



Rhagodia parabolica Fragrant Saltbush

Taxonomy

Rhagodia parabolica R. Br.

Current conservation status

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

Proposed conservation status

Vulnerable in Victoria

Criteria B2ab(i,iii,v); D2

Species Information

Description and Life History

Rounded shrub to c. 2 m high. Leaves opposite or subopposite, distinctly petiolate, broadly elliptic, ovate, rhombic or obtusely hastate, 1.5-4 cm long, 7-25 mm wide, mealy grey-green, covered with glistening vesicular hairs. Inflorescence a pyramidal panicle, to c. 15 cm long and wide; perianth mealy on outer surface, tepals c. 1 mm long, enlarging (to c. 1.5 mm long) and usually reddening in fruit. Berry 2-3 mm diam., subtended by enlarged fruiting perianth; seed 1.5-1.8 mm diam., the surface faintly ribbed radially. Flowers mostly September-January (VicFlora, 2019).

Generation Length

The generation length of *Rhagodia parabolica* is estimated to be 10 to 25 years. This plant would reach reproductive maturity within the first few years of growth. Information on longevity was not located, but the lifespan is presumed to be in the range of several decades or more.

Distribution

In Victoria the taxon occurs at a few locations between Sunbury and Geelong (e.g. Jacksons Creek, Long Forest, Werribee Gorge, Steiglitz, Buckleys Falls on the Barwon River), but is locally rather common, and at a few scattered locations in the northwest. It also escapes from cultivation in some southern-central locations.

Habitat

The taxon occurs on steep rocky slopes and broad ridges in south-central Victoria, and in mallee in the north-west of the State.

Threats

The main threats to this taxon appear to be increased frequency of fire, browsing by feral herbivores and domestic stock, and urban development.

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

There is insufficient evidence to determine whether there has been or will be a reduction in population sufficient to meet any threshold for Criterion A.

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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 B2 as Vulnerable

The Area of Occupancy (AoO) across the taxon's range is estimated to be 568 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas.

It is suspected to have 3 locations. As the mallee populations are likely to be exposed to a pressure from herbivores and climatic extremes, it seems reasonable to consider as representing a location. Populations in reserves such as in Lerderderg Gorge and at Long Forest are presumed less vulnerable to threats than those in more fragmented remnants west of Melbourne.

It has a continuing decline in (i), (iii) and (v) above as a result of the identified threats. A substantial part of the distribution is within the potential development zone west of Melbourne.

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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 ² or number of locations ≤ 5

Evidence:

Eligible under Criterion D2 as Vulnerable

The taxon is estimated to be very restricted. It has 3 locations, such that this restriction makes the taxon capable of becoming Critically Endangered or Extinct within a time frame of one or two generations, in response to the identified threats.

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 (2019) Flora of Victoria, Royal Botanic Gardens Victoria: *Rhagodia parabolica*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/a328d023-a527-4b3c-afe1-8a3822a4f1ad>