Threatened Species Assessment

Spatula rhynchotis
Australasian Shoveler

Taxonomy

Spatula rhynchotis Latham, 1801

Shovelers were recently placed in their own genus, *Spatula* viz. *"Spatula rhynchotis* (del Hoyo and Collar 2014) was previously placed in the genus *Anas"* (BirdLife International 2016).

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 C2a(ii)

Species Information

Description and Life History

The Australasian Shoveler is a medium-sized (mainly freshwater) duck that has a low silhouette when swimming. A key feature is the massive, dark bill. The male breeding plumage is grey-blue head marked by vertical white crescent; eye yellow; shoulder blue-grey, sides chestnut, with white flank mark; feet orange. The female is sombre brown, finely mottled darker; pale eye-ring; wing as per male; feet yellow-brown (Pizzey and Knight 2012). A detailed description and further biology of the taxon can be found in Frith (1977).

Generation Length

The generation length of the Australasian Shoveler is estimated to be 6 to 7 years. This is based on Blue-billed Duck (Garnett et al. 2011), the only species of Australian Anatidae for which an estimate of generation length is available. BirdLife International (2019) indicates a similar figure (6.6 years).

Distribution

The bulk of the population of Australasian Shovelers is found in the Murray-Darling Basin. In Victoria the taxon is mainly recorded from south western and western Victoria where the preferred freshwater habitats occur. It is less often recorded from the irrigated areas of northern Victoria and the Gippsland region.

Habitat

In south eastern Australia, Shovelers occur mainly on large, shallow lakes (including saline waters) and are most numerous on permanent, well-vegetated freshwater swamps with areas of open water (Emison et al. 1987).

Threats

The southern distribution of the taxon exposes the Shoveler to the main concentration of shooters (Marchant and Higgins 1990, p. 1342). Historic swamp drainage and other losses of the preferred wetland habitats has been a key threat. Being a ground-nesting taxon, the ducks are highly threatened by native and introduced mammals, birds and reptiles.

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:

Ineligible under Criterion B

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 261,000 km² and the Area of Occupancy (AoO) is estimated to be 8,316 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 Vulnerable

It is estimated that there are 4,500 to 7,000 mature individuals, based on survey works and information in Pacioni et al. (2017).

The number of mature individuals is projected to continue to decline, and all of the mature individuals are in one subpopulation.

Shovelers are declining in eastern Australia (Porter et al. 2018, pp: 8,14). Shovelers were 'very common' on Lake Boga in the early 1900s but are no longer (Frith 1977, p. 216). They are considered to have declined in eastern Australia this century and there has been no report of breeding north of 30 degrees S latitude since 1920 (Marchant and Higgins 1990). As per the findings by Pacioni et al. (2017), there is no reason to think that this trend will change in the future.

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 estimated that there are 4,500 to 7,000 mature individuals.

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

References

BirdLife International (2016) *Spatula rhynchotis*. The IUCN Red List of Threatened Species 2016: e.T22680243A92852551.http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22680243A92852551.en

BirdLife International (2019) Species factsheet:*Spatula rhynchotis*. (Downloaded from http://www.birdlife.org on 17/01/2019).

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

Frith, H.J. (1977) *Waterfowl in Australia.* pp: 211-221. A.H. and A.W. Reed, Sydney.

Garnett, S., Szabo, J.K. and Dutson, G. (2011) *The Action Plan for Australian Birds*. CSIRO Publishing, Melbourne.

Hewish, M. (1988) Waterfowl count in Victoria, February 1988. *RAOU Report No. 52*. Royal Australasian Ornithologists Union, Melbourne.

Marchant, S. and Higgins, P.J. (eds) (1990) *Handbook of Australian, New Zealand and Antarctic Birds. Ratites to Ducks Vol. 1 part B: Australian Pelican to Ducks.* Oxford University Press, Melbourne.

Pacioni, C., Ramsey, D. and Menkhorst, P. (2017) Assessment of the status of Australasian (blue-winged) shoveler (*Anas rhynchotis*) in south-eastern Australia. Unpublished report to Game Management Authority, ARI.

Porter, J.L., Kingsford, R.T. and Brandis, K. (2018) Aerial Survey of Wetland Birds in Eastern Australia - October 2018 Annual Summary Report. p. 14. Game Management Authority, Victoria.