Threatened Species Assessment

Acacia nanopravissima
Little Kooka Wattle

Taxonomy

Acacia nanopravissima Molyneux & Forrester

Current conservation status

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

Proposed conservation status

Critically Endangered in Australia

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

Species Information

Description and Life History

The taxon is a small erect shrub 40-60 (-100) cm high, 25-40 cm wide, extending asexually by the production of ramets; branchlets glabrous. Phyllodes 3-8 mm long, 4-8 mm wide, strongly inequilateral, generally obdeltate, with the adaxial margin conspicuously rounded, grey-green, glabrous, imperfectly two-nerved, anastomosing nerves absent, adaxial width greater than abaxial width; gland prominent, (1.6-) 2.3-3.7 (-4.5) mm above pulvinus. Inflorescence, racemose, flower heads globular, axillary, one per axil; raceme axis (5-) 12-27 (-60) mm long, racemes of (8-) 6-10 heads. Peduncles 2-4 mm long. Flowers five-merous, 3-4 mm diameter, 7-9 flowers per head, golden, infecund. The taxon flowers from late August to early October (VicFlora 2016).

Generation Length

The generation length of *Acacia nanopravissima* is suspected to be 80 to 100 years. The generation length is difficult to determine in this solely-root suckering taxon, which is also infecund and only know to produce vegetatively (Molyneux 2007).

Distribution

Acacia nanopravissima is apparently endemic to the Wulgulmerang district in East Gippsland, Victoria, where it is currently known by a single small population on the Wombargo Range in the upper catchment of Little River, a tributary of the Snowy River. The population comprises small fragmented stands in close proximity extending across a slope overlooking and south of Splitters Creek, a tributary of Little River, near Benambra-Limestone Road, with one small isolated stand of five plants on either side of Little River, east of the Splitters Creek subpopulation and east of the Benambra-Limestone Road (Molyneux 2007; Molyneux and Forrester 2008).

Prior to the wildfire of January 2003, the larger western population comprised several hundred plants over an area of about 4.2 hectares, on west facing slopes above Splitters Creek, Benambra-Limestone Road, East Gippsland. The second population consisted of about six plants over an area of .75 hectares, either side of Little River approximately 3.5 km east of the larger western population and north of the Benambra-Limestone Road, East Gippsland (Molyneux 2007).

Habitat

The taxon occurs in dry woodland and heathland habitat on rocky slopes with soils derived from Devonian acid rhyolites. Associated understorey species include members of the *Ericaceae, Dilleniaceae, Myrtaceae* and

Poaceae with an overstorey dominated by *Eucalyptus pauciflora, E. rubida* and *E.* sp. aff. *dives. Acacia amoena, A. gunnii* and *A. kybeanensis*, all of which are fecund, are also found growing in close proximity to the taxon. The small outlying stand on Little River is associated with *Bursaria spinosa* and *Lepidosperma laterale* below an overstorey dominated by *E. camphora* (Molyneux 2007).

Threats

Threats include browsing by Sambar deer (*Rusa unicolor*) or feral horses, particularly during the vulnerable suckering following intense fire, with the risk exacerbated by extreme drought stress. It should be noted that the threat of extreme drought and repeat fire events are projected to increase as a consequence of climatic drying.

On account of its exceedingly small population size, which may comprise no more two genetic individuals or genets, this taxon is highly susceptible to fire or other stochastic events (Molyneux 2007).

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:

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.

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 Critically Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 8 km², 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.

There are only two subpopulations, a distance of 3.5 km apart (Molyneux 2007). Molyneux (2007) documents the slow and incomplete recovery of both clones following the 2003 bushfire, demonstrating the existential threat to the taxon from a single fire event. Therefore, the taxon is interpreted as occurring in a single location.

It has a continuing decline in (i), (ii), (iii), (iv) and (v) above, based on the current and projected impact of the identified threats,

Eligible under Criterion B2 as Critically Endangered

The AoO across the taxon's range is estimated to be 8 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 (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 Critically Endangered

It is estimated that there are 2 mature individuals. This taxon may comprise no more than two genetic individuals or genets (Molyneux 2007).

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

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 Critically Endangered

The taxon is estimated to have 2 mature 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

Molyneux, W.M. (2007). Species Information Sheet - *Acacia nanopravissima*. Species Profile and Threat Database.

Molyneux, W.M. and Forrester, S.G. (2008). Three new *Acacia* species (Fabaceae: Mimosoideae) from East Gippsland, Victoria. *Muelleria, 26*(1), 51-56.

VicFlora (2016). Flora of Victoria, Royal Botanic Gardens Victoria: *Acacia nanopravissima*. Retrieved from: https://vicflora.rbg.vic.gov.au/flora/taxon/e3223b35-a649-46e1-ae1a-9c2eb38e4fda