Threatened Species Assessment

Pomaderris oblongifolia
Snowy River Pomaderris

Taxonomy

Pomaderris oblongifolia N.G. Walsh

Current conservation status

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

Proposed conservation status

Endangered in Australia

Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v); C2a(i)

Species Information

Description and Life History

A slender perennial shrub, to c. 2.5 m high, young stems densely stellate-pubescent. Leaf blades oblong to narrow-ovate, 20–60 mm long, 6–15 mm wide, obtuse to shallowly emarginate, glabrous or minutely hispid above, lower surface greyish or rusty stellate-pubescent, secondary veins obscure; stipules 3–5 mm long, deciduous. Inflorescences narrow-pyramidal, terminal and/or axillary, 1–5 cm long; bracts deciduous. Flowers greenish to deep maroon, externally greyish or rusty stellate-pubescent; pedicels 1–3.5 mm long; hypanthium 1–1.2 mm long; sepals 1.2–1.7 mm long, persistent; disc absent; ovary virtually inferior, summit stellate-pubescent, style branched from near base. Operculum membranous, subequal to mericarp. Flowering late spring, early summer (VicFlora 2014).

While recruitment from seed following rain and/or flood is believed to be the usual means of regeneration, some plants may resprout from the base following severe flood damage. Some seed is almost certainly dispersed during high river levels, the remainder is subject to short-distance dispersal, e.g. by ants.

Generation Length

The generation length of *P. oblongifolia* is estimated to be 15 to 40 years, based on the observation that most plants occur in the riparian zone and many are killed by occasional floods. The majority of the population is therefore composed of younger plants. Some older, larger plants occur beyond the riparian zone. The longevity is plausibly 20-50 years.

Distribution

The taxon is known only from the Little River Gorge, downstream to its junction with the Snowy River, then along the Snowy to near its confluence with the Buchan River (approx 80 kms by river). Endemic in Victoria.

Habitat

The taxon occurs in mostly riparian sites, usually growing amongst rocks, sometimes in sandy alluvium. Commonly associated taxa include *Tristaniopsis laurina, Acacia floribunda, Bursaria spinosa, Kunzea phylicoides*. It occurs mostly within the flood zone of the river, but occasionally shortly above the high-water mark (Neville Walsh, pers. obs.).

Threats

The taxon is threatened by lowering river levels through reduced rainfall (snowmelt) and/or manipulation of flow levels as part of the Snowy Hydro Scheme. In the long term, plants may colonise the lower riparian strip, but in the short term, the current cohort of plants are likely to suffer. Recolonisation may be jeopardised by more competitive weeds in the riparian zone (e.g. Blackberry, Vinca, Kunzea). The patchy distribution of *P. oblongifolia* along the river suggests suitable habitat doesn't exist throughout the entire known range.

Sambar are currently not perceived to be a major threat (topography and vegetation structure are not considered to be preferred habitat for them).

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%

A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.

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.

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*]

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.

based on any of the following:

(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:

Eligible under Criterion A3 as Vulnerable

The population reduction over the next 45 to 100 years is projected to be 10 to 40%, based on (c) and (e) above.

Lower river levels are projected as a result of climate-change induced lower rainfall, resulting in reduced suitable habitat. In the longer term, plants may colonise the lower riparian strip, but in the short term, the current cohort of plants are likely to suffer. Recolonisation may be jeopardised by more competitive weeds in riparian zone.

Eligible under Criterion A4 as Vulnerable

The population reduction over any 45 to 120 year period, including both past and future (up to 100 years in the future), is projected to be 10 to 40%, based on (c) and (e) above.

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 km²	< 5,000 km²	< 20,000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2,000 km²
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 Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 280 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

It is inferred to have 1 location, as all key identified threats and habitat conditions apply more or less evenly across its range.

It has a continuing decline in (i), (ii), (iii), (iv) and (v) above as result of climate-change induced lower rainfall.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 40 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA. As above, it has 1 location and has a continuing decline in (i), (ii), (iii), (iv) and (v) above.

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 Endangered

It is estimated that there are 300 to 1,000 mature individuals. There has been no formal assessment of population size and the estimate is based on two river trips by boat, and two walks upstream of Museum Spur. The taxon was found to be nowhere common and the largest population consists of probably no more than 30 plants. An estimated 30 subpopulations exist, based on extent of distribution and personal observations.

The number of mature individuals is projected to continue to decline, and the number of mature individuals in each subpopulation is fewer than 250.

Criterion D. Very small or restricted population			
	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 km2 or number of locations ≤ 5

Evidence:

Eligible under criterion D as Vulnerable

It is estimated that there are 300 to 1,000 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. 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

VicFlora (2019). Flora of Victoria, Royal Botanic Gardens Victoria: *Pomaderris oblongifolia*. Retrieved from: https://vicflora.rbg.vic.gov.au/flora/taxon/a2ffccd7-4849-4ff3-bcbc-7a46dd2a7e9f