

## *Lepidosperma canescens* Hoary Rapier-sedge

### Taxonomy

*Lepidosperma canescens* Boeck.

### Current conservation status

Categorised as Rare in the 2014 Advisory list of rare or threatened flora (DEPI 2014).

### Proposed conservation status

Endangered in Victoria

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

### Species Information

#### Description and Life History

The taxon is a clump-forming perennial with short rhizome. Culms rigid, erect, terete, striate, glabrous, smooth, 25-100 cm high, 0.8-2.0 mm diam. Leaf-blades similar in form to culms but usually shorter, 0.7-2 mm diam., or much reduced; sheaths yellow-brown to dark grey-brown, may be dark reddish near apex (and enclosed culm base), not viscid, ± dull. Inflorescence fan-shaped to oblong in outline, loose, erect, 3-8 cm long, c. 2 cm diam.; involucre bract shorter than inflorescence. Spikelets numerous to few, 5-7 mm long; glumes 4 or 5, scaberulous at least near apex, red-brown to grey-brown, the c. 3 lowest empty, somewhat shorter than fertile glumes, obtuse to acute, mucronate; fertile glumes 5.0-6.0 mm long, acute to long-acute, mucronate or not; hypogynous scales 6, yellowish, from one-third to one-half length of nut. Nut obovoid, brown, smooth, shining, 2-3 mm long, 1.0-1.3 mm diam. Flowers spring (VicFlora 2021).

#### Generation Length

The generation length of *Lepidosperma canescens* is estimated to be 35 to 50 years. It is a medium-lived perennial from habitat where fire occurred perhaps every few decades, and the average plant age reflected that interval.

#### Distribution

The taxon occurs near the coast, mostly west of Port Phillip Bay, with easterly occurrences on the Mornington Peninsula and Wilsons Promontory (VicFlora 2021). Western occurrences include the following bioregions: Bridgewater, Central Victorian Uplands, Dundas Tablelands, Glenelg Plain, Goldfields, Highlands-Southern Fall, Otway Plain, Victorian Volcanic Plain, Wilsons Promontory and Wimmera (VicFlora 2021).

#### Habitat

The taxon occurs in sandy heathland and woodland (VicFlora 2021).

#### Threats

Some historical decline in habitat has occurred due to agriculture. Fires in very quick succession might overwhelm the capacity of the plant to persist but it may possibly resprout giving it some resilience.

Climatic drying leading to the contraction of the available habitat is the key threat for the taxon.

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### 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>
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### Evidence:

#### Eligible under Criterion A2 as Vulnerable

The population reduction over the past 105 to 150 years is estimated to be 25 to 45%, based on (c) above. The causes of reduction may not have ceased, be understood or be reversible.

#### Eligible under Criterion A3 as Vulnerable

The population reduction over the next 100 years is projected to be 25 to 45%, based on (c) above.

#### Eligible under Criterion A4 as Vulnerable

The population reduction over any 105 to 150 year period, including both past and future (up to 100 years in the future), is estimated to be 30 to 50% (midpoint 40%), based on (c) above. The causes of reduction may not have ceased, be understood or be reversible.

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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 <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>
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 170 km<sup>2</sup>, 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 naturally at the regional and landscape scales and anthropogenically at the landscape scale. The taxon is likely to be dispersed by ants at the 10-100 metre scale. This precludes the possibility of recolonisation in the event of local extinction

It is estimated to have a continuing decline in (i), (ii), (iii), (iv) and (v) above based on the current and projected impact of the identified threats, particularly climatic drying.

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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 as Data Deficient

There is insufficient evidence to determine the number of mature individuals.

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 <sup>2</sup> or number of locations ≤ 5

### Evidence:

#### Ineligible under Criterion D as Data Deficient

There is insufficient evidence to determine the number of mature individuals.

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

### References

DEPI (2014). *Advisory list of rare or threatened plants in Victoria - 2014*. Department of Environment and Primary Industries, Melbourne. Retrieved from: [https://www.environment.vic.gov.au/\\_\\_data/assets/pdf\\_file/0021/50448/Advisory-List-of-Rare-or-Threatened-Plants-in-Victoria-2014.pdf](https://www.environment.vic.gov.au/__data/assets/pdf_file/0021/50448/Advisory-List-of-Rare-or-Threatened-Plants-in-Victoria-2014.pdf)



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VicFlora (2021). Flora of Victoria, Royal Botanic Gardens Victoria: *Lepidosperma canescens*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/a29a5b0d-dbf7-49df-a0b9-74abf96f061b>