



Grevillea rivularis

Common name Carrington Falls Grevillea

Conservation status

Grevillea rivularis L. Johnson & D. McGillivray is listed as an **Endangered Species** on Schedule 1 of the New South Wales *Threatened Species Conservation Act, 1995*. This species is also listed as a **Endangered Species** on Schedule 1 of the Commonwealth *Endangered Species Protection Act, 1992*.

General description

G. rivularis is a spreading shrub 1-2m high. The flowers are cream to mauve-pink and the fruits are hairy with reddish-brown stripes or blotches. Additional photographs and illustrations of *G. rivularis* can be found in Olde & Marriott (1995) and photographs of the species and its habitat can be found in Jordon (1989).

Scientific description

G. rivularis (Proteaceae) is one of the "toothbrush" *Grevilleas*, a group that

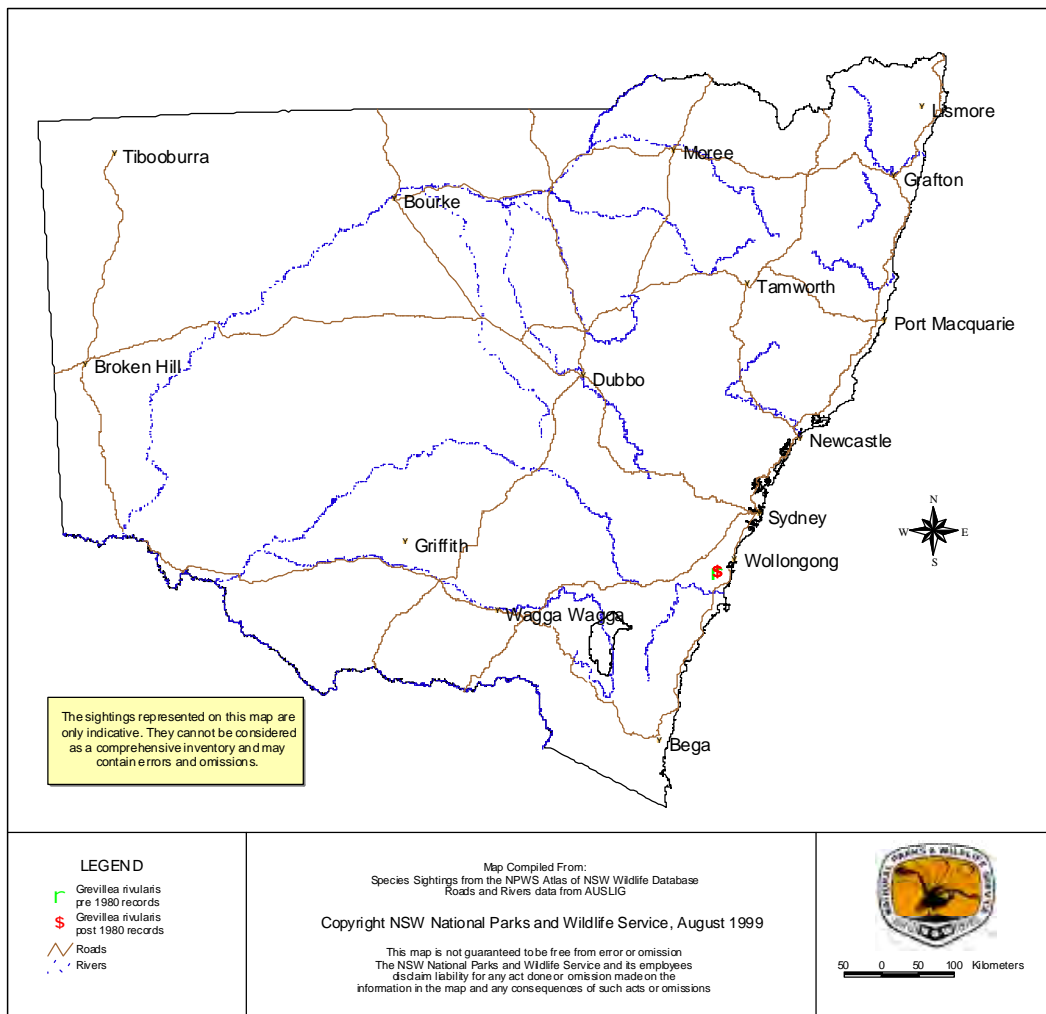
includes several rare and threatened species. It is a spreading prickly shrub, 1-2m high. Its leaves (3-6cm long) have secondary (occasionally tertiary) divisions, with 3-9 primary lobes, each with 3-5 divaricate secondary lobes. The ultimate lobes (1-3cm long, 1-2.5mm wide) are linear to very narrow-triangular and pungent. The lower surface of leaves are enclosed almost entirely by the rolled back margins. Clusters of inflorescences (conflorescences) are formed at the ends of branchlets. They are somewhat drooping and 5-6cm long. The individuals flowers all develop on the upper surface of the conflorescence axis (toothbrush-like). The perianth (7-9mm long) is glabrous and cream to mauve-pink and the style (c. 3cm long) is pale mauve with a green tip. The fruits (8-10mm long by 5-6mm wide) are a hairy follicle with reddish-brown stripes or blotches (Makinson 1991; NPWS in prep.).

G. rivularis may be confused with *G. acanthifolia* which can be distinguished by



J Briggs/NPWS

Grevillea rivularis flower



NPWS records of *Grevillea rivularis*

its hairy perianth and sessile ovary. The major distinguishing features of *G. rivularis* are outlined by Olde & Marriott (1995) and include: leaves deeply and divaricately twice-divided and conflorescence secund.

Distribution

G. rivularis is endemic to New South Wales and is known only from a small area in the vicinity of Carrington Falls, south-east of Robertson in the far south-east of the New South Wales central tablelands (Briggs & Leigh 1990). Within this region the species is known from four disjunct locations which in entirety cover an area of 1 x 0.5km (NSW NPWS in prep.). The total number of individuals is estimated to be between 1500 and 2000 plants (Briggs & Leigh 1990).

Recorded occurrences in conservation reserves

Currently approximately 10% of the total population is reserved within the Budderoo National Park. The remaining plants are all within a Crown Recreation Reserve (NPWS 1999).

Habitat

Most *G. rivularis* plants grow in dense riparian scrub and wet-heath on black alluvium and grey sandy loam overlying sandstone. Associated species include *Leptospermum lanigerum*, *Baeckea utilis*, *Acacia longifolia*, *A. terminalis*, *Hakea microcarpa*, *Banksia ericifolia*, *B. paludosa*, *Melaleuca squarrosa*, *Epacris impressa* and numerous sedges and rushes (Briggs & Leigh 1990).

Ecology

G. rivularis flowers throughout most of the year, but rarely in May-July. The flowers are pollinated by birds. This species is fire sensitive, i.e. all plants are killed by fire and regeneration is reliant upon soil stored seed for regeneration. Fire leads to a pulse of seedlings. This species seems to be particularly slow to reach maturity. One population has failed to commence flowering 5 years after the last fire. Thus if a subsequent fire occurred before this regeneration reaches a stage of adequate seed production, there would be a high risk of local extinction (Briggs & Leigh 1990).

Threats

The frequency of fire is an important factor in the long-term persistence of this species. As this species is fire sensitive, regeneration after fire is reliant upon soil stored seed. If fires are too frequent, the plants have insufficient time to build-up a soil seedbank to replace plants that are killed in the fire, and this may lead to population declines. For example, if a whole population was burnt twice within 5 years, there is a high probability of local extinction.

This species is also under threat from general degradation caused by heavy recreational use of the area. Damage has already been caused by vehicles driving off an established track, fires escaping from BBQs, visitor trampling and littering (Briggs & Leigh 1990).

Management

Current management is centred upon appropriate fire management for populations both in the National Park and on the adjoining Crown Land. Fire will not be excluded *per se* but every effort will be made to prevent frequent fire. A Fire Management Plan for Budderoo National Park and surrounds is seen as a priority for the management of the species. Research into the regeneration of the species after fire has recently commenced. It is also important that recreational activity and vehicular access along Kangaroo River in the vicinity of Carrington Falls be carefully controlled so as to avoid damage to the *G. rivularis* habitat.

Recovery plans

The NSW National Parks and Wildlife service is currently writing a recovery plan for *G. rivularis* (NPWS in prep.).



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References

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- NPWS 1999. Atlas of NSW Wildlife. NPWS, Hurstville.
- Olde P. M. and Marriott N. R. 1995. The Grevillea book. Volume 3: species M-Z. Kangaroo Press, Kenthurst.

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