

NSW Threatened Species Scientific Committee

Notice of Preliminary Determination

The NSW Threatened Species Scientific Committee, established under the *Biodiversity Conservation Act 2016* (the Act), has made a Preliminary Determination to list *Grevillea scortechinii* subsp. *sarmentosa* (Blakely & McKie) McGill. as a CRITICALLY ENDANGERED SPECIES in Part 1 of Schedule 1 of the Act and, as a consequence, to omit reference to *Grevillea scortechinii* subsp. *sarmentosa* (Blakely & McKie) McGill. from Part 3 of Schedule 1 (Vulnerable species) of the Act. Listing of Critically Endangered species is provided for by Part 4 of the Act.

How to make a submission

The NSW TSSC welcomes public involvement in the assessment process and places preliminary determinations on public exhibition on the NSW TSSC pages on the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) website. This public exhibition provides an opportunity for the public to comment on this preliminary determination as well as provide any additional information that is relevant to the assessment.

Postal submissions regarding this Preliminary Determination may be sent to:
Secretariat
NSW Threatened Species Scientific Committee
Locked Bag 5022
Parramatta NSW 2124.

Email submissions in Microsoft Word or PDF formats to:
scientific.committee@environment.nsw.gov.au

Submissions close 3 July 2026

What happens next?

After considering any submissions received during the public exhibition period the NSW TSSC will make a Final Determination and a notice will be placed on the NSW DCCEEW website to announce the outcome of the assessment. If the Final Determination is to support a listing, then it will be added to the Schedules of the Act when the Final Determination is published on the legislation website. www.legislation.nsw.gov.au.

Privacy information

The information you provide in your submission may be used by the NSW TSSC in the assessment to determine the conservation status and listing or delisting of threatened or extinct species, threatened populations and threatened or collapsed ecological communities or to assess key threatening processes.

The NSW TSSC may be asked to share information on assessments with NSW Government agencies, the Commonwealth Government and other State and Territory governments to collaborate on national threatened species assessments using a common assessment method and to assist in the management of species and ecological communities.

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If your submission contains information relevant to the assessment it may be provided to state and territory government agencies and scientific committees as part of this collaboration.

If you wish your identity and personal information in your submission to be treated as confidential you must:

- *request your name be treated as confidential, and*
- *not include any of your personal information in the main text of the submission or attachments so that it can be easily removed.*

Professor Angela Moles, FRSN
Chairperson
NSW Threatened Species Scientific Committee

NSW Threatened Species Scientific Committee

Public exhibition period: 10/04/2026 - 3/07/2026

Preliminary Determination

The NSW Threatened Species Scientific Committee, established under the *Biodiversity Conservation Act 2016* (the Act), has made a Preliminary Determination to support a proposal to list *Grevillea scortechinii* subsp. *sarmentosa* (Blakely & McKie) McGill. as a CRITICALLY ENDANGERED SPECIES in Part 1 of Schedule 1 of the Act and, as a consequence, to omit reference to *Grevillea scortechinii* subsp. *sarmentosa* (Blakely & McKie) McGill. from Part 3 of Schedule 1 (Vulnerable species) of the Act. Listing of Critically Endangered species is provided for by Part 4 of the Act.

Summary of Conservation Assessment

Grevillea scortechinii subsp. *sarmentosa* (Blakely & McKie) McGill. was found to be Critically Endangered in accordance with the following provisions in the *Biodiversity Conservation Regulation 2017*: Clause 4.3(a)(d)(e i,ii,iii,iv). The main reasons for this species being eligible are: 1) it has a very highly restricted geographic distribution with an extent of occurrence of 83–775 km²; 2) it occurs in 1–3 threat-defined locations, with the estimate of one location thought to be most likely; and 3) continuing decline in the extent of occurrence, area of occupancy, area, extent and quality of habitat, number of subpopulations, and number of mature individuals is inferred due to adverse fire regimes (particularly high frequency fire and high severity fire), the clearing and fragmentation of habitat, weed invasion, and habitat degradation from feral pigs (*Sus scrofa*) and livestock.

The NSW Threatened Species Scientific Committee has found that:

1. *Grevillea scortechinii* subsp. *sarmentosa* (Blakely & McKie) McGill. (family Proteaceae) is described as a “prostrate to procumbent shrub, to 0.5 m high and 2 m across. Leaves pinnatifid or coarsely toothed, with 5–7 or rarely to 14 lobes or teeth, or rarely simple, in outline angular-ovate to oblong, 3–10 cm long, c. 2–6 cm wide, primary lobes ± triangular to rounded and sometimes again 2- or 3-toothed; lower surface subsericeous. Inflorescences secund, 2–4.5 cm long. Perianth brownish, subsericeous outside, glabrous inside. Gynoecium 19–22 mm long; ovary densely hairy; style purplish black, glabrous, pollen presenter erect to oblique. Follicle hairy with reddish brown stripes or blotches” (Makinson 1991).
2. *Grevillea scortechinii* subsp. *sarmentosa* is endemic to the New England Tablelands bioregion of New South Wales (Commonwealth DCCEEW 2012) where it occurs in the Backwater area, east of Guyra (Makinson 1991). There are records of the subspecies from Baldersleigh and Mann River Nature Reserve (NR); however, it has not been relocated at these localities since 1985 and 1994, respectively (ALA 2024; BioNet 2024), despite multiple searches over the past two decades. The distribution of *G. scortechinii* subsp. *sarmentosa* spans the traditional lands of the Banbai, Gumbaynggirr, Ngarabal, and Anaiwan peoples (NIAA n.d.; AIATIS 1996; Native Land Digital 2024).
3. The extent of occurrence (EOO) of *Grevillea scortechinii* subsp. *sarmentosa* was calculated at 83–775 km² and is based on a minimum convex polygon enclosing

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all mapped occurrences of the species, the method of assessment recommended by IUCN (2024). The area of occupancy (AOO) is estimated to be 80–96 km² and was calculated using 2 x 2 km grid cells, the scale recommended by IUCN (2024). Plausible bounds are provided for estimates of both EOO and AOO to accommodate uncertainty around whether the species persists at Baldersleigh and Mann River NR.

4. *Grevillea scortechinii* subsp. *sarmentosa* has 1–3 known subpopulations, as per the IUCN (2024) definition. Subpopulations are defined by gene flow and inferred from distance between records and the potential for pollination or seed dispersal. Records around Backwater are separated from records in Mann River NR by ~29 km and records in Baldersleigh by ~44 km. Therefore, it is probable each site is a separate subpopulation. The bounded estimate for number of subpopulations (1–3) accounts for the possibility that the species no longer persists at Baldersleigh and Mann River NR (ALA 2024).
5. Benson and Ashby (2000) found *Grevillea scortechinii* subsp. *sarmentosa* to be locally common in forest on the leucogranite outcrops north of Backwater. Hunter (2001) estimated that there were probably more than 10,000 individuals, and possibly as many as 20,000, present in the Backwater area. It is assumed this estimate was predominantly of mature individuals, as most of the Backwater subpopulation was long unburnt at the time of the estimate, with only a small portion of the subpopulation having burnt 6–7 years prior (Hunter 2001; NPWS 2024). Following the 2019 wildfires, there could have been tens of thousands of juveniles regenerating in the areas surveyed, with fewer than 70 mature individuals counted (McKemey *et al.* 2021b).
6. The factors contributing to the possible loss of the Baldersleigh and Mann River NR subpopulations are not known and there is no information on the size or extent of either subpopulation when they were first documented. Both localities are comprised of mostly contiguous remnant vegetation (Maxar 2023). Baldersleigh has no known fire history, but Mann River NR has had relatively frequent albeit patchy fires over the past three decades, with some areas experiencing fire intervals of <8 years (NPWS 2024). It is plausible that high frequency fire has led to the local extinction of *Grevillea scortechinii* subsp. *sarmentosa* at Mann River NR.
7. *Grevillea scortechinii* subsp. *sarmentosa* occurs in shrubby sclerophyll woodland, on granitic slabs and slopes and amongst low granite outcrops in sandy loam soils (Makinson 2000; OEH 2020). The subspecies is commonly found in freely draining areas with considerable water inflow, such as around the base of large outcrops and on the upper margins of swamp (Hunter 2004). Commonly co-occurring species include *Eucalyptus radiata* subsp. *sejuncta*, *E. dalrympleana* subsp. *heptantha*, *E. pauciflora*, *E. caliginosa*, *E. campanulata*, *Petrophile canescens*, *Leptospermum polygalifolium*, *Bursaria spinosa*, *Banksia integrifolia*, *Lomatia silaifolia*, *Poa sieberiana*, and *Pteridium esculentum* (Hunter 2005; OEH 2020).
8. *Grevillea scortechinii* subsp. *sarmentosa* is predominantly an obligate seeder, occasionally capable of resprouting (Hunter 2001). Clarke *et al.* (2009) listed the subspecies as capable of resprouting from basal buds. Hunter (2001) suggested

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fire intervals of less than eight years may threaten the persistence of *Grevillea scortechinii* subsp. *sarmentosa*. Lamont (2022) used modelling to estimate that fires at intervals in the order of multiple decades (30+ years) and covering at least 60% of the ground surface are optimal for the subspecies, as longer fire intervals allow plants to grow and produce more seed.

9. *Grevillea scortechinii* subsp. *sarmentosa* is threatened by adverse fire regimes (particularly high frequency fire, high severity fire and out-of-season fires), the clearing and fragmentation of habitat, weed invasion, and habitat degradation from feral pigs. 'High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition', 'Clearing of native vegetation', 'Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants', and 'Predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scrofa*)' are listed as Key Threatening Processes under the Act.
10. *Grevillea scortechinii* subsp. *sarmentosa* occurs at 1–3 threat-defined locations, as per the IUCN (2024) definition, due to the most serious plausible threat that results in the lowest number of locations being adverse fire regimes. Concurrent fires in 2019 burnt almost the entirety of the Backwater subpopulation, with only a small number of records occurring outside of the mapped fire extent. The farthest of these records is only 1.5 km from the edge of the burn area. It is plausible a future fire could burn at a scale sufficient to affect the entire Backwater subpopulation. The low end of the range of number of locations assumes the subspecies no longer persists at Baldersleigh and Mann River NR, which would result in a single threat-defined location. The high end of the range includes all three known subpopulations, with each subpopulation interpreted as a separate threat-defined location.
11. Continuing decline in the EOO, AOO, area, extent and quality of habitat, number of subpopulations, and number of mature individuals is inferred due to adverse fire regimes (particularly high frequency fire and high severity fire), the clearing and fragmentation of habitat, weed invasion, and habitat degradation from feral pigs and livestock. The inferred loss of two subpopulations has resulted in a reduction in EOO and AOO and an inferred decline in the number of mature individuals and the area and extent of habitat. Wildfires in 2019 burnt almost the entire extent of the Backwater subpopulation (NPWS 2024). After the wildfires, 99.6% of mature shrubs in monitoring plots had been killed by the wildfire (McKemey *et al.* 2021a). It is highly likely that most of the population is now composed of even-aged stands nearing or having recently completed their primary juvenile periods that may compensate mortality that occurred in the 2019 fire. However, another fire in the near future would threaten the population with decline, as the seedbank is likely to be largely depleted and not yet re-accumulated. Where the subspecies occurs on non-reserved lands, it continues to be threatened with habitat clearing and fragmentation, with ongoing vegetation clearing evident around the Backwater area based on remote sensing.
12. Climate change projections indicate a future trend of increased frequency of severe fire weather and more frequent fires (Abatzoglou *et al.* 2019; Dowdy *et al.* 2019; Jones *et al.* 2022). The New England and North West region is projected to become

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hotter, have fewer cold nights under 2°C, have more hot days over 35°C, have more dangerous fire weather days, and have a longer fire season by 2079 (BOM and CSIRO 2024; AdaptNSW 2024). Regionally, it is projected with high confidence that climate change will result in a harsher fire-weather climate in the future (CSIRO 2024). It is plausible that these changes will lead to more frequent, intense, and severe fires, and changes in fire season, which will in turn adversely affect the *Grevillea scortechinii* subsp. *sarmentosa* population in the future.

13. *Grevillea scortechinii* subsp. *sarmentosa* (Blakely & McKie) McGill. is eligible to be listed as a Critically Endangered species as, in the opinion of the NSW Threatened Species Scientific Committee, it is facing an extremely high risk of extinction in Australia in the immediate future as determined in accordance with the following criteria as prescribed by the *Biodiversity Conservation Regulation 2017*:

Assessment against *Biodiversity Conservation Regulation 2017* criteria

The Clauses used for assessment are listed below for reference.

Overall Assessment Outcome: *Grevillea scortechinii* subsp. *sarmentosa* was found to be Critically Endangered under Clause 4.3(a)(d)(e i,ii,iii,iv).

Clause 4.2 – Reduction in population size of species

(Equivalent to IUCN criterion A)

Assessment Outcome: Data Deficient

(1) - The species has undergone or is likely to undergo within a time frame appropriate to the life cycle and habitat characteristics of the taxon:			
	(a)	for critically endangered species	a very large reduction in population size, or
	(b)	for endangered species	a large reduction in population size, or
	(c)	for vulnerable species	a moderate reduction in population size.
(2) - The determination of that criteria is to be based on any of the following:			
	(a)	direct observation,	
	(b)	an index of abundance appropriate to the taxon,	
	(c)	a decline in the geographic distribution or habitat quality,	
	(d)	the actual or potential levels of exploitation of the species,	
	(e)	the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.	

Clause 4.3 - Restricted geographic distribution of species and other conditions (Equivalent to IUCN criterion B)

Assessment Outcome: Critically Endangered under Clause 4.3(a)(d)(e i,ii,iii,iv)

The geographic distribution of the species is:

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	(a)	for critically endangered species	very highly restricted, or
	(b)	for endangered species	highly restricted, or
	(c)	for vulnerable species	moderately restricted,
and at least 2 of the following 3 conditions apply:			
	(d)	the population or habitat of the species is severely fragmented or nearly all the mature individuals of the species occur within a small number of locations,	
	(e)	there is a projected or continuing decline in any of the following:	
		(i)	an index of abundance appropriate to the taxon,
		(ii)	the geographic distribution of the species,
		(iii)	habitat area, extent or quality,
		(iv)	the number of locations in which the species occurs or of populations of the species,
	(f)	extreme fluctuations occur in any of the following:	
		(i)	an index of abundance appropriate to the taxon,
		(ii)	the geographic distribution of the species,
		(iii)	the number of locations in which the species occur or of populations of the species.

Clause 4.4 - Low numbers of mature individuals of species and other conditions

(Equivalent to IUCN criterion C)

Assessment Outcome: Data Deficient

The estimated total number of mature individuals of the species is:			
	(a)	for critically endangered species	very low, or
	(b)	for endangered species	low, or
	(c)	for vulnerable species	moderately low,
and either of the following 2 conditions apply:			
	(d)	a continuing decline in the number of mature individuals that is (according to an index of abundance appropriate to the species):	
		(i)	for critically endangered species very large, or
		(ii)	for endangered species large, or
		(iii)	for vulnerable species moderate,
	(e)	both of the following apply:	
		(i)	a continuing decline in the number of mature individuals (according to an index of abundance appropriate to the species), and
		(ii)	at least one of the following applies:
		(A)	the number of individuals in each population of the species is:
		(I)	for critically endangered species extremely low, or
		(II)	for endangered species very low, or
		(III)	for vulnerable species low,

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		(B)	all or nearly all mature individuals of the species occur within one population,
		(C)	extreme fluctuations occur in an index of abundance appropriate to the species.

Clause 4.5 - Low total numbers of mature individuals of species

(Equivalent to IUCN criterion D)

Assessment Outcome: Not met

The total number of mature individuals of the species is:			
	(a)	for critically endangered species	extremely low, or
	(b)	for endangered species	very low, or
	(c)	for vulnerable species	low.

Clause 4.6 - Quantitative analysis of extinction probability

(Equivalent to IUCN criterion E)

Assessment Outcome: Data Deficient

The probability of extinction of the species is estimated to be:			
	(a)	for critically endangered species	extremely high, or
	(b)	for endangered species	very high, or
	(c)	for vulnerable species	high.

Clause 4.7 - Very highly restricted geographic distribution of species–vulnerable species

(Equivalent to IUCN criterion D2)

Assessment Outcome: Not met

For vulnerable species,	the geographic distribution of the species or the number of locations of the species is very highly restricted such that the species is prone to the effects of human activities or stochastic events within a very short time period.
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Professor Angela Moles

Chairperson

NSW Threatened Species Scientific Committee

Supporting Documentation:

Saunders M (2025) Conservation Assessment of *Grevillea scortechinii* subsp. *sarmentosa* (Blakely & McKie) McGill. (Proteaceae). NSW Department of Climate Change, Energy, the Environment and Water.

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