Threatened Species Assessment

Dasyornis broadbenti broadbenti
Rufous Bristlebird (Coorong)

Taxonomy

Dasyornis broadbenti broadbenti (McCoy, 1867)

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* as *Dasyornis broadbenti* (SAC 1991).

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

Proposed conservation status

Endangered in Victoria

Criteria B1ab(ii,iii,iv)+2ab(ii,iii,iv)

Species Information

Description and Life History

The Rufous Bristlebird is a medium-size primarily ground-dwelling songbird (23-27 cm long). It is predominantly dark grey-brown above, with a long tail, rich rufous nape and ear coverts, scalloped grey breast, a pale patch before and around the eyes and a cinnamon centre on the wing and rump. The plumage patterning is cryptic and the taxon is easily overlooked in its cryptically patterned and easily overlooked in its thickly vegetated habitats of coastal scrub and cliff-top heathland. It is most easily located through its loud, distinctive call. Bulky, domed nests of sedge, rushes, grass and twigs, are built close to the ground, in tussocks or low shrubs. Two dull-pinkish eggs with blotches are laid, and incubated by the female. The Rufous Bristlebird feeds primarily on ground-dwelling invertebrates, although details of its diet are not well known.

Generation Length

The generation length of the Coorong Rufous Bristlebird is inferred to be 5 to 6 years. This is based on the estimate by Garnett et al. (2011) for Western Bristlebird.

Distribution

The Coorong Rufous Bristlebird has a small range, being limited to dense thickets in near-coastal scrub and heath from near Port Fairy in Victoria to the mouth of the Murray in South Australia.

Habitat

Rufous Bristlebirds usually inhabit dense shrubland, including heathland, usually where a high diversity of plant species grow. In addition, some birds occur in forests where there is a dense understorey of shrubs or bracken. The main habitats are Coast Wattle Scrubs and stall shrublands on coastal dunes, tall shrublands dominated by Moonah and Drooping Sheoke of limestone cliffs, and Woolly Tea-tree scrubs in coastal gullies and freshwater wetlands. Near Portland ssp. *broadbenti* extends a few kilometres inland in Woolly Tea-tree scrub in sheltered foothill gully forests (Emison et al. 1987). The taxon usually avoids treeless heaths and it is occasionally seen on beaches, lawns or car-parks adjacent to shrubland.

Threats

Range and population of the Rufous Bristlebird have been considerably reduced by loss of habitat to land clearing for agriculture and urban development. Although this has largely stopped, there could still be incremental losses to development. As it nests near the ground, the taxon is potentially vulnerable to introduced predators such as foxes, but it has persisted in the presence of foxes and cats for over 150 years. Given the specialised habitat requirements and poor dispersal abilities, it is possible that some fragmented populations are now isolated and potentially at risk of inbreeding. Beruldsen (1980) noted that although two eggs are laid, one is usually infertile.

The Western Australian subspecies of Rufous Bristlebird (ssp. *litoralis*) is considered extinct due frequent burning of their habitat (Garnett et al. 2011). It is therefore likely that other subspecies of Rufous Bristlebird might be vulnerable to frequent fire, especially if fire frequency or intensity increases under climate change.

Much of the former habitat of this taxon, especially between Portland and Port Fairy, was historically cleared for agriculture. There is unlikely to be extensive clearing in future, but the former range is now fragmented, especially east of Portland. There has been no genetic study of this subspecies of Rufous Bristlebird. Schodde and Mason (1999) noted that plumage variation within ssp. *broadbenti* suggested there may formerly have been some gene flow from ssp. *caryochrous* in the Otway Ranges. This is very unlikely to occur now due to habitat loss.

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.

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 Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 2,130 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

The taxon is estimated to be severely fragmented. There is little or no capacity to disperse through cleared country, therefore, the four subpopulations are effectively isolated from each other, and if one is lost there would be little or no opportunity to recolonise.

It is estimated to have 3 locations, based on the threat of bushfires removing the habitat of the three smallest subpopulations.. It has a continuing decline in (ii), (iii) and (iv) above.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 351 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA. As above, the taxon is estimated to be severely fragmented, is estimated to have 3 locations and has a continuing decline in (ii), (iii) and (iv) 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:

Ineligible under Criterion C

It is suspected that there are 3,000 to 4,000 mature individuals, but this qualifier is too weak to meet the criterion, and other thresholds under this criterion have not been met.

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:

Ineligible under Criterion D

It is suspected that there are 3,000 to 4,000 mature individuals.

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

References

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