



## *Pimelea drupacea* Cherry Rice-flower

### Taxonomy

*Pimelea drupacea* Labill.

### 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(ii,iii,iv,v); C2a(i)

### Species Information

#### Description and Life History

The taxon is a shrub 1-3 m high; stems hairy when young. Leaves opposite, shortly petiolate, narrowly elliptic, 10-70 mm long, 3-15 mm wide, glabrous and medium to dark green on upper surface, sparsely hairy and much paler below. Inflorescence terminal or in an upper axil, a compact head of 4-12 flowers, subtended by 2 or 4 leaves. Flowers bisexual, white or nearly so, with short hairs outside, glabrous inside; floral tube 4-6 mm long, style-portion shorter than ovary-portion; sepals 2-4 mm long; pedicel densely hairy; stamens shorter than sepals; anthers opening laterally or somewhat laterally. Fruit red, succulent, naked. Flowers August-October (VicFlora 2018).

#### Generation Length

The generation length of *Pimelea drupacea* is estimated to be 20 to 80 years. It is a small shrub that may be expected to reach reproductive age within 10 years. Some *Pimelea* (e.g. *P. spinescens*) are thought to live as long as 100 years (Mueck 2000). The taxon would likely be long lived given that it is one of the larger taxa, and occurs in wet habitats characterised by infrequent disturbance.

#### Distribution

In Victoria the taxon is confined to Wilsons Promontory. It is also found in Tasmania.

#### Habitat

The taxon occurs in wet sclerophyll forest and cool temperate rainforest.

#### Threats

Threats to the taxon include frequent disturbance events such as fires, and landslides as a result of flood events. Such events may become more frequent with extreme weather that may be expected with climate change. Climatic drying is also likely to threaten the taxon which is restricted to moist environments.

Most plants occur near the Sealers Cove Walking Track, therefore disturbance from walkers and track maintenance is a major threat. This is particularly true at Windy Saddle where plants occur beside cleared areas frequented by walkers.

### 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"> <li>(a) direct observation [except A3]</li> <li>(b) an index of abundance appropriate to the taxon</li> <li>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</li> <li>(d) actual or potential levels of exploitation</li> <li>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</li> </ul>			

### Evidence:

#### Eligible under Criterion A2 as Vulnerable

The population reduction over the past 60 to 240 years is estimated to be 35 to 45%, based on (c) above.

Severe flooding and erosion and major fire events in the past 240 years as well as track formation that has cleared spaces through subpopulations are likely to have reduced the number of mature individuals by around a half based on the proportion of suitable habitat that has been reduced by disturbance events.

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 60 to 100 years is projected to be 10 to 45%, based on (c) above.

Based on decline in the past, it is possible that it will continue to decline at the same rate or by chance it is possible that no decline will occur due to absence of major disturbance events at the sites of occurrence.

#### Eligible under Criterion A4 as Vulnerable

The population reduction over any 60 to 240 year period, including both past and future (up to 100 years in the future), is observed to be 35 to 45%, 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 B1 as Critically Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 16 km<sup>2</sup>, based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA). The EoO has been made equal to the Area of Occupancy (AoO) to ensure consistency with the definition of AoO as an area within EoO.

It is estimated to have 1 location as all known records are from Wilsons Promontory where the plants occur in the same habitat, and are all likely to be affected similarly at the same time by a single threatening event.

It has a continuing decline in (ii), (iii), (iv) and (v) above, based on the impacts of the identified threats, such as flood events, climatic drying, and disturbance from walkers.

#### Eligible under Criterion B2 as Endangered

The AoO across the taxon's range is estimated to be 16 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 (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:

#### Eligible under Criterion C2 as Critically Endangered

It is estimated that there are 120 to 200 mature individuals. A subpopulation of the taxon was observed at Windy Saddle where there were between 30 and 50 plants. The estimated range of mature individuals is based on the assumption that each of the four sites that *P. drupacea* has been recorded from has around this number of plants.

The number of mature individuals is estimated to continue to decline, and the number of mature individuals in each subpopulation is 50 or fewer.

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 Endangered

It is estimated that there are 120 to 200 mature individuals.

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



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## 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)

Mueck, S. (2000). Translocation of plains rice-flower (*Pimelea spinescens* subsp. *spinescens*), Laverton, Victoria. *Ecological Management and Restoration* 1: 111-116.

VicFlora (2018). Flora of Victoria, Royal Botanic Gardens Victoria: *Pimelea drupacea*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/19cb4783-9b23-4107-852c-a5f9b4714a4d>