

Threatened Species Assessment

Peltohyas australis Inland Dotterel

Taxonomy

Peltohyas australis (Gould, 1841)

This was previously known as *Charadrius australis*

Current conservation status

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

Proposed conservation status

Vulnerable in Victoria

Criterion B2b(v)c(iv)

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 Endangered. The birds are not regarded as threatened in other Australian states, so this assessment has been downgraded to Vulnerable VU° to account for the influence of interstate populations that reduce the extinction risk in Victoria.

Species Information

Description and Life History

The Inland Dotterel is a poorly known taxon that is broadly distributed in regions of inland Australia with summer rainfall less than 100mm. Patchy data suggest there may be a tendency for the taxon to move northwards in winter, southwards in summer, and it can move unpredictably into or out of areas in response to rainfall (either extreme drought, or wet conditions causing vegetation to become too thick). Birds occurs in small dispersed flocks, usually 10-20 birds, exceptionally up to 400 birds, except when more dispersed when nesting. The birds tend to roost in flocks during the day, but forage solitarily at night. It is uncertain if the taxon occurs annually Victoria as it was only recorded in the state in 21 of the 34 years from 1970-2014, but may have been overlooked in other years as it occurs in fairly remote and bleak habitats that are not intensively searched by birdwatchers. The abundance of this taxon could easily be underestimated. Despite living in open habitats, it is difficult to find because of its highly effective camouflage, largely nocturnal behaviour, and preference for very open habitats (e.g. dry wheatfields) where birdwatchers are perhaps unlikely to visit.

Generation Length

The generation length of the Inland Dotterel is inferred to be 7 to 9 years. There is no direct information about population size. In most congeneric plovers that have been studied, generation length is between 7 and 9 years. On the whole, the genus is long-lived with limited brood size.

Distribution

Inland Dotterels are cryptic, understudied, and at the very fringe of their range in Victoria. There is a broad scattering of records from inland Victorian wheatbelt, but most records are from the mid-Murray Valley, where there

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are clusters of records from Ned's Corner and plains near Kerang. The birds are thought to come and go across the border into Victoria, and >95% of their natural range is interstate.

Habitat

The habitat tends to be in arid open plains including gibber, gravel flats, claypans and sparsely vegetated saltbush gilgais. Victoria does not have gibber plains habitat, and most records are from plains in the mid-Murray Valley, including sandy wheat paddocks before growth of crops, and bare sandy ridges in mallee scrub.

Threats

No specific threats are known. As a ground-nesting taxon, it may be vulnerable to predation by introduced predators such as foxes, especially in areas where artificial waterholes increase the abundance of rabbits or foxes. In South Australia, it is suspected to have extended southwards by colonising dry agricultural areas, but to have declined after wheat farming was abandoned in marginal areas (Marchant and Higgins 1993). Climate change could potentially cause changes in distribution, with increased drought potentially increasing area of suitable habitat for this arid-country specialist.

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 A2 as Vulnerable

The population reduction over the past 21 to 27 years is suspected to be 0 to 50% (midpoint 30%), based on (b) above.

VBA data hints at a decrease in Victoria. Of 45 acceptable records from Victoria, only 9 post-date 2000 (cf 36 records between 1970 and 1999). Government fauna surveys took place during the 1970s and 1980s and would have increased the reporting rate during that period.

Eligible under Criterion A3 as Vulnerable

The population reduction over the next 21 to 27 years is suspected to be 0 to 50% (midpoint 30%), based on (b) above.

Future decline is based on the impacts of the identified general threats.

Eligible under Criterion A4 as Vulnerable

The population reduction over any 21 to 27 year period, including both past and future, is suspected to be 0 to 50% (midpoint 30%), based on (b) above.

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			

Evidence:

Eligible under Criterion B2 as Vulnerable

The taxon is assessed 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.

The Area of Occupancy (AoO) across the taxon's range is estimated to be 32 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas.

This is probably an underestimate, given how difficult it can be to detect this cryptically patterned and largely nocturnal inhabitant of bleak habitats.

It is inferred to have a continuing decline in numbers and also extreme fluctuations in numbers. Of 45 acceptable VBA records from Victoria, only 9 post-date 2000 (compared to 36 records between 1970 and 1999). Numbers of bird watchers in Victoria are gradually increasing (in contrast to the decreasing rate of sightings in Inland Dotterels in Victoria) but it is possible that the apparent decline reflects undocumented changes in the behaviour of birdwatchers and where they carry out their observations.

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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 0 to 50 (midpoint 25) mature individuals, but this qualifier is too weak and other thresholds under this criterion have not been met.

The birds are suspected to be absent from Victoria in some (wet) years. The peak Victorian population is poorly known; the largest reliable count was 25 birds. The peak estimate assumes that flocks of this size can occur both in both regions of Victoria where records are clustered (Ned's Corner and Kerang) but there is much uncertainty. Notwithstanding, the Victorian population is at the extreme of the range, and forms only a tiny proportion of the national population.

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 km ² or number of locations ≤ 5

Evidence:

Ineligible under Criterion D

It is suspected that there are 0 to 50 (midpoint 25) mature individuals, but this qualifier is too weak to meet the criterion.

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

References

- DSE (2013) *Advisory List of Threatened Vertebrate Fauna in Victoria 2013*. Department of Sustainability and Environment, Melbourne. Retrieved from:
https://www.environment.vic.gov.au/__data/assets/pdf_file/0014/50450/Advisory-List-of-Threatened-Vertebrate-Fauna_FINAL-2013.pdf
- Emison, W.B., Beardsell, C.M., Norman, F.I., Loyn, R.H. and Bennet, S.C. (1987). *Atlas of Victorian Birds*. Department of Conservation, Forests and Lands, and the Royal Australasian Ornithologists Union, Melbourne.
- Marchant, S. and Higgins, P.J. (1993). *Handbook of Australian, New Zealand and Antarctic Birds. Volume 2. Raptors to Lapwings*. Oxford University Press, Melbourne.
- Wetlands International (2018). "Waterbird Population Estimates" Retrieved from wpe.wetlands.org on 2 Aug 2018