitat for the vulnerable Grey-headed Flying-fox *Pteropus poliocephalus* (Office of Environment & Heritage 2014).

Site description

Snapper Island is 800 m long and 250 m at its widest point, and covers 13 ha. It has a central ridge, aligned northwest-southeast, that rises steeply to 17 m at its highest point. Access is largely limited to the shoreline due to steep nearshore slopes and dense vegetation. The shoreline is rocky apart from a short section of sandy beach on the western side of the island that is used for access. The surrounding waters are shallow, 1-2 m in depth. The island’s vegetation is classified as Myall-Wallis Lakes Littoral Rainforest and is the only example of this community in Port Stephens (Trees Near Me NSW 2023). Littoral rainforest in NSW is classified as an endangered ecological community under the *Biodiversity Conservation Act 2016* (NSW) (Office of Environment and Heritage 2022).

The canopy through the central spine of the island consists of several rainforest species, the more common ones being Yellow Tulipwood *Drypetes deplanchei*, Red Olive-berry *Elaeodendron australe*, Whalebone Tree *Streblus brunonianus*, and Red Ash *Alphitonia excelsia*. There are also many pockets of Cabbage Palm *Livistonia australis* throughout the centre and Swamp Oak *Casuarina glauca* is common around the perimeter. Eucalypts are rare with only a small number of Forest Red Gum *Eucalyptus tereticornis*. The eastern side of the island is dominated by figs, right down to the shoreline: Sandpaper Fig species *Ficus coronata* and *Ficus fraseri*, Port Jackson Fig *Ficus rubiginosa*, Deciduous Fig *Ficus superba* var. *henneana* and Strangler Fig *Ficus watkinsiana*. Due to the density of the canopy, the mid-storey is almost

non-existent. However, on the western side where light is plentiful, the weed *Lantana camara* is now prevalent. The ground layer is predominantly vines, mainly Whip Vine *Flagellaria indica*, Water Vine *Cissus antarctica* and Common Silkpod *Parsonsia straminea*.

Feral goats *Capra aegagrus hircus*, which foraged on low-growing plants, were removed from the island in 1998. Between 2010 and 2013, bush regeneration crews from Trees in Newcastle worked on the island and removed most of the *Lantana* and White Passion Flower *Passiflora subpeltata* (T. Clarke pers. comm.). A Statement of Management Intent produced by the National Parks and Wildlife

Service in 2014 stated that “priorities include an ongoing program of rainforest regeneration on Snapper Island which is targeting *Lantana* and Climbing Asparagus *Asparagus plumosus* to protect the littoral rainforest vegetation community” (Office of Environment & Heritage 2014). Since then, parts of the island have become heavily overgrown with *Lantana* and, together with the density of the rainforest, limit access mainly to the shoreline. (N. Karlson pers. obs.; M. Kearns, pers. comm.).

The island is occasionally used by the local community for boat-based recreational purposes.



Figure 1. Location map, Snapper Island, Port Stephens NSW.

METHODS

Records from surveys on Snapper Island were extracted from three sources: the BirdLife Australia Birddata portal (<https://birddata.birdlife.org.au/home>), the Cornell Lab of Ornithology eBird Australia portal (<https://ebird.org/australia/home>) and the BioNet portal of the NSW Department of Planning and Environment

(<https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet>). The maximum and mean counts were derived.

RESULTS

Only 29 records were located from Snapper Island and surrounding waters: Birddata had seven surveys; eBird seven surveys; and BioNet had two surveys plus another 13 incidental records, all of which were single species records of White-bellied Sea-Eagle *Haliaeetus leucogaster*.

The 16 full surveys were from 1972 onwards, with a total of 47 species recorded. The number of records and maximum and mean counts for the 47 species are summarised in **Table 1** together with their breeding status and their NSW conservation status. There were breeding records for six species: White-bellied Sea-Eagle, Sacred Kingfisher *Todiramphus sanctus*, Brown Gerygone *Gerygone mouki*, Grey Fantail *Rhipidura albiscapa*, Australian Raven *Corvus coronoides* and Eastern Yellow Robin *Eopsaltria australis*.

In addition, a breeding record for Australian Pied Oystercatcher *Haematopus longirostris* was identified - they were nesting on a small area of sand on the rocky shoreline at the northern tip of the island in September 2014 (T. Clarke pers. comm.).

DISCUSSION

Snapper Island is unique in Port Stephens. It is the only island covered by rainforest and its isolated location, relatively limited recreational use and protected status, creates an ideal habitat for some bird species. The most frequently recorded species were White-bellied Sea-Eagle (17 records), Grey Fantail and Eastern Yellow Robin (eight records each), and Little Pied Cormorant *Microcarbo melanoleucos*, Brown Gerygone and Golden Whistler *Pachycephala pectoralis* (seven records each).

The rainforest, with its numerous figs and other fruiting trees, shrubs and vines, provides foraging habitat for frugivorous species including White-headed Pigeon *Columba leucomela*, Rose-crowned Fruit-Dove *Ptilinopus regina*, Topknot Pigeon *Lopholaimus antarcticus*, Channel-billed Cuckoo *Scythrops novaehollandiae*, Australasian Figbird *Sphecothebes vieillotii*, Silveryeye *Zosterops lateralis* and Mistletoebird *Dicaeum hirundinaceum*. This is reflected in the high maximum counts for some of these species. The rainforest vegetation also appears to attract a significant insect population that provides foraging for Oriental Dollarbird *Eurystomus orientalis*, Brown Gerygone and Grey Fantail.

Nankeen Night-Heron are still recorded on the island, but in greatly reduced numbers when compared to records from earlier last century, and apparently, they no longer breed there. These changes may be partly due to unlawful shooting in the past, but the extensive overgrowth of Lantana is probably limiting access to suitable nesting sites.

Four raptor species have been recorded: Grey Goshawk *Accipiter novaehollandiae*, White-bellied Sea-Eagle, Whistling Kite *Haliastur sphenurus* and Southern Boobook *Ninox novaeseelandiae*.

The absence of migratory wader records from the island is noteworthy, since large numbers are recorded regularly from the nearby shorelines of Port Stephens (Stuart 2020). Their absence probably reflects the lack of suitable tidal foraging and roosting habitat around the rocky island. However, the relatively secluded foreshore has provided a suitable nesting site for Australian Pied Oystercatcher and may also be suitable for Sooty Oystercatcher *Haematopus fuliginosus*. The waterbirds around the island, gulls, terns, pelicans, herons and cormorants, are common throughout Port Stephens (Stuart 2007; Stuart 2020; Fraser 2023).

Threatened Species

Six of the species recorded are listed as threatened under the NSW *Biodiversity Conservation Act 2016*. Australian Pied Oystercatcher is listed as endangered, and Rose-crowned Fruit Dove, Sooty Oystercatcher, White-bellied Sea-Eagle, Glossy Black-Cockatoo *Calyptorhynchus lathami* and Varied Sittella *Daphoenositta chrysoptera* are all listed as vulnerable. The Glossy Black-Cockatoo was foraging in Swamp Oak in January 2023.

CONCLUSION

Snapper Island is a unique rainforest habitat in Port Stephens that attracts woodland and frugivorous species including Topknot Pigeon and the vulnerable Rose-crowned Fruit-Dove. Because of its isolation and limited human disturbance, the shores of the island have been used for nesting by a pair of Australian Pied Oystercatcher. The rocky shores might also provide potential nesting sites for Sooty Oystercatcher. The island has had only limited avian monitoring and is worthy of further study from the birdwatching community. More effective control of weeds is required, in order to help restore the rainforest habitat.

Table 1. Species counts, Reporting Rates, conservation status and breeding records, Snapper Island.

Common Name	Scientific Name	Mean Count	Max. Count	Records	Breeding Records	Conservation Status NSW
White-headed Pigeon	<i>Columba leucomela</i>	2	4	2		
Rose-crowned Fruit-Dove	<i>Ptilinopus regina</i>	2	3	3		Vulnerable
Topknot Pigeon	<i>Lopholaimus antarcticus</i>	14	20	5		
Australasian Darter	<i>Anhinga novaehollandiae</i>	-	1	1		
Little Pied Cormorant	<i>Microcarbo melanoleucos</i>	1	1	7		
Great Pied Cormorant	<i>Phalacrocorax varius</i>	1	2	2		
Australian Pelican	<i>Pelecanus conspicillatus</i>	1	2	2		
Striated Heron	<i>Butorides striata</i>	-	1	1		
White-faced Heron	<i>Egretta novaehollandiae</i>	1	1	5		
Nankeen Night-Heron	<i>Nycticorax caledonicus</i>	12	24	3		
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	1	4	17	✓	Vulnerable
Whistling Kite	<i>Haliastur sphenurus</i>	1	2	4		
Grey Goshawk	<i>Accipiter novaehollandiae</i>	-	1	3		
Australian Pied Oystercatcher	<i>Haematopus longirostris</i>	2	2	3	✓	Endangered
Sooty Oystercatcher	<i>Haematopus fuliginosus</i>	1	2	3		Vulnerable
Greater Crested Tern	<i>Thalasseus bergii</i>	1	1	2		
Silver Gull	<i>Chroicocephalus novaehollandiae</i>	-	2	1		
Glossy Black-Cockatoo	<i>Calyptorhynchus lathami</i>	-	6	1		Vulnerable
Little Corella	<i>Cacatua sanguinea</i>	-	3	1		
Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>	-	1	3		
Southern Boobook	<i>Ninox novaeseelandiae</i>	-	1	1		
Azure Kingfisher	<i>Ceyx azureus</i>	-	1	1		
Laughing Kookaburra	<i>Dacelo novaeguineae</i>	1	2	2		
Sacred Kingfisher	<i>Todiramphus sanctus</i>	1	2	3	✓	
Dollarbird	<i>Eurystomus orientalis</i>	-	2	1		
Brown Gerygone	<i>Gerygone mouki</i>	10	20	7	✓	
Brown Thornbill	<i>Acanthiza pusilla</i>	1	1	2		
Eastern Spinebill	<i>Acanthorhynchus tenuirostris</i>	-	4	1		
Scarlet Honeyeater	<i>Myzomela sanguinolenta</i>	-	1	1		
Brown Honeyeater	<i>Lichmera indistincta</i>	-	1	1		
Blue-faced Honeyeater	<i>Entomyzon cyanotis</i>	-	2	1		
Varied Sittella	<i>Daphoenositta chrysoptera</i>	-	2	1		Vulnerable
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	-	1	1		
Eastern Shrike-tit	<i>Falcunculus frontatus</i>	-	1	1		
Golden Whistler	<i>Pachycephala pectoralis</i>	1	3	7		
Australasian Figbird	<i>Sphecotheres vieilloti</i>	-	2	1		
Australian Magpie	<i>Cracticus tibicen</i>	1	3	2		
Pied Currawong	<i>Strepera graculina</i>	1	1	2		
Rufous Fantail	<i>Rhipidura rufifrons</i>	-	1	1		
Grey Fantail	<i>Rhipidura albiscapa</i>	3	8	8	✓	
Australian Raven	<i>Corvus coronoides</i>	1	1	3	✓	
Forest Raven	<i>Corvus tasmanicus</i>	-	1	1		
Black-faced Monarch	<i>Monarcha melanopsis</i>	-	1	1		
Eastern Yellow Robin	<i>Eopsaltria australis</i>	2	4	8	✓	
Silvereye	<i>Zosterops lateralis</i>	13	30	6		
Welcome Swallow	<i>Hirundo neoxena</i>	3	5	3		
Mistletoebird	<i>Dicaeum hirundinaceum</i>	3	10	7		

ACKNOWLEDGEMENTS

Michael Kearns is thanked for providing current and earlier details of the island's habitat and its birds, and Tom Clarke is thanked for providing details of previous bush regeneration work and an Australian Pied Oystercatcher breeding record. Greg Little reviewed the draft including the vegetation descriptions.

REFERENCES

- Chisholm, A.H. and Cayley, N.W. (1928). The Birds of Port Stephens. *The Emu* **28**: 243-251.
- Dungog Chronicle: Durham and Gloucester Advertiser (1931). Naturalists on Holiday, 16/01/1931. <https://trove.nla.gov.au/search/advanced/category/newspapers> Accessed 25/11/2023.
- Fraser, N. (2023). The Shorebirds and Waterbirds of Mambo Wetlands Reserve, Salamander Bay NSW. https://www.hboc.org.au/wp-content/uploads/Salamander_Bay_Shorebirds_and_Waterbirds.pdf Accessed 25/11/2023.
- Hordern, H.E. and Hordern, H.M. (1931). Birds of Port Stephens. *The Emu* **31**: 21-26.
- Office of Environment & Heritage (2014). Statement of Management Intent Bushy Island, Corrie Island, One Tree Island and Snapper Island Nature Reserves. https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected_areas/Parks-statement-of-management-intent/bushy-corrie-one-tree-snapper-island-nature-reserves-statement-of-management-intent-140133.pdf Accessed 25/11/2023.
- Office of Environment and Heritage (2022). Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions – profile. <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10866> Accessed 25/11/2023.
- Stuart, A.D. (2007). Surveys of waterbirds in Port Stephens, 2004-2006. *The Whistler* **1**: 16-20.
- Stuart, A.D. (2020). Port Stephens shorebird and waterbird surveys 2004-2020. *The Whistler* **14**: 54-69.
- Trees Near Me NSW (2023). <https://treesnearme.app/explore> Accessed 25/11/2023.
- The World News (1936). The Mutton Bird and other Seabirds, Part II, 10/06/1936. <https://trove.nla.gov.au/search/advanced/category/newspapers> Accessed 25/11/2023.
- The World News (1939). The Nankeen Night Heron, 8/07/1939. <https://trove.nla.gov.au/search/advanced/category/newspapers> Accessed 25/11/2023.