



## *Acacia notabilis* Mallee Golden Wattle

### Taxonomy

*Acacia notabilis* F. Muell.

### Current conservation status

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

### Proposed conservation status

Endangered in Victoria

Criterion A2ce

### Species Information

#### Description and Life History

Bushy spreading shrub to 3 m high; branchlets glabrous, dark red-brown. Phyllodes narrowly elliptic to oblanceolate or narrowly oblanceolate, 6-13 cm long, 8-25 mm wide, coriaceous, glabrous, grey-green to glaucous, usually obtuse; midrib and marginal veins prominent, lateral veins obscure; pulvinus 2-6 mm long; gland normally 0-3 mm above pulvinus. Raceme with rachis 2-6 cm long, robust, glabrous; peduncles 2.5-6 mm long, stout, glabrous; heads globular, 27-36-flowered, bright golden; bracteole lamina evident in buds, dark brown to black, white-fimbriate. Flowers 5-merous; sepals united. Pods narrowly oblong, to 7 cm long, 8-13 mm wide, firmly chartaceous to slightly coriaceous, raised on opposite sides over alternate seeds, glabrous, stalked; seeds transverse, oblong-elliptic, 4-7 mm long; funicle encircling seed, dark red-brown, aril clavate. Flowers Sep. (Flora Vic, 2016).

The large and prominent aril on the seed suggests capability of long distance dispersal (e.g. by birds). It has large seed for an *Acacia* species, which may give it the capability of establishing in the absence of fire. It is likely to be an obligate seed regenerator post-fire (i.e. non-sprouting nor suckering). There is likely a soil seed store and the taxon is responsive to the heat cue from fires for major germination.

#### Generation Length

The generation length of *Acacia notabilis* is projected to be 10 to 30 (midpoint 20) years. The taxon is likely to have a moderate to short life span (for an arid *Acacia* species.). It lacks a dense woody stem.

#### Distribution

The taxon is restricted almost solely to the far north-west Mallee in Victoria in the Sunset Country. A single record from near Nathalia and Echuca is considered an oddity and an outlier. Recently a small population of self-established plants beside a roadside fence plantation was found c. 1.4 km from the known population (VicFlora 2016).

The taxon exists solely in native vegetation, except for adventive occurrences. It is likely that all occurrences outside the Sunset Country are adventive.

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### Habitat

The taxon is found on consolidated dunes (calcrete core) but not in laterised woodland (with higher fertility and stable soil surface), but that is often adjacent. It is also absent from loose sandy dunes i.e. neither Lowan nor Central Mallee land systems. It can occur on stable dunes of red sands, excluding yellow nor white siliceous sands, and is thus on more fertile sands, enabling rapid growth beyond the reach of browsers.

### Threats

The taxon was formerly threatened by heavy browsing by licensed domestic stock (mostly sheep), and seedlings were susceptible to local extinction from high populations of rabbits, plus a lesser threat from goat browsing. It was formerly more extensive in the Millewa wheatlands, which were selected and cleared precisely because of the more fertile soils that were less subject to aeolian erosion. The threats of stock have been removed, or in the case of rabbits and goats, greatly reduced.

### 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 Endangered

The population reduction over the past 30 to 90 years is suspected to be 25 to 75% (midpoint 50%), based on (c) and (e) above.

This was based on the likely losses from grazing, browsing and land clearing.

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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:

### Ineligible under Criterion B

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 827 km<sup>2</sup> and the Area of Occupancy (AoO) is estimated to be 48 km<sup>2</sup>, but other thresholds under this criterion have not been met.

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 <u>C1</u> or <u>C2</u>				
<u>C1</u>	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)
<u>C2</u>	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

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It is estimated that there are 1,000 to 10,000 (midpoint 5,000) mature individuals, but other thresholds under this criterion have not been met.

Criterion D - Very small or restricted population <sup>Ⓜ</sup>			
<sup>Ⓜ</sup>	Critically Endangered <sup>Ⓜ</sup>	Endangered <sup>Ⓜ</sup>	Vulnerable <sup>Ⓜ</sup>
Number of mature individuals (observed or estimated) <sup>Ⓜ</sup>	<50 <sup>Ⓜ</sup>	<250 <sup>Ⓜ</sup>	<1,000 <sup>Ⓜ</sup>
D2 - Only applies to the VU category <sup>¶</sup> 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. <sup>Ⓜ</sup>	- <sup>Ⓜ</sup>	- <sup>Ⓜ</sup>	D2 - Typically: <sup>¶</sup> AoO < 20 km <sup>2</sup> or number of locations ≤ 5 <sup>Ⓜ</sup>

### Evidence:

#### Ineligible under Criterion D

It is estimated that there are 1,000 to 10,000 (midpoint 5,000) 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](https://www.environment.vic.gov.au/__data/assets/pdf_file/0021/50448/Advisory-List-of-Rare-or-Threatened-Plants-in-Victoria-2014.pdf)

VicFlora (2017). Flora of Victoria, Royal Botanic Gardens Victoria: *Acacia notabilis*. Retrieved from: <https://vicflora.rbg.vic.gov.au/flora/taxon/72170b16-8a67-4625-896f-d3328571791f>