Threatened Species Assessment

Calyptorhynchus banksii graptogyne
Red-tailed Black-Cockatoo (south-eastern)

Taxonomy

Calyptorhynchus banksii graptogyne Schodde, Saunders & Homberger, 1989

The Victorian population of the taxon is the distinct sub-species of *C. magnificus* occurring in south-western Victoria and eastern South Australia, attributed to *Calyptorhynchus magnificus graptogyne* by Adams et al. (1984) and described by Schodde (1988) as *Calyptorhynchus banksii graptogyne.*

Current conservation status

Listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999*.

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

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

Proposed conservation status

Endangered in Victoria

Criteria A3bc+4bc; C2a(ii)

Species Information

Description and Life History

Red-tailed Black-Cockatoos (Red-tails) are large (length 55-60cm, weight 570-870g) birds with an erectile crest (Higgins 1999). Male Red-tails have glossy black plumage with stunning, bright red tail panels. Females are quite different but equally spectacular, they are one of the most brightly marked subspecies of Red-Tail. They have duller brown-black plumage but the feathers of their head, neck and parts of their wing are speckled with yellow. Viewed from below, their body is barred in pale orange-yellow. Their tail barring can be almost all pale yellow or pale yellow grading to pale orange/yellow at the tip. Males have a grey bill. Juveniles and sub-adults (1-3 years old) are separable in the hand (Higgins 1999), but are not readily distinguished from adult females in the field. South-eastern Red-tailed Black-Cockatoos may be seen alone during the breeding season, as family parties of 2-3 birds, or in flocks of 100 or more birds during autumn and winter.

Generation Length

The generation length of Red-tailed Black-Cockatoos is estimated to be 15 to 20 years. This is based on the generation time indicated in Garnett and Crowley (2000). At a workshop to review the Bird Action Plan, held in August 2019, unpublished data suggested a figure of 16.1 years.

Distribution

The endemic South-eastern Red-tailed Black-Cockatoo occurs as a single population in a small area of south-eastern Australia delimited by Keith to Lucindale to Mt Gambier in South Australia, and Portland to Casterton, Toolondo, Natimuk, Dimboola, Nhill, and Kaniva in Victoria (Menkhorst et al. 2006). It is widespread but rare within this range and, contrary to information provided by Joseph et al. (1991), breeds across much of its range.

Habitat

The South-eastern Red-tailed Black-Cockatoo is restricted to Desert Stringybark *Eucalyptus arenacea* and Brown Stringybark *E. baxteri* woodlands occurring on deep aeolian sands in the Glenelg, Wimmera and Naracoorte Plains, and adjacent woodlands of River Red Gum *Eucalyptus camaldulensis*, Yellow Gum *E. leucoxylon* and Buloke *Allocasuarina luehmannii.*

Threats

As per Commonwealth of Australia (2006, pp. 7-12), the main threats to Red-tails are threats to food supplies (i.e. impacts of fire on food, feeding habitat loss, grazing impacts on foraging sites, fragmentation of foraging habitat and weed invasion of foraging habitat) and threats to nest sites (nest site availability, firewood harvesting, nest predators, and human interference with nests).

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 A3 as Endangered

The population reduction over the next 45 to 60 years is projected to be 30 to 50%, based on (b) and (c) above.

The future reduction is based on Population Viability Analysis (PVA) for the South-eastern Red-tailed Black-Cockatoo, that takes in consideration the suspected degree of decline.

Eligible under Criterion A4 as Endangered

The population reduction over any 45 to 60 year period, including both past and future (up to 100 years in the future), is suspected to be 20 to 50%, based on (b) and (c) above. The causes of reduction may not have ceased, be understood or be reversible.

A population reduction has been inferred from habitat loss (Hill and Burnard 2001), and has been demonstrated during 1999-2004. The future reduction is based on Population Viability Analysis (PVA) for the South-eastern Red-tailed Black-Cockatoo, that takes in consideration the suspected degree of decline.

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 26,168 km² and the Area of Occupancy (AoO) is estimated to be 3,429 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 900 to 1,350 mature individuals. The number of mature individuals is based on annual counts since 1988, using numerous volunteer bird observers.

The number of mature individuals is estimated to continue to decline, and the percentage of mature individuals in one subpopulation is 95-100 %.

A continuing population decline has been inferred from habitat loss (Menkhorst et al. 2006) and has been demonstrated during 1999-2004 as the proportion of adult males in the population has increased from 38% to 44% (R Hill in litt.). This compares to flocks of other subspecies of Red-tailed Black-Cockatoos that are not threatened, which contain about 40% adult males (R Hill in prep).

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 D2 as Vulnerable

The taxon is estimated to be very restricted

Criterion E (Quantitative Analysis) was not addressed.

References

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