

## *Pomatostomus temporalis* Grey-crowned Babbler

### Taxonomy

*Pomatostomus temporalis* (Vigors & Horsfield, 1827)

### Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 1992).

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

### Proposed conservation status

Vulnerable in Victoria

Criteria C2a(i); D1

### Species Information

#### Description and Life History

Grey-crowned Babblers are the largest of the four Australian babblers, reaching to 30 cm long. The taxon's distinctive bill is scimitar-shaped, long and heavy. A broad white eyebrow and a pale grey crown-stripe are other distinguishing characters. A dark band passes from the bill through the eye, separating the pale throat and brow to giving a 'masked' look. It has dark greyish-brown upperparts and is paler brown on the underparts, grading to a whitish throat. It is distinctive in flight, showing white tips to the tail feathers, and orange-buff patches in the broad, rounded wings. Young birds have dark brown eyes, with the iris becoming paler with age, reaching a yellow colour by about three years. This taxon has a loud and often repeated 'ya-hoo' call which is a duet between the male and female (the female says 'ya' and the male answers with 'hoo') (Office of Environment and Heritage 2017).

Grey-crowned babblers are cooperatively breeding woodland birds which live in social groups consisting of a dominant breeding pair assisted by 'helpers' (usually previous offspring). Reproduction occurs over an extended season from June to March/April. Grey-crowned babblers feed on invertebrates taken at ground-level and also from the trunks and foliage of trees and shrubs. They construct numerous large (~40-50 cm) communal roost nests in their territory. At least one brood nest is constructed per breeding season for use by a breeding female (Stevens et al. 2015).

#### Generation Length

The generation length of Grey-crowned Babblers is estimated to be 4 to 7 years. This is based on information given in Garnett and Crowley (2000) and BirdLife International (2016, 2018).

#### Distribution

The eastern form of the Grey-crowned Babbler formerly ranged throughout eastern Australia from South Australia, through Victoria and broadly through NSW and central Queensland up into southern New Guinea. The Grey-crowned Babbler is now extinct in South Australia, coastal Victoria and the ACT. The taxon has declined markedly in the southern part of its range where there has been extensive loss, fragmentation, and degradation of native vegetation. In the south, the birds persist in remnant woodland patches within agricultural landscapes, most often characterised as roadside vegetation separated by unsuitable areas of cleared farmland. These remnants are some of the last vestiges of once widespread and connected woodland ecosystems of southern Australia.

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### Habitat

Grey-crowned Babblers occupy open woodlands dominated by mature eucalypts, with regenerating trees, tall shrubs, and an intact ground cover of grass and forbs.

The taxon builds conspicuous dome-shaped nests and breeds co-operatively in sedentary family groups of 2-13 birds (Davidson and Robinson 2003). Grey-crowned Babblers are insectivorous and forage in leaf litter and on bark of trees (NSW Scientific Committee 2011). Loss of babbler habitat is a key issue in the conservation of the taxon in SE Australia. Habitat loss (clearing of box-ironbark) started in the mid-1880s and has continued, such that only 14% of native habitat now remains in the north-east of Victoria (Stevens et al. 2018).

### Threats

Habitat degradation threatens Grey-crowned Babblers, particularly as a result of weed invasion and grazing by stock. In addition, it is likely that increased abundance of competitors, such as Noisy Miners, and nest predators, including the Pied Currawong and Australian Raven (Major et al. 1996) threaten Babbler foraging efficiency and breeding success.

The Grey-crowned Babbler is threatened by clearance and the fragmentation of habitat including removal of dead timber. The taxon occupies woodlands on fertile soils of plains and undulating terrain, so its habitat has been disproportionately cleared for agriculture. Isolation of populations in scattered remnants is exacerbated by the apparent reluctance of birds to traverse tracts of cleared land. As reduced family groups, these isolated small populations are vulnerable to extinction via stochastic events and to loss of genetic viability in the long term (NSW Scientific Committee 2011).

### 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%

  

<p>A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.</p> <p>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.</p> <p>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]</p> <p>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.</p>	<p>based on any of the following:</p>	<p>(a) direct observation [except A3]</p> <p>(b) an index of abundance appropriate to the taxon</p> <p>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</p> <p>(d) actual or potential levels of exploitation</p> <p>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</p>
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### Evidence:

Ineligible under Criterion A

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The past population reduction does not meet the threshold for eligibility under criterion A2, and the future population reduction does not meet the threshold for eligibility under criterion A3.

A conservative estimate of the 'original' babbler population in Victoria prior to European settlement is 8 000 family groups (Robinson pers. comm. 4/7/2018). Robinson (2006) noted that: 'Of the 77 populations still extant in Victoria, only one (Sheep Pen Creek) contained more than 50 family groups, while nearly 80% contain fewer than five family groups and are likely to become extinct.' The Grey-crowned Babbler was moderately common and widespread on the Mornington Peninsula until c. 1950, but by 1997, the known population on the Peninsula was just 13 birds (Lockwood & Robinson 1997); it was last recorded in 2002 (Ecology Australia 2016, p. 36). The Victorian population has undergone an estimated 94% decline in abundance since European occupation, but it is inferred that there has been a decline of only 20% within the last three generations.

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 km <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>
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 34,903 km<sup>2</sup> and the Area of Occupancy (AoO) is estimated to be 2,695 km<sup>2</sup>, both of which exceed the thresholds for criterion B.

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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 Vulnerable

It is estimated that there are 900 to 1,500 mature individuals, with the proviso that there has not been a statewide assessment for at least a decade (D. Robinson pers. comm. 8/3/21).

There are thought to be at most 600 Grey-crowned Babbler family groups with the most recent population estimate of 2000 birds in Victoria (Robinson 2006, Stevens et al. 2018). Dedicated habitat restoration works in some parts of Victoria (e.g. the Benalla/Lurg district) have led to small increases in the number of Grey-crowned Babbler family groups (M.O'Brien pers. comm. December 2018). However the total population is still far below post-European settlement of approximately 8000 mature individuals.

The number of mature individuals is projected to continue to decline, and the number of mature individuals in the largest subpopulation is 300 at most. It is generally agreed amongst Babbler experts that the taxon has contracted in range and the size of family groups has declined substantially. The taxon was once common throughout much of eastern Australia (NSW Scientific Committee 2001) but populations have declined by >90% in the southern part of its distribution (i.e. south of 35.2820 S) from the loss and fragmentation of box and ironbark eucalypt woodlands (Robinson 1993, 2006; Garnett et al. 2011). It is likely that the taxon will continue to decline as a result of the identified threats.

Criterion D. Very small or restricted populations			
	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 km <sup>2</sup> or number of locations ≤ 5

## Evidence:

### Eligible under Criterion D as Vulnerable

The taxon is estimated to have 900 to 1,500 mature individuals.

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

### References

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