Threatened Species Assessment

Climacteris affinis
White-browed Treecreeper

Taxonomy

Climacteris affinis Blyth, 1864

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 1994).

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

Proposed conservation status

Endangered in Victoria

Criterion B2ab(ii,iii,iv,v)

Species Information

Description and Life History

The White-browed Treecreeper is one of six species of Australian treecreepers (family Climacteridae). It is a small bird (135-150 mm long), with an earth-brown upper body and greyish crown and nape. The wings are dusky brown with a pale buff band across the flight feathers. A white eyebrow with streaked black and white ear coverts and black bill are characteristic. The breast is plain mid-grey and the belly boldly striped black and white. The female is similar to the male but with the upper breast striped rufous and dull white, with red over the eyebrow.

The White-browed Treecreeper is usually silent, but it does have a call of cricket-like trills and a strident chirrup song that is repeated by the male from a vantage point. It is an unobtrusive bird, usually seen in pairs or small groups foraging for invertebrates on the ground, on trunks of trees and shrubs and on fallen limbs. Breeding occurs from August to December. Nests are located in hollows, particularly in Belahs (Emison et al. 1987). Nests are made from a collection of grass and shreds of bark lined with fur or hair (Pizzey 1980). Two or three pink eggs with purplish red spots are laid.

Generation Length

The generation length of the White-browed Treecreeper is estimated to be 4 to 5 years. This figure is based on Garnett and Crowley (2000). At a workshop to review the Bird Action Plan, held in August 2019, unpublished data suggested a figure of 4.5 years.

Distribution

The White-browed Treecreeper inhabits southern arid and semi-arid areas of Australia, from Kalgoorlie eastwards to Gawler, the Flinders Ranges and the Victorian Mallee (DSE 1996).

Habitat

In Victoria, White-browed Treecreepers are restricted to localised populations in regenerating native pine (*Callitris* spp.) and/or Buloke (*Allocasuarina luehmannii*) and Belah (*Casuarina pauper*) woodlands, or in fairly dense thickets of smaller shrubs, including Sugarwood (*Myoporum platycarpum*), Weeping Pittosporum (*Pittosporum phillyraeoides*), Small Cooba (*Acacia ligulata*), Umbrella Wattle (*A. oswaldii*) and Slender Hopbush (*Dodonaea viscosa* spp. *angustissima*).

Threats

Much of the White-browed Treecreeper's preferred woodland habitat has been cleared for agriculture or grazed by stock, kangaroos and rabbits. This grazing has inhibited natural regeneration, which is relatively slow. The birds build nests in deep hollow limb or trunk, which sometimes extends down to ground level. This nesting habit may make the bird susceptible to predation by introduced Cats and Red Foxes. Increased fire frequency and intensity are significant threats, since Pine-Buloke woodlands are fire sensitive, therefore any fire has the potential to destroy White-browed Treecreeper habitat and directly impact the birds (DSE 1996). The birds are poor dispersers across fragmented landscapes (Freudenberger 1999).

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:

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.

A 25% past decline is primarily due to the highly fragmented nature of woodland patches and the near total lack of dispersal across areas of cleared land wider than 200m. It is also based on the on-going loss of mature Callitris trees due to fires and lack of regeneration due to rabbit grazing.

There is likely to be a further 25% loss from 2006-2021. This may actually increase due to genetic introgression from Brown Tree-creepers and continuing aridification of semi-arid woodlands converting to savannah grasslands.

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:

Eligible under Criterion B1 as Vulnerable

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 18,769 km², based on accepted, post-1970 records in the Victorian Biodiversity Atlas.

The taxon is projected to be severely fragmented, as there is very little capacity for dispersal between the four main subpopulations.

It is estimated to have four locations, as each subpopulation may be affected by a single catastrophic fire.

It has a continuing decline in (ii), (iii), (iv) and (v) above, based on the on-going loss of mature Callitris trees due to fires and lack of regeneration caused by rabbit grazing.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 365 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA. As above, it is severely fragmented, has four locations and has a continuing decline in (ii), (iii), (iv) and (v) above.

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 600 to 700 mature individuals. This figure is based on targeted survey work, and the very restricted habitat in Victoria.

There is a projected continuing decline, and the number of mature individuals in each subpopulation is no more than 400.

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 Vulnerable

It is estimated that there are 600 to 700 mature individuals.

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

References

DSE (1996) Flora and Fauna Guarantee Action Statement No. 69 White-browed Treecreeper *Climacteris affinis*. Department of Sustainability and Environment, Victoria.

DSE (2013) *Advisory List of Threatened Vertebrate Fauna in Victoria 2013*. Department of Sustainability and Environment, Melbourne

Emison, W.B., Beardsell, E.M., Norman F.I., Loyn R.H., and Bennett, S.C. (1987) *Atlas of Victorian Birds*. Department of Conservation and Environment and RAOU: Melbourne

Freudenberger, D. (1999) *Guidelines for Enhancing Grassy Woodlands for the Vegetation Investment Project.* A report commissioned by Greening Australia ACT and SE NSW Inc. CSIRO Wildlife and Ecology: Canberra.

Garnett, S.T. and Crowley, G.M. (2000). *The Action Plan for Australian Birds 2000*. Environment Australia, Canberra.

Pizzey, G. (1980) *A Field Guide to the Birds of Australia.* Collins: Melbourne.

SAC (1994). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 273 *Climacteris affinis*