

Cryptandra ericoides Heathy Cryptandra

Taxonomy

Cryptandra ericoides Sm.

Current conservation status

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

Proposed conservation status

Critically Endangered in Victoria

Criteria B1ab(iii)+2ab(iii)

Species Information

Description and Life History

Wiry decumbent to erect shrub to c. 60 cm high; young branchlets appressed-pubescent. Leaves often clustered, shortly petiolate, terete, 2-10 mm long, 0.5-1 mm wide, grooved beneath, glabrous, minutely scabrous; stipules to 1 mm long. Flowers sessile, in terminal clusters of up to c. 10; bracts brown, ovate, c. 1 mm long, acute to acuminate, appressed-ciliate; perianth narrowly campanulate, 3-4 mm long, white, externally with indumentum of fine appressed simple hairs overlaying fine stellate hairs, denser toward tip; sepals c. half as long as hypanthium; petals c. 0.5 mm long; style entire, shortly exceeding hypanthium, hairy in lower third or two-thirds. Fruit c. 2.5 mm long, virtually filling the hypanthium. Flowers February-June (VicFlora 2019).

Generation Length

The generation length of *Cryptandra ericoides* is inferred to be 8 to 15 years. This is based on the taxon's low shrub lifeform, and the estimated disturbance regime of near-coastal heath.

Distribution

The taxon is known in Victoria from near Lake Wau Wauka in the extreme east, and 4.4km SE of Mt Carlyle. It is also present in NSW.

Habitat

At Lake Wau Wauka the taxon occurs in damp heathy woodland, associated with *Leptospermum trinervum*, *Hakea decurrens*, *H. ulicina*, *Corymbia gummifera*, *Xyris operculata*, *Leptocarpus tenax*, *Darwinia camptostylis*, *Persoonia laevis*, *Boronia muelleri*, *Dillwynia glaberrima*, *Comospermum taxifolium*, and *Acacia suaveolens*.

At the second site near Mt Carlyle, it occurs in low open wet heathland associated with *Allocasuarina paludosa*, *Epacris obtusifolia*, *E. paludosa*, *Phylloglossum drummondii*, *Tetraria capillaris*, *Tricostularia pauciflora* and *Leucopogon esquamatus*.

Threats

The taxon is threatened in the long-term by climatic drying and warming, resulting in changes in vegetation structure such as increasing shrub density and potential changes in soil microflora particularly of mycorrhizal fungi. Observations made in 2016 indicate that there are only occasional plants, however these low numbers may only be

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an indication of time since fire and number of individuals may increase significantly after the next fire in this area. Low genetic diversity and inbreeding may also be a threatening process.

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> <ul style="list-style-type: none"> (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. There is insufficient evidence to determine whether will be a future reduction in population size (criterion A3).

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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 Critically Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 8 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

The taxon is inferred to be severely fragmented naturally at the landscape scale. The two geographically isolated stands occur at a separation typically exceeding the dispersal range of the taxon, making recolonisation highly unlikely following localised extinction.

It is estimated to have 1 location, and has a continuing decline in (iii) above.

Eligible under Criterion B2 as Critically Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 8 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 1 location, and has a continuing decline in (iii) 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

There is insufficient evidence to determine the number of mature individuals. The only indication of abundance at the site SE of Mt Carlyle is from a note on the herbarium collections, estimating there were possibly as many as 150 at this site. Based on the notes of the herbarium collection from Lake Wau Wauka, the taxon was recorded with less than 10 plants seen (Stajsic pers.observ. 2016).

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:

Eligible under Criterion D as Endangered

It is estimated that there are 20 to 150 (midpoint 100) 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.



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VicFlora (2019). Flora of Victoria, Royal Botanic Gardens Victoria: *Cryptandra ericoides*. Retrieved from:
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