

Little Egret breeding colonies and geographical expansion in the south-west of Western Australia

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Abstract. Little Egrets *Egretta garzetta* arrived relatively late (1965) in the south-west of Western Australia and took time to become established. Initially, their range in the south-west was restricted to the coastal strip between Perth and Busselton but has since expanded further down the western coast and along the southern coast of Western Australia. Breeding on the Swan Coastal Plain south of Perth was first confirmed in the 1980s at three breeding sites, each with just a few pairs, whereas the three breeding colonies presently known to be active (at Mandurah, Dardanup and Busselton) together contain up to 70 breeding pairs in some years. Sightings of Little Egrets with pink facial skin indicative of nearby breeding may help observers discover additional breeding sites. This paper presents data from recent field surveys from three breeding colonies on the Swan Coastal Plain and a summary of historical breeding colonies. It provides an updated map of past and present breeding sites in south-western Western Australia and a summary of records of the species in the south of Western Australia.

Introduction

The Little Egret *Egretta garzetta* is a sleek, graceful heron that actively chases prey in shallow water. It occurs across much of Eurasia, Africa and Australia and is increasingly common through much of its range (Martinez-Vilalta & Motis 1992). In Australia, it occurs mostly on the northern and eastern coasts, sometimes moving inland, and breeding in small coastal colonies or with other egret species at ephemeral swamps mainly inland (Marchant & Higgins 1990; Barrett *et al.* 2003). It is common in northern Australia and breeds there mainly in March and April (Marchant & Higgins 1990; Jackson *et al.* 2017).

In Western Australia, the Little Egret was initially described as a Kimberley species that had occasionally been recorded at Port Hedland and south of Exmouth (Serventy & Whittell 1976; Blakers *et al.* 1984); it was absent from the far south-west of Western Australia. Distribution maps published in the 1990s show sightings throughout the tropical Kimberley north of Derby, along the coast from Exmouth south to Shark Bay and in a narrow coastal band from the Greenough River mouth south to Bunbury (Marchant & Higgins 1990; Johnstone & Storr 1998).

The first record from the Swan Coastal Plain (near Perth) was in 1965 (Ford 1965) and this species was considered scarce, being recorded usually as single birds or small aggregations (Storr 1991). The largest concentrations were near Mandurah (70 km south of Perth), with up to 20 at Peel Inlet in 1986–1988 (Jaensch & Vervest 1989) and up to 89 in the Peel–Harvey Estuary in February 1997 and 78 in February 1999 (Lane *et al.* 2002a, b).

The range of the Little Egret in the south-west of Western Australia has continued to expand modestly as shown by comparing maps in the two field atlases (Blakers *et al.* 1984; Barrett *et al.* 2003) and recent data on eBird and Birddata maps (BirdLife Australia 2025; eBird 2025). Current data show that Little Egrets are present along the coast between Kununurra and Shark Bay and follow some rivers inland, mainly in the north. They are scarce between

Shark Bay and Perth. Previously intermittent sightings were made at the Murchison River Estuary at Kalbarri and the Greenough River Estuary south of Geraldton. Sightings have increased at these two sites over the past 3 years in particular during winter. The species is well represented between Perth and Busselton and there is a scattering of records further south and along the southern coast as far east as Cape Arid National Park (in 2001). Sightings along the southern coastline are mainly confined to inlets, estuaries and river mouths and relate mostly to solitary birds, although groups of up to 20 and eight have been reported at two locations (Beaufort Inlet and Esperance: see Results). Little Egrets rarely visit inland areas in the south-west, with just a few sightings from Lake Muir, and along the Avon River between Toodyay and Northam (BirdLife Australia 2025; eBird 2025). Globally, they prefer the shallow waters of wetlands, including the shallow margins of lakes and rivers, saltwater and freshwater marshes, flooded meadows and mudflats (Mlodinow *et al.* 2024) but in south-west Western Australia the preferred habitats are lakes on the Swan Coastal Plain, inlets and estuaries.

Breeding of the Little Egret on the Swan Coastal Plain was first confirmed in the 1980s at three wetlands containing paperbark *Melaleuca* spp. trees between Perth and Bunbury: Australind Egret Swamp (now called Morangarell Nature Reserve), West Corio Swamp and Caris Park Swamp (Jaensch *et al.* 1988; Storr & Johnstone 1988; Jaensch & Vervest 1989; EPA 1991) and a few pairs bred at each wetland, among other colonial species (Figure 1). These colonies on the Swan River Plain are no longer active and the last breeding records there for Little Egrets are: Australind Egret Swamp (1985), Caris Park Swamp (1986) and West Corio Swamp (1989). The last breeding records of Great Egret *Ardea alba* and Nankeen Night-Heron *Nycticorax caledonicus* at Australind Egret Swamp were in 2009 (Buchanan 2015). A sand-mining quarry was developed near the West Corio site (EPA 1991). In more recent times, there was a Little Egret colony of about five pairs at Beenypup Swamp near Lake Joondalup around 2018 (P. Snow pers. comm.) (Figure 1).



Figure 1. Map showing past and present breeding colonies of the Little Egret is south-western Western Australia: (1) Australind, Morangarel Nature Reserve; (2) Pinjarra, Caris Park; (3) West Corio Swamp; (4) Mandurah, Erskine; (5) Lake Joondalup; (6) Dardanup, Eagle Wetland Reserve; (7) Busselton, Vasse River.

This paper provides data from recent field surveys of Little Egrets at three recent breeding colonies on the Swan Coastal Plain south of Perth, and summarises known information from those colonies. It provides an updated map of past and present breeding sites in south-western Western Australia and a summary of records of the species in the south of Western Australia.

Methods

The three Little Egret breeding colonies monitored are on the Swan Coastal Plain at Mandurah (~70 km south of Perth), Dardanup (near Bunbury, ~170 km south of Perth) and at Busselton along the Vasse River (~200 km south of Perth) (Figure 1). All colonies are close to an inlet or estuary and within 3.6 km of the coast.

The Erskine Wetland colony at Mandurah is situated near the Mandurah Estuary bridge. This wetland has been transformed into a recreational park with a medium-sized lake, which has three tree-covered islands and is close to the Peel Inlet. This colony was surveyed 34 times in the period 2017–2024, with the exception of 2020 and 2021. Maps were used to plot individual nests by walking around the islands. Surveys were conducted between August and January each year. A few nests might have been missed

as dense vegetation concealed the centre of the southern island.

The colony at the Eagle Wetland Reserve (Dardanup) is located along the Collie River near Alexander Island and is south of the Eaton Bowling Club. It was surveyed over three breeding seasons, on 8 October and 8 November 2022, 11 September 2023, and on 6 October, 19 November and 23 December 2024. The colony at Busselton was surveyed twice, on 10 February and 2 March 2025.

Results

Table 1 summarises observations of Little Egrets in south-western Western Australia and Table 2 shows the composition of the three colonies surveyed on the Swan Coastal Plain.

Erskine, Mandurah (32°33'S, 115°43'E)

The Little Egret breeding colony in Mandurah was located on the two southern islands in the Erskine Wetland (Figure 1). This colony included several other breeding species (Table 2), with up to 63 pairs of Cattle Egrets *Bubulcus ibis*, 43 pairs of Little Egrets, and smaller

Table 1. Observations of Little Egrets in south-western Western Australia at locations running south from Perth (Mandurah) and east to Esperance and Cape Arid National Park. NP = National Park, NR = Nature Reserve.

<i>Location</i>	<i>Observations</i>
Mandurah (~70 km south of Perth)	Earliest sighting: April 1969 (Serventy & Whittell 1976) First regular sightings: from 1976 Highest count last 5 years: Adult breeding-season population >80 Comments: Waterbird surveys in Peel–Harvey Estuary in 1976–1977 had maximum number of 15, in June 1977 (Lane & Pearson 2002). Surveys (47) at Austin Bay NR (eastern side of Peel Inlet) between mid 1981 and mid 1985 had highest count of 8 (Jaensch <i>et al.</i> 1988). Three pairs breeding at Caris Park in 1986 (Jaensch <i>et al.</i> 1988). At West Corio Wetland, 2 pairs bred in 1988 and 1 pair in 1989 (Jaensch <i>et al.</i> 1988; EPA 1991).
Bunbury (~100 km south of Mandurah)	Earliest sightings: 1981–1985 First regular sightings: from 2000 Highest count in last 5 years: Adult breeding-season population >40 Comments: One sighted at Bengier Swamp in December 1973 (Serventy & Whittell 1976). Surveys (10) at Australind between mid 1981 and mid 1985 had highest count of 3 (Jaensch <i>et al.</i> 1988). First breeding reported at Australind (Morangareel NR) in 1981 and 1984 (Jaensch <i>et al.</i> 1988).
Busselton (~50 km south of Bunbury)	Earliest sightings: 1981–1985 First regular sightings: from 2000 Highest count in last 5 years: 50 Comments: Over past 5 years congregations of 15–37 seen over summer, though most records are of <5 birds. Surveys ($n = 61$) at Vasse Estuary NR between mid 1981 and mid 1985 revealed ≤ 2 on any visit (Jaensch <i>et al.</i> 1988). Surveys at Vasse–Wonnerup Wetlands in 1998–2000, maximum count of 8 in December 1998 (Lane <i>et al.</i> 2007). First breeding colony located in 2025.
Augusta (~95 km south of Busselton)	Earliest sightings: 2000 First regular sightings: from 2020 Highest count in last 5 years: 5 Comments: Little Egret not mentioned in <i>The Birdlife of the Blackwood River Estuary</i> from surveys of 1974 and 1975 (Lane 1976). Sightings concentrated along Augusta foreshore and lower reaches of Hardy Inlet. Little Egret is not known to venture up the Blackwood River. No records between Augusta and Walpole (~220 km of fairly remote coast) or between there and near Denmark (a further ~70 km of coast).
Denmark (~310 km east-south-east of Augusta)	Earliest sightings: 1994 First regular sightings: from 2015 Highest count in last 5 years: 5 Comments: Sightings concentrated at Ocean Beach, Morley Beach and mouth of Denmark River.
Albany (~60 km east of Denmark)	Earliest sightings: 1990 First regular sightings: from 2017 Highest count in last 5 years: 5 Comments: Little Egret not mentioned in the <i>Birds of Albany Checklist</i> of 1981, covering Denmark to Two Peoples Bay region (Garstone 1981). Sightings concentrated at Lower Kalgan, Lower King and Lake Seppings.
Beaufort Inlet (~140 km east of Albany)	Earliest sighting: 1999 Few records available; four records from years 1999, 2000 and 2002 (BirdLife Australia 2025). Comments: On 23 January 2024, ~20 were standing in paperbark trees along receding shoreline at Millers Point on Beaufort Inlet (S. Elson pers. comm.). This site warrants further investigation.
Bremer Bay (~55 km east of Beaufort Inlet)	Earliest sightings: 2006 First regular sightings: from 2023 Highest count in last 5 years: 1 Comments: Singles mainly along lower reaches of Wellstead Estuary when mudflats are exposed, and not in winter.
Esperance (~400 km east of Bremer Bay)	Earliest sightings: 1986 (Jaensch <i>et al.</i> 1988) First regular sightings: from 2017; limited sightings each year after this. Highest count in last 5 years: 8 Comments: Sightings concentrated at Mullet Lake NR, Lake Warden NR, Woody Lake NR and Esperance golf course (S. Elson pers. comm.). Furthest east sighting at Cape Arid NP, at mouth of Thomas River, February 2001 (BirdLife Australia 2025). One sighting at Kanidal Beach, Eyre, 2011 (BirdLife Australia 2025).

Table 2. Bird species nesting in Little Egret colonies at Erskine, Eaton and Busselton, Western Australia, showing the number of breeding pairs of each species, 2016-2025. * = Turnbull (2016), ** = Turnbull (2019), *** = Singor (2024); # = nesting finished but fledged young nearby.

Species	Colony													
	Erskine							Eaton						
	Year	2016	2017	2018	2019	2022	2023	2024	2024	2024	2024	2024	2025	2025
Date (day.month)	11.12	17.11	19.10	19.10	19.10	11.10	9.11	20.9	10.11	13.9	30.9	6.11	8.11	10.2
Australian White Ibis <i>Threskiornis moluccus</i>														3
Nankeen Night-Heron <i>Nycticorax caledonicus</i>													62	60
Cattle Egret <i>Bubulcus ibis</i>	6		17			41	63		37		1	57		
Great Egret <i>Ardea alba</i>							1	1	2	2	2	3	40	40
Little Egret <i>Egretta garzetta</i>	7*	20-22	20	11**		43	42	26	42	0	38	35	23	15-20
Eastern Reef Egret <i>Egretta sacra</i>							1***							8
Little Pied Cormorant <i>Microcarba melanoleucos</i>	1	6				7	1	4	3	12	11	1		
Little Black Cormorant <i>Phalacrocorax sulcirostris</i>								2	1	22	9			
Australasian Darter <i>Anhinga novaehollandiae</i>	6	4				3	5	3	11	8	9	6		

numbers of Great Egret *Ardea alba* (3 pairs), Eastern Reef Egret *Egretta sacra* (1 pair), Little Pied Cormorant *Microcarbo melanoleucos* (12 pairs), Little Black Cormorant *Phalacrocorax sulcirostris* (22 pairs) and Australasian Darter *Anhinga novaehollandiae* (11 pairs). Little Egrets have nested here since at least 2010 (Graff 2010). Their colony has grown from seven breeding pairs in 2016 (Turnbull 2016) to >40 pairs in 2022–2023 (Table 2). Breeding was confirmed for 2020 and 2021 (eBird 2025) when no counts were made.

The breeding season for Little Egrets at Mandurah started in early September, when the egrets returned to the colony in full breeding plumage and started checking out nest sites. The peak breeding season ran from September to December. By early January, most juveniles had fledged, with a few still chasing the adults for food. The occasional pair with small chicks (Figure 2) could still be found as late as January.

The incubation period is known to be 20–25 days and the nestling period from hatching to first flight averages 36 days (range 32–46 days: Marchant & Higgins 1990). The breeding season was found to last c. 9 weeks and was staggered: while some Little Egrets were feeding young, others were just starting to build nests.

The nests of Little Egrets and Cattle Egrets were found throughout the colony. When adults were at the nests, nests of the two species were relatively easy to distinguish as Little Egrets were snow-white whereas Cattle Egrets had an orange tinge of varying intensity. In addition, Little Egrets had two diagnostic nuptial plumes, extending from the nape to behind the neck (Marchant & Higgins 1990), and clearly visible especially when a light breeze was blowing, and the bright-yellow soles of their feet were obvious in flight and when incubating (Johnstone & Storr 1998). Later in the breeding season, when adults were absent from the nests and the young had hatched, the nests of these two species were harder to separate.

Little Egret nests were situated high up in tall eucalypts *Eucalyptus* spp., on the middle island, in 2017–2019. By 2022, they were built in the lower paperbark *Melaleuca* spp and casuarina *Casuarina* spp trees on the islands where they presently nest; these nests were in the top half of the trees, sometimes inside the trees and situated above land.

One recently fledged Little Egret was observed trying unsuccessfully to fly back to the island colony. It landed in the water and proceeded to swim like a duck, for ~12 m, before arriving back on the island.

Foot-trembling behaviour by Little Egrets was observed in shallow water with a detritus base, presumably to flush potential prey from the decaying leaves and organic material, as described by various authors (summarised in Marchant & Higgins 1990).

Eaton, Dardanup (33°19'S, 115°42'E)

There is a breeding colony of Little Egrets at the Eagle Wetland Reserve ~1.2 km from the Leschenault Estuary (Figure 1). A survey in September 2016 revealed Great and Little Egrets nesting in the same clumps of trees. The number of both species was small, <10 pairs each (B. Buchanan pers. comm.). This colony included other



Figure 2. Little Egret and nestlings at Erskine Wetland, Mandurah, November 2024. Photo: Marcus Singor

breeding species, with up to 62 pairs of Nankeen Night-Herons and 40 pairs of Great Egrets (Table 2). A survey on 8 October 2022 revealed 25 pairs of Little Egrets. Their nests were in *Melaleuca* and *Eucalyptus* trees all overhanging water and adjacent to freshwater drainage channels. The majority were co-located with those of Nankeen Night-Herons in 2022, but not in 2023 and 2024, when only Little Egrets nested here. The second survey, on 8 November 2022, revealed 23 active Little Egret nests at stages ranging from eggs to large chicks. Most nests had two or three eggs or young. The colony was located in the northern section of the Eagle Wetland Reserve. The survey the following year, on 11 September 2023, showed Little Egret nests located in the same trees as the previous year, but the number of breeding pairs was lower, with only six active nests counted. All nests had pairs incubating eggs. This was early in the season and the colony might not have reached full capacity.

The colony was checked again on 19 November 2024, and only 10 pairs of Little Egrets were nesting, some with three or four eggs and some with chicks in the nests. A high mortality rate was noted among Great Egret nestlings: all nestlings in 25% of the Great Egret nests were dead. On 23 December 2024, most Little Egrets had fledged and were in the tops of the trees, still being fed by the adults; one nest still had two nestlings about to fledge.

Busselton, Vasse River (33°39'S 115°21'E)

A Little Egret colony was discovered by Steve Elson at Busselton in February 2025. On 10 February, there were eight pairs with fully grown nestlings in a tree overhanging the water, located near the Bussell Highway bridge over the Vasse River (Figure 1) ~1.7 km from the Vasse Estuary. The nests were situated above the water. The colony was not there in the 2023–2024 breeding season. Little Egrets evidently breed here later than those in Mandurah and Dardanup. On 2 March 2025, the colony was vacant, with fledged juveniles being fed nearby away from the nests. There were three active Australian White Ibis *Threskiornis moluccus* nests nearby (Table 2).



Figure 3. Little Egret showing pink loral skin in courtship flush at South Perth, Perth, October 2019. Photo: Ken Glasson



Figure 5. Little Egret nestling showing yellow bill and lores at Erskine Wetland, Mandurah, December 2024. Photo: Marcus Singor



Figure 4. Little Egret in nonbreeding plumage showing yellow lores at Lake Brearley, Perth, May 2023. Photo: Marcus Singor



Figure 6. Australian Raven preying on Cattle Egret nestling at Erskine, January 2024. Photo: Marcus Singor

Breeding plumage, nestling plumage, and colour of bill and lores

Little Egrets in breeding plumage were observed at all three breeding colonies: plumage wholly white, with two, loose, fine plumes (120 mm long) on the crown hanging down the hindneck, and numerous fine filamentous plumes from upper breast, mantle and scapulars, and the aigrettes from the scapulars extending just beyond the tail (see also McKilligan 2005; Menkhorst *et al.* 2019). When courting, the bill is dark grey, with the base of the lower mandible buff. The lores are pink (Figure 3), red or orange-yellow (see Marchant & Higgins 1990) but not bright yellow as in the nonbreeding season (Figure 4).

Nestlings are covered in white down, with plumage on the crown hairy and erect (Figure 2). The bill colour can vary from yellow (most common) to variegated yellow and black or wholly black, and the lores are generally the same colour as the bill (Marchant & Higgins 1990). The dark form of Little Egret nestlings was recorded once at the Erskine Wetland; the bill and lores were wholly black and the plumage white (Marchant & Higgins 1990).

The nestling bill starts off yellow, with a small black tip, and as the chicks age the black expands towards the base of the bill. At fledging, the black portion of the bill varies from a black tip, to half to three-quarters of the bill coloured black. The irides are pale yellow and the lores a brighter lemon-yellow, in contrast with the basal half of the bill, which is orange-yellow (Figure 5). My observations included recently fledged young, which had dark-green legs and were already showing two small, short plumes at the back of the head. This early development of plumes was not mentioned by Marchant & Higgins (1990).

Predation

Predatory behaviour by the Purple Swamphen *Porphyrio melanotus* was observed beneath the colony at Mandurah in 2020. When the adult Little Egrets returned to feed their young, the chicks mostly fought and struggled to be fed, occasionally causing an egret chick to fall out of the nest and land on the ground underneath. These young birds were flightless and as soon as they landed on the ground

a Purple Swampphen preyed on them. Similar behaviour was noted for Cattle Egrets. About 12 Swampphens patrolled the ground beneath the egret colony (Elson & Giblett 2021). Australian Ravens *Corvus coronoides* were seen at Erskine Wetland raiding the nests of egrets and taking unguarded young out of the nest (Figure 6). On 19 November 2024, a Brown Goshawk *Tachyspiza fasciata* was seen taking a Nankeen Night-Heron chick from a nest at the Dardanup colony (S. Elson pers. comm.).

Discussion

Breeding plumage details and their use as a guide to finding new breeding colonies

The breeding plumage of the Little Egret is wholly white, with two nuptial plumes on the crown, numerous fine filamentous plumes from upper breast, mantle and scapulars, and aigrettes from the scapulars extending just beyond the tail (McKilligan 2005; Menkhurst *et al.* 2019). As Little Egrets may also display plumes on the chest and extending past the tail outside the breeding season, however, these are not a reliable indicator of local breeding. When courting, the bill is dark grey, with the base of the lower mandible buff. The lores are pink, red or orange-yellow during the breeding season (Marchant & Higgins 1990) but bright yellow during the nonbreeding season (Figure 4). Lore coloration may therefore be the more useful indicator of local breeding.

Parallel expansion of Little Egrets in Europe

Little Egrets can travel large distances, as shown by a Little Egret banded at Coto Donana, Spain, in July 1956 and recovered in Trinidad in January 1957, 4000 km away; previously the most westerly record was of a banded individual from the Canary Islands (Downes 1959).

The Little Egret population in Europe spread from the southern Mediterranean countries to northern Europe (Martinez-Vilalta & Motis 1992; Issa & Muller 2015), with breeding first recorded in Britain (Dorset) in 1996 (Lock & Cook 1998), Ireland (Cork) in 1997 (O'Donoghue & Smiddy 2008) and the Netherlands in 1994 (Sovon Vogelonderzoek Nederland 2019). In northern Europe, some Little Egrets migrate but others overwinter, benefiting from the milder winter climate. The global expansion of Little Egrets has reached the eastern coast of the United States of America and the Caribbean (where first breeding was recorded in Barbados in 1994: Hayes & White 2001).

There are several explanations for the range expansion of the Little Egret. This species has successfully colonised Britain and continues to move northward, increasing both its range and abundance. The shift has coincided with a period of climate warming (Thomas & Lennon 1999). It is thought that milder winters have resulted in reduced winter mortality, encouraging overwintering and increased suitability for breeding. The protection and management of key wetland sites has reduced disturbance during the breeding season (Lock & Cook 1998).

Movement of Little Egrets in Australia

Research on movement patterns has been conducted in New South Wales (Geering *et al.* 1998). Data obtained by tagging Little Egrets showed that this species appears to undertake most movements over short distances but is dispersive when necessary; the mean distance for movements >50 km was 1502 km (range 52–3028 km $\pm$ standard deviation 1298 km, $n = 14$). In eastern Australia, tagged Little Egrets have been found to return to their natal colonies during the breeding season. In Australia, no Little Egret has yet been found to spend the entire winter in the region around its nesting colony. This suggests that a subsequent post-nesting migration or dispersal has occurred, as observed in eastern Australia by Geering *et al.* (1998).

The movements of Little Egrets in the south-west of Western Australia after the breeding season are unknown but likely follow a pattern similar to the eastern states. There is some movement to the smaller Perth recreational parks at the end of summer associated with drying of natural wetlands.

There have been sightings around Perth of Little Egrets with the pink facial flush that is present for only a brief period during courtship (Figure 3): South Perth (October 2019), and Herdsman Lake (November and December 2021 and November 2022). This is suggestive of local breeding at these locations.

Range expansion in south-western Western Australia

After first arriving in the south-west of Western Australia in 1965, the Little Egret slowly expanded its range down the western coast and along the southern coast and, from 1990, slowly along the south-western coast. The distribution maps from Birddata and eBird show that Little Egrets had permanently established themselves in the Busselton area by 2000 (Lane *et al.* 2007), Augusta by 2000, Denmark by 2015, Albany by 2017 and Esperance by 2017. A more detailed overview is provided in Table 1.

Initially, incidental sightings were made at estuaries and inlets along the south-western coast. These were sometimes years apart or limited to a few sightings a year. Records from eBird and Birddata indicate that this species' range is expanding along the south-western coast of Western Australia and there are possibly more breeding colonies to be identified. Although Little Egrets have permanently established themselves at most inlets and estuaries along the south-western coast, numbers remain low. Milder winters here may be increasing the range of available habitat, thereby aiding the expansion of Little Egrets.

Acknowledgements

I acknowledge Little Egret sightings made by Bruce Buchanan, Alan Burdett, Smathi Chong, Cherilyn Corker, Steve Elson, Kenneth Glasson, Steve Lofthouse, Dean McFaull, Margot Oorebeek, Grant Pearson, Phil Snow, Vicki Stokes and Ray Turnbull. My thanks to reviewer Roger Jaensch and Richard Loyn who provided constructive comments that improved the manuscript.

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Received 2 March 2024, accepted 14 June 2025,
published online 1 October 2025