

Grevillea infecunda Anglesea Grevillea

Taxonomy

Grevillea infecunda McGill.

Current conservation status

Listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*.

Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (SAC 2003).

Categorised as Vulnerable 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)

Species Information

Description and Life History

The taxon is an open, root-suckering shrub, 0.3–1.2 m high. Branchlet indumentum subsericeous to subtomentose. Leaves pinnatifid, (3–)5–11(–16)-lobed, ovate or rhombic to oblong in outline, 3–7 cm long, 1.3–4 cm wide; lobes spreading, usually simple, triangular to rounded, 6–15 mm long, 7–10 mm wide, occasionally the lower lobes bifid or bidentate; lower surface subsericeous to tomentose; margin slightly and shortly recurved. Conflorescences terminal or axillary, more or less erect, simple, secund, 2–4 cm long; peduncles 5–10 mm long, 1.2–1.3 mm wide; rachises tomentose or occasionally subsericeous; perianth light green ageing to reddish, subsericeous or loosely so outside, glabrous inside; pistil 18–26 mm long, ovary stipitate, subvillous, style yellow-green or pink in bud, reddening at anthesis, glabrous except at base, pollen presenter oblique. Fruits apparently not produced. Flowers October–December (VicFlora 2016).

The taxon is a suckering, extensively rhizomatous shrub which resprouts after fire. Plants are sterile and pollen is inviable or nearly so, and fruits and seeds are not produced. All reproduction is vegetative and plants form sometimes extensive clones. The taxon is visited by nectar-seeking honeyeaters.

Generation Length

The generation length of *Grevillea infecunda* is inferred to be 100 years. This figure has been arbitrarily chosen as the taxon has an indefinite generation length based on its extensively rhizomatous, clonal, suckering habit.

Distribution

The taxon occurs in the Anglesea area, mostly in the catchments of Anglesea River and Salt Creek. There was an old collection from Brighton where it is now extinct.

Habitat

G. infecunda occurs on slopes and plateaus supporting heathland and heathy woodland, or open forest on sandy substrates derived from Tertiary sediments. It is found at altitudes of c. 60–225 m.

Threats

The taxon is threatened by climatic and physical threats, which include climate change resulting in decreasing rainfall, increased evaporation, extreme temperatures, and drought, increased fire frequency and intensity, and impacts of fire control activities. Anthropogenic threats include infrastructure works, mining and mining rehabilitation works, damage to plants and soils by off-road recreational vehicles such as 4-wheel drives, mountain bikes, and trail bikes, horse riding, and camping. Biotic threats include weed invasion by native and exotic taxa, smothering by co-occurring indigenous taxa, *Grevillea* Leaf Skeletonisers, and Cinnamon Root-rot fungus (*Phytophthora cinnamomi*).

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 style="text-align: center;">based on any of the following:</p> <ul style="list-style-type: none"> (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 a reduction in population (criterion A2). The future population reduction does not meet the threshold for eligibility under criterion A3.

| 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 Endangered

The Extent of Occurrence (EoO) across the taxon's range is estimated to be 148 km², based on accepted, post-1970 records from the Victorian Biodiversity Atlas (VBA).

The taxon is inferred to have 1 location as all key identified threats apply across its range and can rapidly affect all individuals of the taxon present. It has a continuing decline in (i), (ii), (iii), (iv) and (v) above, based on the impacts of the identified threats.

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 94 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).

| 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 | | | | |

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Evidence:

Ineligible under Criterion C as Data Deficient

No reliable estimate of the total population size for the taxon is available as it is extremely difficult to know how many individuals exist because of the taxon's clonal (extensively suckering) habit.

| 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 km ² or number of locations ≤ 5 |

Evidence:

Ineligible under Criterion D

There is insufficient evidence to determine the number of 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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