Threatened Species Assessment

Egretta garzetta
Little Egret

Taxonomy

Egretta garzetta (Linnaeus, 1766)

In south-east Australia the subspecies *is Egretta garzetta nigripes.* This subspecies is similar to subsp. *garzetta* except its feet are black not yellow, although occasionally they have yellow soles.

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988*.

Categorised as Endangered in the 2013 Advisory list of threatened vertebrate fauna in Victoria (DSE 2013).

Proposed conservation status

Endangered in Victoria

Criteria C2a(i,ii); D

For species that also occur outside of Victoria, the *Guidelines for Application of IUCN Red List Criteria at Regional and National Levels: Version 4.0 (2012)* apply. This may lead to an adjustment of the threat category, to reflect the influence of adjacent populations.

The regional assessment (Victoria only) results in Critically Endangered. The birds are not regarded as threatened in other Australian states, so this assessment has been downgraded to Endangered EN^{o} to account for the influence of interstate populations that reduce the extinction risk in Victoria.

Species Information

Description and Life History

Little Egrets are the smallest of the three 'white egrets' and are up to 65cm in height. Little Egret food is aquatic animals, principally fish, but frogs and insects are also taken (Marchant and Higgins 1990). A full description and detailed ecology of the egrets can be found in Marchant and Higgins (1990) and Heron Conservation (2019). Non-breeding lores are blue grey becoming red in courtship. The irises become red, but the feet remain black (Heron Conservation 2019).

Generation Length

The generation length of Little Egrets is estimated to be 5 to 7 years. This is based on the figure provided in BirdLife International (2016). At a workshop to review the Bird Action Plan, held in August 2019, unpublished data suggested a figure of 4.2 years.

Distribution

The Little Egret has a similar world distribution to that of Intermediate Egrets (although they also occur in western Europe). The Australasian race of the Little Egret is widespread from northern Western Australia, across the north of the continent and down the eastern periphery to South Australia (Kushlan and Hafner 2000). However, it only occurs in small numbers, even in the tropical north. The bulk of the Australian population is in the tropical north and north-east of Australia. There is a northern and a southern subspecies.

Habitat

In south east Australia, the taxon is mainly recorded from terrestrial wetlands and especially estuarine and littoral habitats. The birds forage mainly in shallow open water (0.1-0.15 m deep) and also on shores or exposed flats or banks, especially in areas with soft substrate, abundant aquatic vegetation and little or no emergent vegetation. Saline wetlands are much used in Australia (e.g. Avalon near Geelong). Unlike other egrets the taxon breeds in brackish and saline wetlands through much of Australia, although in Victoria the tiny population has only been reported breeding in cypresses (e.g. Corio and Queenscliff), and previously riparian red gum habitat at Gunbower and Barmah (M. O'Brien pers. comm. 2018).

Threats

The taxon is threatened by wetland degradation and loss through drainage for agriculture, changes in water management practices and contamination from agricultural operations. The taxon is also susceptible to avian influenza so may be threatened by future outbreaks of the virus, and it previously suffered from hunting for the plume trade (although this is no longer a threat).

IUCN Criteria

Criterion A. Population size reduction.
Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4

	Critically Endangered	Endangered	Vulnerable
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%

A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.

A2 Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.

A3 Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [*(a) cannot be used for A3*]

A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.

based on any of the following:

(a) direct observation [*except A3*]

(b) an index of abundance appropriate to the taxon

(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat

(d) actual or potential levels of exploitation

(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites

Evidence:

Eligible under Criterion A2 as Vulnerable

The population reduction over the past 15 to 21 years is estimated to be 10 to 30%, based on (a), (b) and (c) above.

Little Egrets previously nested at Corio Grammar School Geelong in the 1990s in mostly higher numbers (up to 9 breeding pairs). This site has now failed, and some birds are thought to have moved to a new nest site in Queenscliff. A small number of birds have intermittently nested at Picnic Point Barmah Forest (Murray River). Thus

the population at this time was possibly slightly larger, however there are thought to be less than 50 adult birds in Victoria at an one time (M. O'Brien pers. comm. 2018).

Eligible under Criterion A3 as Vulnerable

The population reduction over the next 15 to 21 years is projected to be 25 to 40%, based on (b) and (c) above.

Future trends cannot be confidently predicted, however as a result of mostly unsympathetic water management of key Murray River wetlands and the tiny (and not increasing) Victorian population, Little Egrets are not anticipated to return to their historic populations (pre-1930) of many hundreds to thousands of birds. The few breeding sites used by the taxon (Bellarine Peninsula and sometimes Barmah) continue to hold only a few pairs during the irregular nesting events, and the current small population may be in a slow ongoing decline (M.O'Brien pers. comm. 2018).

Criterion B. Geographic range in the form of either B1 (extent of occurrence) and/or B2 (area of occupancy			
	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
B1. Extent of occurrence (EOO)	< 100 km²	< 5,000 km²	< 20,000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2,000 km²
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Evidence:

Ineligible under Criterion B

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 226,046 km² and the Area of Occupancy (AoO) is estimated to be 2,472 km², both of which exceed the thresholds for criterion B.

Criterion C. Small Population size and decline				
		Critically Endangered	Endangered	Vulnerable
Number of mature individuals		< 250	< 2,500	< 10,000
AND at least one of C1 or C2				
C1	An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
C2	An observed, estimated, projected or inferred continuing decline AND least 1 of the following 3 conditions:			
(a)	(i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
	(ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%
(b) Extreme fluctuations in the number of mature individuals				

Evidence:

Eligible under Criterion C2 as Endangered

It is estimated that there are 20 to 40 mature individuals. The numbers are not known with any accuracy, but allowing for a portion of the small population possibly being non-breeding birds and no species-dedicated surveys being undertaken, the figures indicated are an estimate based on expert knowledge of the taxon in south-eastern Australia. The upper figure of 40 mature individuals is an optimistic estimate (M. O'Brien pers. comm. 2018).

The number of mature individuals is projected to continue to decline. Most of the decline in Little Egret populations in south-east Australia occurred following settlement, which involved widespread habitat loss due to wetland drainage schemes and then inappropriate water management as a result of the installation of the Hume Weir, impacting negatively on egret breeding sites and cycles. The tiny population in southern Victoria is probably insufficient to maintain the taxon's presence in the longer term (M. O'Brien pers. comm. 2018).

The number of mature individuals in each subpopulation is 50 or fewer and the percentage of mature individuals in one subpopulation is 90-100%.

The taxon qualifies as Critically Endangered under this criterion, but it has been downgraded to Endangered to account for the influence of interstate populations that reduce the extinction risk in Victoria.

Criterion D. Very small or restricted population			
	Critically Endangered	Endangered	Vulnerable
Number of mature individuals (observed or estimated)	<·50	<·250	<·1,000
D2 Only applies to the VU category Restricted area of occupancy or number of locations with a plausible future threat that could drive the species to critically endangered or Extinct in a very short time.	-	-	D2. Typically: AoO <·20 km2 or number of locations ≤ 5

Evidence:

Eligible under Criterion D as Endangered

The taxon is estimated to have 20 to 40 mature individuals.

The taxon qualifies as Critically Endangered under this criterion, but it has been downgraded to Endangered to account for the influence of interstate populations that reduce the extinction risk in Victoria.

Criterion E (Quantitative Analysis) was not addressed as the taxon does not have a detailed Population Viability Analysis.

References

BirdLife International (2016) *Egretta garzetta*. The IUCN Red List of Threatened Species 2016: e.T62774969A86473701. http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T62774969A86473701.en. Downloaded on 19 November 2018

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Marchant, S. and Higgins, P.J. (Eds.) (1990) *Handbook of Australian, NZ and Antarctic Birds, Vol. 1*. RAOU, Oxford University Press, Melbourne.

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