

This Conservation Advice was approved by the Minister / Delegate of the Minister on:
<insert date approved>

Approved Conservation Advice
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

Approved Conservation Advice for
Nematolepis rhytidophylla

This Conservation Advice has been developed based on the best available information at the time this conservation advice was approved.

Description

Nematolepis rhytidophylla, Family Rutaceae, also known as Nalbaugh *Nematolepis* and previously known as Wrinkly Phebalium or *Phebalium rhytidophyllum*, is a densely foliated shrub to 3 m tall with warty stems and heart-shaped, slightly warty leaves to 12 mm long and 10 mm wide. The upper surface is glossy green and gland-dotted and the lower surface silvery scaly. The white five-petalled flowers with long stamens are approximately 1 cm across, in clusters of up to three in the leaf axils. The fruit has 1–5 cells each of which is about 3 mm long, and splits when ripe along the upper angle to release a shiny black seed about 2 mm long (Walsh & Albrecht, 1988; Harden, 1991).

Conservation Status

Nematolepis rhytidophylla is listed as **vulnerable**. This species is eligible for listing as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, prior to the commencement of the EPBC Act, it was listed as vulnerable under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth), as *Phebalium rhytidophyllum*. *Nematolepis rhytidophylla* is also listed as vulnerable under Schedule 2 of the *Threatened Species Conservation Act 1995* (NSW).

Distribution and Habitat

Nematolepis rhytidophylla is found at only a few sites on the Nalbaugh Plateau in the South-East Forests National Park of NSW, south-east of Bombala. It grows in shrubby habitat in rocky areas or forms part of the understorey in open forest.

The principle vegetation formation is South East Dry Sclerophyll Forest with commonly associated species including White Ash (*Eucalyptus fraxinoides*), Messmate (*E. obliqua*), Manuka (*Leptospermum scoparium*), Round-leaf Heath (*Epacris robusta*), Drooping Beard-heath (*Leucopogon gelidus*) and Finger Hakea (*Hakea dactyloides*) (Walsh & Albrecht, 1988). It also occurs in an undefined ecosystem associated with rocky cliffs and major rock outcrops (DECC, 2008). Only four populations have been detected, with an estimated total of fewer than 200 individuals (Walsh & Albrecht, 1988). This species occurs within the Southern Rivers (NSW) Natural Resource Management Region.

The distribution of this species overlaps with the “White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland” EPBC Act-listed threatened ecological community.

Threats

The main threats to *N. rhytidophylla* have been identified as changed fire regimes, exotic weeds and feral animals (ANRA, 2008). Fire frequency of less than five years is likely to cause extinction because juveniles need at least five years to reach reproductive maturity, and adults are unable to epicormically resprout (Walsh 2008, pers. comm.).

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Research Priorities

Research priorities that would inform future regional and local priority actions include:

- Monitor populations for changes to numbers or health.
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes, particularly the species' response to fire and the time taken for plants to reach reproductive maturity and re-establish the soil seed bank.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.

Regional and Local Priority Actions

The following regional priority recovery and threat abatement actions can be done to support the recovery of *Nematolepis rhytidophylla*:

Habitat Loss, Disturbances and Modification

- Monitor known populations to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Manage threats to areas of vegetation that contain populations/occurrences/remnants of *N. rhytidophylla*.
- Investigate formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.

Trampling, Browsing or Grazing

- Identify any feral animals that pose a risk to *N. rhytidophylla* and establish the level of risk (ANRA, 2008). Develop and implement a management plan for these feral species.

Fire

- Develop and implement a suitable fire management strategy for *N. rhytidophylla*.
- Provide maps of known occurrences to local and state rural fire services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.
- Protect populations (if possible) after wildfire from further burning and monitor post-fire regeneration to determine time to reproductive maturity.

Conservation Information

- Raise awareness of *N. rhytidophylla* within the local community by producing fact sheets for interest groups likely to visit potential habitat, so that further populations may be recognised if encountered.

Invasive Weeds

- Manage sites to prevent introduction of invasive weeds, which could become a threat to *N. rhytidophylla*, using appropriate methods.

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed collection and storage.
- Investigate options for linking, enhancing or establishing additional populations.
- Implement national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.

This list does not necessarily encompass all actions that may be of benefit to Pokolbin Mallee, but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

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Information Sources:

ANRA 2008, 'Australian natural resources atlas Biodiversity assessment, south-east corner', viewed 1 April 2008, <<http://www.anra.gov.au/topics/vegetation/assessment/vic/ibra-sec-species-threats.html>>.

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Walsh, NG & Albrecht, DE 1988, 'Three new species of *Phebalium* Vent. Sect. *Eriostemoides* Endl. (Rutaceae) from south-eastern Australia', *Muelleria*, vol. 6, no 6, pp. 399-409.