

## *Hovea rosmarinifolia* Rosemary Hovea

### Taxonomy

*Hovea rosmarinifolia* A. Cunn.

The taxon closely resembles *H. asperifolia*, but is distinguished from that taxon by the more strongly raised venation on the upper leaf surface and absence of simple hairs that are longer than the underlying dense appressed hair on the lower surface, and smaller flowers, bracts and bracteoles (VicFlora 2017).

### 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); D

### Species Information

#### Description and Life History

The taxon is a shrub to 1.5 m high; branchlets pubescent with curled to crumpled, somewhat appressed, brown or rusty hairs. Leaves linear to narrow-linear, 1-3(-4) cm long, 1.2-4 mm wide; apex truncate or rounded, mucronate; upper surface strongly arched up either side of depressed midrib, glabrous or with scattered hair, scabrid, venation strongly raised; lower surface with dense curled to crumpled, tan hairs that completely obscure the lamina; margins revolute, often completely concealing the lower surface; stipules narrow-ovate, 0.5-1.2 mm long, usually densely hairy. Inflorescence sessile, 1- or 2-flowered; pedicle 0.5-1.5(-2) mm long; bract inserted up to 1.5 mm below bracteoles, ovate to narrow-ovate, 0.8-1.5(-2) mm long; bracteoles narrow-ovate to lanceolate, 1-1.5 mm long; calyx 3-4 mm long; corolla mauve; standard 5-7 mm long (including claw), c. as wide as long; keels shorter than wings; stamen-filaments to c. 4 mm long. Pod sessile, with moderate to dense cover of rusty indumentum. The taxon flowers from August to September (VicFlora 2017).

#### Generation Length

The generation length of *Hovea rosmarinifolia* is estimated to be 35 to 50 years. The taxon has pre-settlement fire intervals of 35-50 years or more. The longevity of plants is superseded in the calculation of generation time because the seed bank is very long-lived.

#### Distribution

In Victoria, the taxon is apparently confined to Mount Difficult in the Grampians (VicFlora 2017).

#### Habitat

The taxon grows in dry rocky woodland (VicFlora 2017).

#### Threats

The taxon has experienced negligible historic habitat loss. In the future, it is threatened by inappropriate fire regimes and extreme drought leading to recruitment failure. Selective browsing by goats and deer is also a 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%

  

<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:

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 there 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 <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 B1 as Critically Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 12 km<sup>2</sup>, based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA). The EoO has been made equal to the AoO to ensure consistency with the definition of AoO as an area within the EoO.

The taxon is estimated to have one location, based on the uniform impacts of the identified threats across the range of the taxon.

It has a continuing decline in (iii) above, based on the increasing risk imposed by drought stress.

#### Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 12 km<sup>2</sup>, based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA.

As above, the taxon has one 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

It is estimated that there are 5 to 10 mature individuals, but other thresholds under this criterion have not been met.

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:

#### Eligible under Criterion D as Critically Endangered

The taxon is estimated to have 5 to 10 mature individuals. This is based on field observation notes.

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)

VicFlora (2017). Flora of Victoria, Royal Botanic Gardens Victoria: *Hovea rosmarinifolia*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/00517393-16db-46bc-9a8a-f7b8c81faa6b>