Australian Government
Department of Agriculture, Water and the Environment

# Conservation Advice for *Acacia ruppii* (Rupp's Wattle)

**In effect under the *Environment Protection and Biodiversity Conservation Act 1999* from 23 November 2021.**

This document provides a foundation for conservation action and further planning.

Photo of *Acacia ruppii* (Rupp's Wattle) © Copyright, Murray Fagg (2003)

## Conservation status

*Acacia ruppii* (Rupp's Wattle) is listed in the Endangered category of the threatened species list under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC Act) effective from 16 July 2000. The species is eligible for listing because prior to the EPBC Act, it was listed as Endangered under the *Endangered Species Protection Act 1992* (Cwlth).

The main factors that made the species eligible for listing in the Endangered category are its restricted geographic range and small number of subpopulations.

Species can also be listed as threatened under state and territory legislation. For information on the current listing status of this species under relevant state or territory legislation, see the Species Profile and Threat Database.

# Species information

## Taxonomy

Conventionally accepted as *Acacia ruppii* Maiden & Betche (1912).

New South Wales recognises *A. torringtonensis* Tindale (1975) (Torrington Wattle), which occurs on the Northern Tablelands from Glen Innes to Stanthorpe and considers Rupp's Wattle to be endemic to the Grafton–Coaldale area (PlantNet 2020). However, Queensland does not recognise this distinction, and considers the two taxa as conspecific, in line with the Flora of Australia (Flora of Australia 2001). Due to this taxonomic uncertainty, this Conservation Advice adopts a precautionary approach and considers Rupp's Wattle and Torrington Wattle as conspecific. However, Queensland are examining this issue and may reinstate Torrington Wattle as a species (DES 2021).

*Acacia beadleana* R.H. Jones & J.J. Bruhl (2005) occurs in the Gibraltar Range of New South Wales and is now considered a separate taxon to Rupp's Wattle (PlantNet 2020).

However, all of *A. torringtonensis, A. beadleana* and *A. ruppii* are together included under Rupp's Wattle in this document, reflecting that all were circumscribed by the former description of Rupp's Wattle at the time of listing in 2000.

## Description

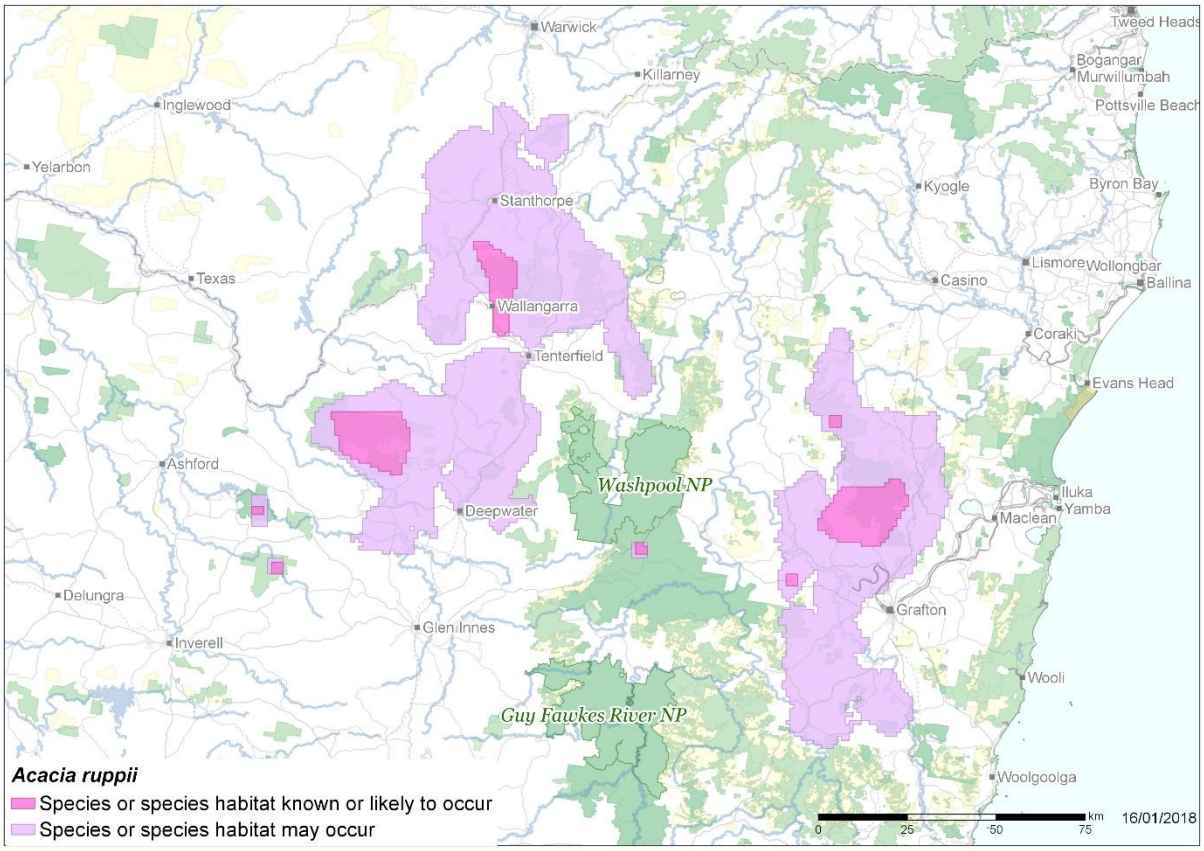
Rupp's Wattle (Family Fabaceae) is an erect, open shrub, 1–3 m in height and spread, with spindly arching branches. It has smooth grey bark and densely hairy branchlets. The leaves are crowded, about 0.8–2 cm long and 1–2 mm wide, with fine hairs especially on margins and near base and an acute mucro at the apex. The round flower heads are golden yellow and are followed by flat seed pods 4–11 cm long (PlantNet 2020). Rupp's Wattle subpopulations on the Northern Tablelands (i.e. Torrington Wattle) have solitary or clustered inflorescences (racemose on subpopulations from Grafton–Coaldale) and hairy phyllodes and pods (almost glabrous in subpopulations from Grafton–Coaldale) (PlantNet 2020).

## Distribution

Rupp's Wattle occurs in an area from Grafton north to Mount Neville Nature Reserve and inland of the Great Dividing Range between Glen Innes and Stanthorpe (Map 1). Records from Gibraltar Range National Park are referrable to *Acacia beadleana* (DPIE 2021). Relatively large subpopulations of this species occur within reserves with over 34 000 individuals recorded in Banyabba State Conservation Area (DPIE 2020) and probably substantially more than 6761 plants at Fortis Creek National Park (DPIE 2021). Subpopulations of Rupp's Wattle occur at Banyabba State Conservation Area, Banyabba Nature Reserve, Fortis Creek National Park, Coaldale–Stockyard Creek, Wombat Creek State Conservation Area and Mount Neville Nature Reserve, on the Northern Tablelands at Kings Plains National Park, Torrington State Conservation Area and Severn River Nature Reserve, and in Queensland at Girraween National Park (ALA 2020).

There is no information on the population trajectory of Rupp's Wattle, although a subpopulation around Copmanhurst has not been recorded since the early 1900s and is probably extinct (ALA 2020). Other populations are located in secure land tenure and there is no evidence they are declining (DPIE 2020). Baseline data on the size of subpopulations is lacking for this species.

**Map 1 Modelled distribution of Rupp's Wattle (*A. ruppii, A. torringtonensis* and *A. beadleana*)**




**Source:** Species distribution data Species of National Environmental Significance database, Base map Geoscience Australia.
**Caveat:** The information presented in this map has been provided by a range of groups and agencies. While every effort has been made to ensure accuracy and completeness, no guarantee is given, nor responsibility taken by the Commonwealth for errors or omissions, and the Commonwealth does not accept responsibility in respect of any information or advice given in relation to, or as a consequence of, anything containing herein.
**Species distribution mapping:** The species distribution mapping categories are indicative only and aim to capture (a) the specific habitat type or geographic feature that represents to recent observed locations of the species (known to occur) or preferred habitat occurring in close proximity to these locations (likely to occur); and (b) the broad environmental envelope or geographic region that encompasses all areas that could provide habitat for the species (may occur). These presence categories are created using an extensive database of species observations records, national and regional-scale environmental data, environmental modelling techniques and documented scientific research.

## Cultural and community significance

The cultural significance of Rupp's Wattle is not well understood, although many *Acacia* species were used by Indigenous people for a variety of purposes (Australian National Botanic Gardens 2007). The open forest and shrublands in which Rupp's Wattle grows have a long and profound history of management by Indigenous people.

## Relevant biology and ecology

*Reproductive ecology*

The flowering period of Rupp's Wattle is from July to September (PlantNet 2020). Wattle species are mostly pollinated by insects, particularly bees, and offer only pollen as a reward (Stone et al. 2003). Little is known about longevity or generation length of Rupp's Wattle, although like many

wattles, Rupp's Wattle plants probably have relatively short lifespans of around 20-40 years (Richardson & Kluge 2008).

*Habitat ecology*

From Grafton to Coaldale, Rupp's Wattle grows in dry open forest and shrubland in sandstone areas, often near creeks, and lower to mid slopes on intermediate to sheltered aspects. It grows in the understorey below *Eucalyptus planchoniana* (Needlebark Stringybark), *Corymbia gummifera* (Red Bloodwood) and *Angophora woodsiana* (Smudgy Apple). On the Northern Tablelands Rupp's (Torrington) Wattle grows in heath amongst granite outcrops in dry sclerophyll forest and woodland (PlantNet 2020). Rupp's Wattle (*A. beadleana*) in Gibraltar Range grows in dry sclerophyll forest, woodland and heath (PlantNet 2020).

*Fire ecology*

Rupp's Wattle is an obligate seeder with adults killed by fire (DPIE 2021). Seedling recruitment was observed post-fire at burnt locations in Fortis Creek National Park after the 2019–20 bushfires. The time to maturity following fire is yet to be determined.

## Habitat critical to the survival

Due to the species eligibility for listing (highly restricted range and small population size), all habitat is considered critical to the survival of the species.

No Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat.

## Important populations

In this section, the word population is used to refer to subpopulation, in keeping with the terminology used in the EPBC Act and state/territory environmental legislation.

There is sufficient evidence through the species eligibility for listing, to declare all populations/the national population as important populations of this species under particular pressure of survival and which therefore require protection to support the recovery of the species.

## Threats

The threats to Rupp's Wattle are likely to include high frequency fire, road maintenance activities, clearing of habitat for agriculture and browsing by stock or introduced herbivores (DPIE 2020). Despite these threats, Rupp's Wattle is likely to be secure in NSW for the long term without targeted management, assuming adequate ongoing management of habitat within the public reserve system (DPIE 2020).

## Table 1 Threats impacting Rupp's Wattle

| Threat | Status and severity [a] | Evidence |
|---|---|---|
| Climate change | | |
| Increased severity and frequency of bushfire | Timing: current<br>Confidence: inferred<br>Consequence: moderate<br>Trend: increasing<br>Extent: across the entire range | The CSIRO & Bureau of Meteorology (2015) predict eastern Australia will experience increased frequency and severity of bushfires.<br>Analysis by the Wildlife and Threatened Species Bushfire Recovery Expert Panel, based on intersecting the modelled distribution of the Rupp's Wattle and the National Indicative Aggregated Fire Extent Dataset, indicates that approximately 43% of the range of the species was within the extent of the 2019-20 bushfires (Gallagher 2020). However, this may be an overestimate of impacts to the species, as large populations remained mostly unburnt, including over 90% of plants at Fortis Creek National Park (DPIE 2021).<br><br>Rupp's Wattle is an obligate seeder with adults killed by fire (DPIE 2021). Seedling recruitment was observed post-fire at burnt locations in Fortis Creek National Park after the 2019–20 bushfires. The time to maturity following fire is yet to be determined.<br>The major threat from fire is probably the impacts of multiple fires occurring in short timeframes, which could kill immature plants before they reach reproductive maturity and deplete the soil seed bank (DECCW 2010). |
| Habitat loss and destruction | | |
| Clearing for agriculture | • Timing: current<br>• Confidence: suspected<br>• Consequence: moderate<br>• Trend: unknown<br>• Extent: across part of its range | Land clearing remains a threat to populations on private land as localised clearing is still ongoing, likely impacting plants in some areas and reducing the area of habitat for the species (DECCW 2010; DPIE 2020). However, the low nutrient soils on which the species grows are not preferred for clearing for agriculture (DPIE 2021). |
| Road maintenance activities | • Timing: current<br>• Confidence: suspected<br>• Consequence: minor<br>• Trend: static<br>• Extent: across part of its range | Rupp's Wattle plants on roadsides may be killed or damaged accidentally during spraying, slashing, construction of drainage channels, grading and other road and powerline maintenance activities (DECCW 2010; DPIE 2020). Recent surveys identified trackside subpopulations prior to undertaking grading works (DPIE 2021). |
| Introduced species | | |
| Browsing by stock | • Timing: current<br>• Confidence: suspected<br>• Consequence: not significant<br>• Trend: unknown<br>• Extent: across the entire range | Stock browsing may be impacting plants in private property or leased public land (DECCW 2010; DPIE 2020). However, as much of the distribution of Rupp's Wattle is in protected areas away from private or leasehold land (Map 1), the consequence of this threat is unlikely to be significant. |

Status—identify the temporal nature of the threat;
Confidence—identify the extent to which we have confidence about the impact of the threat on the species;
Consequence—identify the severity of the threat;
Trend—identify the extent to which it will continue to operate on the species;
Extent—identify its spatial content in terms of the range of the species.

Each threat has been described in Table 1 in terms of the extent that it is operating on the species. The risk matrix (Table 2) provides a visual depiction of the level of risk being imposed by a threat and supports the prioritisation of subsequent management and conservation actions. In preparing a risk matrix, several factors have been taken into consideration, they are: the life stage they affect; the duration of the impact; and the efficacy of current management regimes, assuming that management will continue to be applied appropriately. The risk matrix and ranking of threats has been developed in consultation with experts using available literature.

**Table 2 Rupp's Wattle risk matrix**

| **Likelihood** | **Consequences** | | | | |
|---|---|---|---|---|---|
| | **Not significant** | **Minor** | **Moderate** | **Major** | **Catastrophic** |
| **Almost certain** | Low risk | Moderate risk | Very high risk | Very high risk | Very high risk |
| **Likely** | Low risk<br>**Browsing by stock** | Moderate risk | High risk<br>**Increased severity and frequency of bushfire** | Very high risk | Very high risk |
| **Possible** | Low risk | Moderate risk<br>**Road maintenance activities** | High risk | Very high risk | Very high risk |
| **Unlikely** | Low risk | Low risk | Moderate risk<br>**Clearing for agriculture** | High risk | Very high risk |
| **Unknown** | Low risk | Low risk | Moderate risk | High risk | Very high risk |

Priority actions have then been developed to manage the above threats.

# Conservation and recovery actions

## Primary conservation objective

By 2030, the population of Rupp's Wattle will have increased in abundance and viable populations are sustained in habitats where very high risk threats are managed effectively.

## Conservation and management priorities

### Climate change and fire

- Develop and implement a fire management strategy that optimises the survival of Rupp's Wattle.
  - Avoid planned burns in all recently burnt habitat.
  - Take the likelihood of increasingly frequent bushfires into account when developing planned burning programs, to avoid excessively frequent burning of any subpopulations.

- Monitor burnt subpopulations after planned and unplanned fires to develop knowledge of fire regimes appropriate to the species
- Identify current and future habitat likely to remain or become suitable habitat due to climate change.

**Habitat loss and disturbance**

- Ensure subpopulations of Rupp's Wattle are protected from land clearing.
- Liaise with landowners about entering into voluntary management agreement to maintain or enhance the species and its habitat (DPIE 2020).
- Ensure all subpopulations are adequately documented on databases used by land managers and, where deemed necessary, physically identified to avoid accidental damage.

**Introduced species**

- Review grazing arrangements on public land where there is evidence that stock grazing is damaging plants or causing a decline in habitat quality.
- Encourage private land owners to exclude stock from populations of Rupp's Wattle on private land.
- Monitor the impacts of introduced herbivores and implement control programs if there is evidence they are negatively impacting Rupp's Wattle.
- Ensure ex situ collections of seed for storage at herbaria to develop knowledge of seed ecology and propagation.

**Breeding, seed collection, propagation and other ex situ recovery action**

- To manage the risk of losing genetic diversity, undertake appropriate seed collection and storage in long-term custodial collections until no longer needed, and determine the viability of stored seeds. Best practice seed storage guidelines and procedures should be adhered to, to maximise seed viability and germinability.

## Stakeholder engagement/community engagement

- Engage and involve Traditional Owners in conservation actions, including survey, monitoring and management actions.
- Liaise with the local community and government agencies to ensure that up-to-date population data and scientific knowledge inform the implementation of conservation actions for this species.
- Engage interested nature conservation, land management and land holder groups in conservation management activities, such as survey and monitoring, and the broader local community through participation at local community events and collaboration with local schools.

## Survey and monitoring priorities

- Conduct targeted surveys throughout the range of Rupp's Wattle to better inform the number, size and trends of subpopulations, the identity and seriousness of threats and the requirement for a monitoring program or management of threats. Baseline data on the number and approximate size of subpopulations are lacking for this species.

- If required, establish and maintain a monitoring program to:
    - document post-fire recovery;
    - determine tolerable fire regimes (frequency, intensity, seasonality);
    - determine trends in population size and distribution;
    - determine threats and their impacts; and,
    - monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

### Information and research priorities

- Confirm the taxonomic status of Rupp's Wattle, Torrington Wattle and *A. beadleana*.
- Improve understanding of post-fire recovery, population trends, feral herbivore threats and the effect of drought, through monitoring of the species.
- Develop knowledge of seed ecology and propagation.

## Links to relevant implementation documents

Northern Rivers Regional Biodiversity Management Plan, National Recovery Plan for the Northern Rivers Region (2010)

NSW Saving Our Species strategy - Rupp's Wattle (*Acacia ruppii*)

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**Cataloguing data**

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