Threatened Species Assessment

Pelagodroma marina
White-faced Storm-Petrel

Taxonomy

Pelagodroma marina (Latham, 1790)

Current conservation status

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

Proposed conservation status

Endangered in Victoria

Criterion B2ab(i,ii,iii,iv,v)

Species Information

Description and Life History

The White-faced Storm petrel is 19 to 21 centimetres (7.5 to 8.3 in) in length with a 41 to 44 centimetres (16 to 17 in) wingspan. It has a pale brown to grey back, rump and wings with black flight feathers. It is a near-cosmopolitan taxon. Subspecies *dulciae* breeds in summer on islands off southern Australia and winters far from land in the northern Indian Ocean. The birds come ashore only to breed, generally breeds in colonies during spring and summer, forming burrows in flat sand areas with low herbaceous vegetation, but also in rocky areas and on slopes.

Generation Length

The generation length of the White-faced Storm petrel is estimated to be 15 years. This follows Birdlife Australia estimates for other members of the family Oceanitidae (Garnett et al. 2011).

Distribution

In Victoria the taxon occurs throughout Bass Strait. Victorian breeding colonies are on Mud Island and South Channel Fort in Port Phillip, and on Tullaberga Island, East Gippsland.

Habitat

The White-faced Storm-petrel can normally be found over pelagic waters except when at breeding colonies. It feeds mostly on planktonic crustaceans and small fish, but will also feed on squid. It feeds mainly on the wing by pattering and dipping at night. It rarely follows ships, but is known to follow cetaceans. Movements are variable, but all populations disperse post-breeding and tend to travel far.

Threats

The Mud Islands colony has been steadily declining for several decades (Menkhorst 2010). The recent establishment of a large breeding colony of Australian White Ibis on Mud Islands possess a new threat (predation and reduced access to the storm-petrel colony site for the storm-petrels). Serious erosion of the south-western parts of Mud Islands (a result of the channel-deepening project) threatens to radically alter the ecology of those islands.

Microplastics are likely to be a serious issue for this surface-feeding specialist but no studies have been undertaken. The Victorian breeding colonies are currently free of rodents but biosecurity is a constant threat.

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:

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 260 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas.

The taxon is estimated to be severely fragmented, as the birds are highly vulnerable to environmental change at breeding colonies.

It is estimated to have 3 locations. Each breeding colony is at risk from colonisation and predation by rodents and cats (dumped by humans as happened at Mud Islands in the 1980s, perhaps to control breeding Silver Gulls). The Mud Island colony is also under threat from erosion and competition with ibis, so given these differing threats, there are considered to be two locations in Port Phillip plus Tullaberga Island.

It has a continuing decline in (i), (ii), (iii), (iv) and (v) above. The Mud Islands breeding habitat is probably no longer suitable due to occupation by a very large breeding colony of ibis. Other colonies are likely to decline as a result of the identified threats.

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 30,750 to 41,100 mature individuals, which exceeds the thresholds for criterion C.

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 has five or fewer locations and there are plausible future threats that could drive it to become critically endangered within a time frame of one or two generations as a result of the identified threats, notably the loss of the Mud islands breeding colony.

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

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