

Threatened Species Assessment

Ardeotis australis Australian Bustard

Taxonomy

Ardeotis australis (J.E. Gray, 1829)

Current conservation status

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

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

Proposed conservation status

Critically Endangered in Victoria

Criterion D

Species Information

Description and Life History

Australian Bustards are large, erect, ground dwelling birds with long legs and neck. Males stand to about 80 cm and weigh up to 8 kg while females are smaller and lighter, standing up to 70 cm tall and weighing up to 3.5 kg. The male has a black crown, whitish neck and underparts with a black stripe across the breast. The back and wings are mid to dark brown with a patch of black and white plumage at the wing bend. The female has a brown crown, narrower breast band and the neck and underparts are greyish. The beak is white or cream and the legs and feet are cream to yellow. Bustards have a stately gait, walking erect with head held high and bill raised. They are powerful fliers but need to run to take flight. They have a wing span of up to 2 m and fly with slow and deliberate wing beats, with their legs trailing and belly appearing to sag (Pizzey and Knight 1999).

Australian Bustards are opportunistic feeders and consume a range of invertebrates, small vertebrates, leaf material, flowers, fruits and seeds. Crickets, grasshoppers, small reptiles and House Mice are common food items (Marchant and Higgins 1993). Little is known about longevity in the wild or population processes, and there is no information specifically from the Victorian population. There are few formal breeding records from north-west Victoria, but since juvenile birds are sometimes reported, it is assumed that local breeding has occurred. The species is dispersive, with irregular widespread movements over long distances. The movements are thought to be in response to habitat and climatic conditions; it is known to converge on areas with high mice numbers and in recently burnt areas (Venn 2003).

Generation Length

The generation length of the Australian Bustard is inferred to be 10 to 14 years. This figure is based on longevity in captivity of 19 years (White 2012). The age at first breeding for males is about 6 years. Garnett and Crowley (2000) indicated a generation time of 10 years.

Distribution

Australian Bustards have been recorded throughout mainland Australia and southern New Guinea. In Victoria, the Australian Bustard was formerly widespread in grasslands and open grassy woodlands across the Murray Mallee, Victorian Riverina, Victorian Volcanic Plain and Gippsland Plain bioregions (Emison et al. 1987). It is now rare in



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south-eastern Australia, occurring as a casual visitor, except for a small, isolated population in southern parts of the Big Desert and adjacent farmland in north-western Victoria (Emison et al. 1987, Grice et al. 1986). The taxon now appears to be confined to the southern parts of the Big Desert, with a separate population possibly in the Kerang area).

Habitat

Australian Bustards are found in tussock grassland, *Triodia* hummock grassland, grassy woodland, low shrublands, as well as structurally similar artificial habitats, such as croplands and golf courses (Garnett and Crowley 2000). Over most of lowland Victoria, the original habitat of extensive tussock grasslands with a suite of herbs between the tussocks has been almost entirely converted to dense swards of introduced pasture grasses or crops. Australian Bustards apparently cannot persist in such environments. The remnant population in Victoria is apparently unusual in that it utilises semi-arid heath for much of the year, which is a relatively dense vegetation formation for bustards. However, they have been observed to congregate in recently-burnt heath. In winter, the birds have been recorded in sheep paddocks, lucerne crops and grain stubble adjacent to the Big Desert. Lekking takes place in these more open habitats but females probably return to the mallee heath to nest (D. White pers comm.). In dry years, some individuals or small groups have been recorded in farmland further south and east in western Victoria, south to near Hamilton and east to near Geelong (VBA database).

Threats

The widespread decline of the Australian Bustard has probably been caused by a combination of intensive agriculture, invasion of pastoral land by woody weeds, hunting and fox predation (Garnett and Crowley 2000, p. 207). Pesticides are also held responsible for local extinctions. Therefore, secondary poisoning from rabbit baiting could be a threat to the small numbers of birds that are recorded in Victoria.

Since the introduction of planned burning targets following the Black Saturday bushfires, fires have increased in frequency and intensity, potentially affecting habitat type and density. The research on Bustards and fires (Ziembicki 2009) shows that Bustards are attracted to fire fronts as part of their foraging strategies, however changed fire regimes alter habitat structural composition and encourage woody weeds, which is thought to be inimical to Bustard preferred habitat.

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 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			

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Evidence:

Eligible under Criterion B as Endangered

The Area of Occupancy (AoO) is estimated to be 296 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA).

Any two of (a), (b) or (c) above are also satisfied.

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 estimated that there are 15 to 25 mature individuals, but 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:

Eligible under Criterion D as Critically Endangered

The taxon is estimated to have 15 to 25 mature individuals. It is difficult to estimate population figures with any confidence, due to a lack of survey data. However, the maximum number of bustards recorded in Victoria (VBA data) was 26 birds at Telopea Downs in the southern Big Desert on 4/8/1987. The vast majority of records (VBA data) are of single birds with six records of less than six birds. There are, however, historic reports by early settlers of larger groups of birds being observed.

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

References

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