

Geijera parviflora Wilga

Taxonomy

Geijera parviflora Lindl.

Current conservation status

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 1991).

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

Proposed conservation status

Critically Endangered in Victoria

Criteria A2bce; B1ab(iii,v); C2a(ii)

Species Information

Description and Life History

The taxon is a shrub or tree to 10 m high, glabrous or inflorescence and young branches with simple hairs; leaves and branches weeping. Leaves linear or linear-lanceolate or linear-ovate, 3.5-18 cm long, 0.2-1.2 cm wide, glossy dark green to light green, lateral venation obscure, apex acute to obtuse, base attenuate or cuneate, midrib raised abaxially, margins slightly incurved; petiole 3-12 mm long. Inflorescence 4-7 cm long. Flowers odoriferous; sepals 0.8-1.1 mm long, ciliate; petals 1.5-2.5 mm long, valvate, white, glabrous. Fruits c. globose, slightly compressed, 4-6 mm diam. The taxon flowers from late winter to summer (VicFlora 2018).

The taxon is non-suckering and bird dispersed.

Generation Length

The generation length of *Geijera parviflora* is estimated to be 50 to 80 years. The earliest contemporary (post 1950) collection of *G. parviflora* in Victoria was in 1962 from Kenley. The collecting notes on the herbarium specimen of the Kenley collection held at MEL indicate that the tree from which the specimen was collected was 35 feet high and 40 feet wide, which suggests that at least some of the plants were mature at the time. The collecting notes on the herbarium specimen collected from Major Mitchells Lagoon collected in 1996 indicate that the plant from which the specimen was collected from was 4 x 2 metres, and in flower. Evidently, the taxon is reproductive at a much younger age than the generation length.

Distribution

In Victoria, *G. parviflora* is restricted to the area between Piambie and Kenley in north-western Victoria, to an area about 6 km long and less than 3 km wide. This population represents the most southerly point of its range. There is anecdotal evidence for the presence of a single tree existing at Lindsay Point in the far northwest of the state (DSE 2009), however the area has been searched since 2003, and no plants were found (Ian Sluiter pers.comm. 27 Nov 2018). *G. parviflora* is widespread in western New South Wales, and occurs in north-eastern South Australia and in Queensland.

The taxon readily recruits in NSW, where it is becoming more locally abundant like *Pittosporum undulatum* in Victoria, often congregating under eucalypts where birds alight. The taxon is often planted as an amenity tree both in NSW and Victoria, and is plausibly locally naturalising (e.g. Hattah record).

Habitat

In Victoria, the taxon occurs in dry *Acacia* or eucalypt woodland on heavy soils. At Major Mitchells Lagoon the plants occur in *Eucalyptus largiflorens* riparian woodland.

Outside Victoria its habitat is variable, usually occurring in areas with calcareous red clay soils, and often in association with Belah (*Casuarina pauper*) and Cattle Bush (*Alectryon oleifolius*). It is less common on alluvial soils and on hill slopes with shallow soils (Cunningham et al., 1981).

Threats

The Victorian population is small and restricted with individual trees exposed, therefore it is threatened by single catastrophic events. The surrounding landscape is cleared so fire poses minimal threat (DSE 2009), but because the site and the plants are exposed, there is a potentially increased threat from exposure to disease, severe insect attack, or unusual atmospheric conditions (DSE 2009).

The taxon is nutritious and palatable to sheep and cattle (Cunningham et al., 1981), but browsing by mammals poses no apparent threat to the mature plants. Cultivation is a potential land use that could threaten the taxon (DSE 2009).

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:

Eligible under Criterion A2 as Critically Endangered

The population reduction over the past 150 to 240 years is estimated to be 70 to 80%, based on (b), (c) and (e) above.

Given that as much as 70% to 80% of the potential habitat has possibly been cleared, it is reasonable to assume there has also been a 70% loss of plants.

The causes of the reduction may not have ceased, be understood or be reversible.

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 30 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

It is estimated to have 1 location as it occurs in a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the taxon present.

It has a continuing decline in (iii) and (v) above, based on the impact of the identified threats.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 30 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the VBA. As above, the taxon has 1 location, and has a continuing decline in (iii) 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 Critically Endangered

It is estimated that there are 200 mature individuals.

The number of mature individuals is projected to continue to decline, based on grazing and agricultural threats, and the percentage of mature individuals in one subpopulation is 90-100 %.

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 200 mature individuals.

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

References

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