



Calamanthus pyrrhopygius Chestnut-rumped Heathwren

Taxonomy

Calamanthus pyrrhopygius (Vigors & Horsfield, 1827)

Three subspecies of the Chestnut-rumped Heathwren have been recognised, with the form occurring in Victoria being *Calamanthus pyrrhopygius pyrrhopygius*.

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 2002).

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

Proposed conservation status

Vulnerable in Victoria

Criterion B2ab(iii,iv)

Species Information

Description and Life History

Chestnut-rumped Heathwrens are small (135-140mm) endemic, bush birds with a streaked chest. Their plumage is olive-brown above and whitish below. The birds feed from bare dry ground, in low shrubs and occasionally low trees, especially where abundant fallen branches or rocks are present. They feed on insects and seeds and are 'known for their melodious song which swells until the air rings' (Pizzey and Knight 1997). A description of the taxon is given in Pizzey and Knight (1997).

Generation Length

The generation length of Chestnut-rumped Heathwrens is inferred to be 4 to 5 years. This is based on similar sized woodland birds, and the heathwren accounts in Garnett and Crowley (2000), Garnett et al. (2011) and BirdLife International (2019).

Distribution

In Victoria, Chestnut-rumped Heathwrens occur sparsely where rainfall is between 500 and 1000 mm. The birds have occasionally been reported at high altitudes, but do not occur in treeless heaths or dense forests (Emison op cit.). They are generally sedentary and occur in south-east Australia where the stronghold is Victoria. It is not found in northern and Western Australia or Tasmania (Blakers et al. 1984, Pizzey and Knight 1997) and each subspecies is isolated from the others (Blakers et al. 1984, Schodde and Mason 1999). There is some historical evidence which suggests that in Victoria the subspecies' populations on either side of the Divide were once linked (Blakers et al. 1984).

Habitat

Chestnut-rumped Heathwrens require an undisturbed ground layer for feeding and nesting. The birds mainly inhabit heathy woodlands, wet heaths or scrubs with emergent eucalypts or banksias in the lowlands and foothills (Emison et al. 1987). The birds also occur in box-ironbark, stringybark and peppermint forests, mainly where there are scattered shrub layers and sparse tree cover (Emison et al. 1987).

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Threats

The major factors contributing to the decline of Chestnut-rumped Heathwrens in Victoria are habitat loss, fragmentation and degradation, caused by over-grazing by stock and rabbits, tree dieback, weed invasion, inappropriate fire regimes, salinity and firewood collection. Ground feeding birds such as the Heathwren are particularly prone to changes in the understorey layer and exposure to predators. Woodland birds are one of the bird groups most affected by threatening processes as they nest, live and feed on the ground or in the shrub layer (Recher 1999).

The taxon is generally shy and retiring and tends to be found away from human activity. The size of habitat fragments may therefore be a factor in determining what blocks support the birds. As blocks become fragmented and reduced in size, taxa preferring specific sized habitat decline as well. Some resident taxa face new pressures and much suitable habitat has been cleared while that which remains is fragmented.

Recent principal threats are invasion of suitable habitat by woody weeds, and rural subdivision.

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 style="text-align: center;"><i>based on any of the following:</i></p> <ul style="list-style-type: none"> (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:

Ineligible under Criterion A

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.

Victorian Biodiversity Atlas (VBA) observation data for the species suggest no clear trends over time, however the species has disappeared from some sites (e.g. Macclesfield) and recent records are concentrated in central Victoria (e.g. near Heathcote) (M. O'Brien pers. comm. 2018). This species is recorded less frequently than other passerines with a broad distribution in southern Victoria (Loyn pers. comm. 2001).

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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 ²	< 5,000 km ²	< 20,000 km ²
B2. Area of occupancy (AOO)	< 10 km ²	< 500 km ²	< 2,000 km ²
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:

Eligible under Criterion B2 as Vulnerable

The Area of Occupancy (AoO) across the taxon's range is estimated to be 1,424 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

The taxon is inferred to be severely fragmented. There are multiple, small isolated subpopulations that are all at risk from habitat loss and fragmentation, such that there is increased extinction risk and little probability of recolonisation should subpopulations become extinct. The birds are a sedentary species and maintain permanent territories so, if lost from an area, recolonisation is unlikely.

It is inferred to have a continuing decline in (iii) and (iv) above, as the taxon prefers heath and heathy woodland between 2.5 and 8.5 years post fire (MacHunter et al 2015 section 2.3, table 1) so is possibly benefitting from current planned burning regimes. However recent principle threats are invasion of suitable habitat by woody weeds, and rural subdivision leading to loss of habitat.

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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:

Ineligible under Criterion C

It is suspected that there are 6,000 to 8,000 mature individuals, but this qualifier is too weak and other thresholds under this criterion have not been met.

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 ² or number of locations ≤ 5

Evidence:

Ineligible under Criterion D

It is suspected that there are 6,000 to 8,000 mature individuals. The population estimates indicated are speculative, as no dedicated surveys have been undertaken on the taxon.

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

References

BirdLife International (2019) Species factsheet: *Calamanthus pyrrhopygius*. Downloaded from <http://www.birdlife.org> on 29/01/2019.



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