



Eucalyptus ovata subsp. *grandiflora* West-coast Swamp-gum

Taxonomy

Eucalyptus ovata subsp. *grandiflora* (Maiden) D. Nicolle

This taxon is often difficult to distinguish from subsp. *ovata*, making the current distribution difficult to assess.

Current conservation status

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

Proposed conservation status

Endangered in Victoria

Criteria A2bc; B2ab(i,ii,iii,iv,v)

Species Information

Description and Life History

Tree to 20 m tall; bark smooth throughout, to rough and loose over most of trunk. Juvenile leaves petiolate, alternate, elliptic to ovate, to 19 cm long, 8.5 cm wide, dull, green; adult leaves petiolate, alternate, ovate to broadly lanceolate, undulate, to 9–17 cm long, 2–3.5 cm wide, concolorous, glossy, green; reticulation dense, typically lacking visible oil glands. Inflorescences axillary, unbranched; peduncles to 1.4 cm long, 7-flowered; buds pedicellate, diamond-shaped, scar present; operculum conical; stamens inflexed; anthers dorsifixed, cuneate; ovules in 4 vertical rows; flowers white. Fruit pedicellate, obconical; disc level or raised and annular; valves 3 or 4, to rim level; seed brown-black, flattened-ellipsoid, lacunose, hilum ventral (VicFlora 2019a).

It is recognized among the swamp gums by the larger leaves, buds, and fruits, with the leaves having prominent oil glands compared with the typical subspecies (VicFlora 2019b).

Generation Length

The generation length of *Eucalyptus ovata* subsp. *grandiflora* is estimated to be 100 to 120 years. This is based on a longevity of at least 150 years, and potentially 200 years or more.

Distribution

In Victoria, the taxon is restricted to the south-west with most stands north-west of Portland, but extending east to the Otways.

Habitat

The taxon occurs in seasonally inundated heathy woodland, often on sandy soils.

Threats

The taxon is threatened in the long-term by climatic drying and warming, coupled with fragmentation and changed hydrology of swampy areas resulting in changes in vegetation structure. These impacts are likely to be exacerbated by imposed fire regimes, increasing the risk of repeat fire and recruitment failure.

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Impacts of fragmentation due to past clearing are still ongoing, with some stands consisting of individuals with very little chance of recruitment due to the lack of suitable habitat and low genetic diversity. Recruitment may be further impacted by browsing of seedlings by rabbits.

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 Endangered

The population reduction over the past 300 to 360 years is estimated to be 50 to 70%, based on (b) and (c) above.

Past reduction is estimated based on vast habitat clearing throughout south western Victoria.

The causes of the 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 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 B1 as Vulnerable

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 11,073 km², based on accepted, post-1970 records in the Victorian Biodiversity Atlas (VBA).

The taxon is estimated to be severely fragmented anthropogenically at the landscape scale with no specialised mechanism for dispersal, and therefore there is negligible capacity for recolonisation should individual subpopulations become locally extinct.

It is estimated to have 2 locations, and has a continuing decline in (i), (ii), (iii), (iv) and (v) above, as a result of past habitat modification that is continuing to impact on recruitment, and ongoing climatic drying.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 64 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

As above, the taxon is severely fragmented, has 2 locations, and has a continuing decline in (i), (ii), (iii), (iv) and (v) above.

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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

No reliable estimate of the total population size for the taxon is available.

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:

Ineligible under Criterion D

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.

VicFlora (2019a). Flora of Victoria, Royal Botanic Gardens Victoria: *Eucalyptus ovata*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/0ace770d-d8bf-43f6-be31-dfbf4ae1a4b>



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VicFlora (2019b). Flora of Victoria, Royal Botanic Gardens Victoria: *Eucalyptus ovata* subsp. *grandiflora*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/3a6bd979-8622-41a5-9f85-b6e762d32ad3>