



Geopelia cuneata Diamond Dove

Taxonomy

Geopelia cuneata (Latham, 1801)

Current conservation status

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

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

Proposed conservation status

Vulnerable in Victoria

Criterion D

For species that also occur outside of Victoria, the *Guidelines for Application of IUCN Red List Criteria at Regional and National Levels: Version 4.0 (2012)* apply. This may lead to an adjustment of the threat category, to reflect the influence of adjacent populations.

The regional assessment (Victoria only) results in EN D, given the birds' low population size, but it has been downgraded to Vulnerable VU^o to account for the influence of interstate populations that reduce the extinction risk in Victoria.

Species Information

Description and Life History

Diamond Doves are a tiny blue-grey dove (19-22 cm) with a red eye-ring and fine white spots on grey-brown wings. The female has a smaller eye-ring, the markings are browner and some have an uneven rufous wash (Pizzey and Knight 2012).

The Diamond Dove is the world's second smallest (approx. 35 g) taxon of the columbid order. It is found in the arid and semi-arid Mulga and Spinifex regions of central and western Australia. It regularly encounters ambient temperatures in its habitat above 40 degrees C, especially when foraging for seeds on bare ground cover, and may be found up to 40 km from water (Schleucher et al. 1991).

Generation Length

The generation length of Diamond Doves is estimated to be 4 to 7 years. There is limited data for the taxon, therefore, this estimate is based on similarly sized pigeons, and the figure (3.5 years) given in BirdLife International (2016, 2019).

Distribution

Diamond Doves have been reported from the drier parts of all mainland states, except the driest deserts. They move coastward during dry periods inland in summer in south eastern Australia (Pizzey and Knight 2012). In Victoria Diamond Doves occur along the Mid and Upper Murray Valley and are rare visitors along watercourses and wetlands further south (Emison et al. 1987). Blakers et al. (1984) considered the taxon a summer (November to March) breeding migrant to the southern Murray-Darling Basin.

Habitat

In Victoria, Diamond Doves have been recorded from River Red Gum forests, drier grassy woodlands, scrub near wooded watercourses and wetlands (Emison et al. 1987, Pizzey and Knight 2012).

Threats

No specific threats have been identified for the species in south-east Australia.

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>
--	---------------------------------------	---

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.

Geopelia cuneata Diamond Dove

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 (EEO)	< 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:

Ineligible under Criterion B

The Extent of Occurrence (EoO) across the taxon's range, based on accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA), is estimated to be 100,000 km² which exceeds the threshold for criterion B.

The Area of Occupancy (AoO) across the taxon's range, based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA, is estimated to be 400 km² but other thresholds under this criterion have not been met.

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

Geopelia cuneata Diamond Dove

It is estimated that there are 200 to 250 mature individuals, but other thresholds under this criterion have not been met.

Criterion D: Very small or restricted population ^a			
	Critically Endangered ^a	Endangered ^a	Vulnerable ^a
Number of mature individuals (observed or estimated) ^a	<50 ^a	<250 ^a	<1,000 ^a
D2: Only applies to the VU category ^b 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. ^a	- ^a	- ^a	D2: Typically: ^b AoO <20 km ² or number of locations ≤ 5 ^a

Evidence:

Eligible under Criterion D as Vulnerable

It is estimated that there are 200 to 250 mature individuals.

Excluding the boom period following the above-average rainfall and floods of 2010-11, there have been no years with more than 10 accepted records from Victoria since 1998 (using Birddata). There have been only 100 accepted records from Victoria in total since 1998.

The taxon is probably resident in parts of north western Victoria - Hattah-Kulkyne, Wedderburn, and Barmah. Its presence elsewhere is mostly southward irruptions during drought.

The taxon qualifies as Endangered under this criterion, but it has been downgraded to Vulnerable to account for the influence of interstate populations that reduce the extinction risk in Victoria.

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

References

- BirdLife International (2016) *Geopelia cuneata*. The IUCN Red List of Threatened Species 2016: e.T22690705A93284384. <http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22690705A93284384.en>
- BirdLife International (2019) Species factsheet: *Geopelia cuneata*. Downloaded from <http://www.birdlife.org> on 02/02/2019.
- Blakers, M., Davies, S. J. J. F. and Reilly, P. N. (1984) *The Atlas of Australian Birds*. p. 467. Royal Australasian Ornithologists Union, Melbourne. Melbourne University Press.
- DSE (2013) *Advisory List of Threatened Vertebrate Fauna in Victoria 2013*. Department of Sustainability and Environment, Melbourne
- Emison, W.B., Beardsell, C.M., Norman, F.I. and Loyn, R.H. and Bennett, S.C. (1987) *Atlas of Victorian Birds*. p. 138. Department of Conservation, Forests and Lands. Royal Australasian Ornithologists Union, Melbourne.
- Peters, A., Raidal, S. and Roshier, D. (2016) Field techniques in the study of Australian pigeons and doves. *Australian Field Ornithology* 33: 187-197.
- Pizzey, G. and Knight, F. (2012) *The Field Guide to the Birds of Australia*. Ninth edition. Harper Collins Publishers, Australia
- Reid, J. and Fleming, M. (1992) The conservation status of birds in arid Australia. *The Rangeland Journal* 14: 65-91.
- SAC (2002). Flora and Fauna Guarantee Scientific Advisory Committee: Final Recommendation on a Nomination for Listing. Nomination No. 550 *Geopelia cuneata*



Geopelia cuneata
Diamond Dove

Schleucher, E., Prinzing, R. and Withers, P. (1991) Life in extreme environments: Investigations on the ecophysiology of a desert bird, the Australian Diamond Dove (*Geopelia cuneata* Latham). *Oecologia* 88(1): 72-76