

## Nomination to change the conservation class of a species under the Queensland *Nature Conservation Act 1992*

Complete this form to nominate a species for assessment of its conservation class under the *Nature Conservation Act 1992* (NC Act). Any subspecies, variety, race, hybrid, mutation or geographically separate population (hereafter 'species') can be nominated. The appropriate conservation class will be selected during an expert assessment process and, following approval processes, reflected in the next suitable update of the NC Act.

A species may be nominated to an appropriate conservation class from any other conservation class. The nomination assessment process may result in a species being recommended to the conservation class as nominated, or to a class better supported by scientific data and expert opinion. Assessments and nominations will be shared with the Commonwealth and other Australian jurisdictions within the species' distribution.

All plant and vertebrate species native to Queensland are protected under the NC Act and classified as Least Concern unless found eligible for a different conservation class. Invertebrate species are only protected under the NC Act if specifically named under a conservation class. A species can be nominated for listing or reassignment from any conservation class to:

A national threat category:

- Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (E) or Vulnerable (V) if it meets at least one of the International Union for Conservation of Nature (IUCN) criteria for species at risk of extinction

A state threat class:

- Near Threatened (NT) if the species meets at least one of the criteria for species at risk of becoming threatened in the future based on concerns relating to population dynamics or threats
- Least Concern (LC) if evidence is provided that no criteria for a higher class have been met, and the species won't become eligible for a higher class in the foreseeable future should conservation actions cease due to reclassification.

The assessment of species against the national threat categories reflected in this form complies with the [Memorandum of Understanding](#) for the Common Assessment Method (CAM) between the Commonwealth and Australian states and territories. The objective of the CAM is for partner jurisdictions to adopt each other's national assessments as appropriate. Information about the CAM can be found at <https://www.qld.gov.au/environment/plants-animals/wildlife-permits/common-assessment>.

To nominate a species with an Australian distribution that is not restricted to Queensland, use the nomination form and guidelines at <https://www.dcceew.gov.au/environment/biodiversity/threatened/nominations/forms-and-guidelines> and email the completed form to the Australian Government at [EPBC.nominations@environment.gov.au](mailto:EPBC.nominations@environment.gov.au).

## Important notes for completing this form

- **To enable a species eligibility for listing to be assessed against the criteria, please complete the form as comprehensively as possible by providing a response in each box with an orange border.**
- Completing a nomination is a demanding task. Nominators are encouraged to seek advice from experts where appropriate to assist in completing the nomination form.
- The opinion of scientific experts may be cited as personal communication with their approval. Please provide the experts names, qualifications and contact details (including employment in a government agency if relevant) in the reference list at the end of the form.
- Include any available information and analysis or state when the required information is not available.
- Figures, tables and maps can be included at the end of the form or provided as separate electronic files or hardcopy documents (referenced as appendices or attachments in your nomination).
- Cross-reference relevant areas of the nomination form where needed.
- **Reference all information sources**, both in the text and in a reference list at the end of the form.
- Identify confidential material and the reason it is sensitive. With the exception of information you have identified as confidential, nominations under the CAM process may be made available by a state, territory or the Commonwealth Government to experts or the public for comment.
- If the species is listed nationally, the Australian Government will publish nomination information on its website. Your details as nominator will not be released and will be treated as confidential information.
- Guidance on interpreting this nomination form can be found in the “*Guidelines for Assessing the Conservation Status of Native Species*” developed by the Australian Government under the EPBC Act here <https://www.dceew.gov.au/environment/biodiversity/threatened/nominations/forms-and-guidelines>. Although not fully relevant under the NC Act, the guidelines provide assistance on several aspects of this form. Please email [SpeciesTechnical.Committee@des.qld.gov](mailto:SpeciesTechnical.Committee@des.qld.gov) for further advice on completing the nomination.

## Further information on selected questions

### INTRODUCTION

Species native to Queensland may be nominated to any conservation class under the NC Act, including to transfer between classes. If the taxon at risk is a population or hybrid, or if you wish to know if it has been unsuccessfully nominated under the NC Act in the past, please contact the Queensland Department of Environment and Science for advice at [SpeciesTechnical.Committee@des.qld.gov.au](mailto:SpeciesTechnical.Committee@des.qld.gov.au).

To search for a species' conservation class under the NC Act please refer to the *Nature Conservation (Wildlife) Regulation 2006*: <https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2006-0206>.

You can also search the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) list of threatened species in the Species Profile and Threats Database (SPRAT) at [www.environment.gov.au/cgi-bin/sprat/public/sprat.pl](http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl).

The full lists of threatened fauna and flora under the EPBC Act are available here: [www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=fauna](http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=fauna)  
[www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=flora](http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=flora).

You can find a list of nominated species that did not meet the assessment criteria for listing under the EPBC Act at <https://www.dceew.gov.au/environment/biodiversity/threatened/nominations/ineligible-species>.

**A nomination to transfer a species from a threatened conservation class to Least Concern or Near Threatened under the NC Act need not address sections marked with an asterisk (\*).**

## SCIENTIFIC AND COMMON NAMES OF NOMINATED SPECIES

- Provide the currently accepted scientific and common name(s) for the species (including Indigenous names, where known). Note any other scientific names that have been used recently such as superseded names.

## TAXONOMY

- Record the species' authority and the taxonomic group to which it belongs (Family name is sufficient for plants; both Order and Family name are required for fauna).
- Is the species known to hybridise with other species? Describe any cross-breeding with other species in the wild, indicating where and how frequently this occurs.

## DISTRIBUTION

- In accordance with the CAM, the Commonwealth is the default assessment 'lead' for species occurring across multiple Australian jurisdictions, and the nomination will be subject to the prioritisation and assessment process under the EPBC Act. Download the nomination form here <https://www.dcceew.gov.au/sites/default/files/env/pages/d72dfd1a-f0d8-4699-8d43-5d95bbb02428/files/nomination-form-species.pdf>, and email it to [epbc.nominations@environment.gov.au](mailto:epbc.nominations@environment.gov.au). Further information on the EPBC Act nomination, prioritisation and assessment process is available at <https://www.dcceew.gov.au/environment/biodiversity/threatened/nominations>.  
Note: where the relevant jurisdictions agree, a State or Territory (rather than the Commonwealth) may take the lead on assessing a cross-jurisdictional species, in consultation with the Commonwealth and other jurisdictions.
- A nomination for a species endemic to Queensland or with its only Australian distribution in Queensland, for example a species only occurring in Queensland and Papua New Guinea, can be assessed under the NC Act. Please submit your completed nomination form to [SpeciesTechnical.Committee@des.qld.gov.au](mailto:SpeciesTechnical.Committee@des.qld.gov.au).
- Describe the species' current geographic distribution within Queensland, and where applicable, outside Australia.
- Provide a map, if available, indicating latitude, longitude, map datum and location names
  - Indicate the percentage of the global population that occurs in Queensland, and what is its significance?
  - Is the Queensland population distinct, geographically isolated, or does part or all of the population migrate into/out of the Queensland jurisdiction?
  - Explain the relationship between the Queensland population and the global population.
  - Do global threats affect the Queensland population?
- Give locations of other existing or proposed populations such as populations that are captive, propagated, naturalised outside their range, recently re-introduced to the wild, and planned to be re-introduced. Note if these sites have been identified in recovery plans. Provide latitude, longitude, map datum and location name, where available, in an attached table.
- Give details of fauna species' home ranges/territories including any relevant daily and seasonal or irregular movement patterns, such as arrival/departure dates if migratory.
- Does the species occur within an EPBC Act listed ecological community? You will find a list of EPBC Act listed ecological communities here: [www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl](http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl).

## BIOLOGY/ECOLOGY

- **Life cycle:** Provide detail on the age at sexual maturity, average life expectancy, natural mortality rates, and generation length
  - "*Generation length*" is defined as the average age of parents of the current cohort (i.e. newborn individuals in the population), and reflects the turnover rate of breeding individuals in a population. Generation length is greater than the age at first breeding and less than the age of the oldest breeding individual, except in species that breed only once. Where generation length varies under threat, use the more natural pre-disturbance generation length. It is often calculated as = (longevity + age at maturity)/2. Provide details of the method(s) used to calculate the generation length.
- **Reproduction:** Provide detail on the reproductive requirements of this species.
  - **Flora:** When does the species flower and set fruit? What conditions are needed for this? What are the pollinating and seed dispersal mechanisms? If the species reproduces vegetatively, describe when, how and what conditions are needed. Does the species require a disturbance regime (e.g. fire, cleared ground) to reproduce?
  - **Fauna:** provide an overview of the species' breeding system and breeding success, including: when it breeds; what conditions are needed for breeding; whether there are any breeding behaviours that may make it vulnerable to a threatening process.
- **Habitat**
  - Provide information on aspect, topography, substrate, climate, forest type, associated species, sympatric species and anything else that is relevant to the species' habitat.
  - Explain how habitats are used (e.g. breeding, feeding, roosting, dispersing, basking, etc.).
  - Does the species use refuge habitat (e.g. in times of fire, drought or flood)? Describe this habitat.
- **Feeding (fauna):**

- Summarise the feeding behaviours, diet, and the timing/seasonality associated with these. Include any behaviour that may make the species vulnerable to a threatening process.
- **Movement (fauna):** provide information on daily and seasonal movement patterns.

## IDENTIFICATION OF KNOWN THREATS AND IMPACTS OF THE THREATS

- For each threat, describe:
  - a. whether it is actual or potential
  - b. how and where it impacts on this species
  - c. what its effect has been so far (is the threat known or suspected?, does it only affect certain populations?) Present supporting information/research).
  - d. its expected effect in the future (is the threat known or suspected?, does it only affect certain populations?, is there supporting research/information?) Present supporting information/research).
  - e. its relative importance or the magnitude of the impact on the species.
- Identify and explain any additional biological characteristics particular to the species that are threatening to its survival (e.g. low genetic diversity).
- If subject to natural catastrophic events, i.e. events with a low predictability that are likely to severely affect the species, identify the type of event, its likely impact, and its likelihood of occurrence (e.g. a drought/cyclone in the area every 100 years). If **climate change** is an important threat to the species, provide referenced information on how climate change might significantly increase the species' vulnerability to extinction. Please refer to the *Guidelines for Assessing the Conservation Status of Native Species*: <https://www.dcceew.gov.au/sites/default/files/env/pages/d72dfd1a-f0d8-4699-8d43-5d95bbb02428/files/tssc-guidelines-assessing-species-2021.pdf>.

## \*CONSERVATION ADVICE: THREAT ABATEMENT AND RECOVERY ACTIONS

- Describe how threats are or could be abated and/or species recovered.
- Identify who is undertaking these activities and how successful the activities have been to date.
- Describe any mitigation measures or approaches that have been developed specifically for the species at identified locations. Identify who is undertaking these activities and how successful the activities have been to date.
- For species nominated as Extinct in the Wild, provide location details for any naturalised or captive populations and the level of human intervention required to sustain the species.

## IMPACT OF TRANSFERRING A THREATENED SPECIES TO NEAR THREATENED OR LEAST CONCERN

- Only complete this section if you are nominating a species for transfer to Near Threatened or Least Concern from a class of nationally threatened wildlife (Extinct, Extinct in the Wild, Critically Endangered, Endangered or Vulnerable).
- Provide details of the expected impact on the species if conservation actions ceased following its transfer out of a threatened wildlife class.

## CURRENT LISTING CLASS AND CATEGORY

- Note: The term 'class' under the NC Act is equivalent to the term 'category' under the EPBC Act.
- Select the species' current class under the NC Act where applicable. Search the species' NC Act class here: <https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2006-0206>.
- Select the species' current category under the EPBC Act where applicable. Search the Australian Government SPRAT Database here: [www.environment.gov.au/cgi-bin/sprat/public/sprat.pl](http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl).

## NOMINATED LISTING CLASS

- **After completing the section 'Eligibility against the criteria'** sufficient evidence should be available to determine your response to this section. Please select the NC Act class to which the species is being nominated.

## REASONS FOR A NOMINATION TO TRANSFER TO ANOTHER CLASS

Please describe why the species is being nominated to transfer to another conservation class in Queensland:

- *Genuine*. The change in class is the result of a genuine status change that has taken place since the previous assessment. For example, the change is due to an increase in the rate of decline, a decrease in population or range size or habitat, or declines in these for the first time (owing to increasing/new threats).
- *Knowledge*. The change in class is the result of new knowledge, e.g. owing to new or newly synthesised information about the status of the taxon (e.g. better estimates for population size, range size or rate of decline).
- *Taxonomy*. The change in class is due to a taxonomic change adopted during the period since the previous assessment. Such changes include:

- *newly split* (the taxon is newly elevated to species level)
- *newly described* (the taxon is newly described as a species)
- *newly lumped* (the taxon is recognised following lumping of two previously recognised taxa)
- *no longer valid/recognised* (either the taxon is no longer valid, e.g. because it is now considered to be a hybrid, variant form or subspecies of another species, or the previously recognised taxon differs from a currently recognised one as a result of a split or lump).
- *Mistake*. The previous class was applied in error.
- *Other*. The change in class is the result of other reasons not easily covered by the above, and/or requires further explanation. Examples include change in assessor's attitude to risk and uncertainty.

## INITIAL LISTING

- The reasons for the initial NC Act listing may be available in the original nomination for the species. This can be obtained by emailing the Department of Environment and Science's Species Technical Committee at [SpeciesTechnical.Committee@des.qld.gov.au](mailto:SpeciesTechnical.Committee@des.qld.gov.au).
- The reasons for EPBC Act listing may also be available. Search for the species' EPBC Act listing and conservation advice for threatened species in the SPRAT Database [www.environment.gov.au/cgi-bin/sprat/public/sprat.pl](http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl).
- If there is insufficient information to provide details of the reasons for the original listing, please state this.

## CHANGES IN SITUATION LEADING TO THE NOMINATION TO TRANSFER TO ANOTHER CLASS

- Describe the changes that have occurred or are likely to occur to the species' population, range or habitat that influence the nomination to change the species' conservation class.

## ELIGIBILITY AGAINST CRITERIA

- For a species to be eligible as Near Threatened or a class of threatened wildlife, it must be assessed as meeting **at least one** of the five 'criteria' on this nomination form. For example, for a species listed as Vulnerable to be transferred to the Endangered class, it must meet the threshold/s for at least one of the five criteria for Endangered.
- A species does not have to be found eligible for the same class under all criteria; however, all questions must be answered. If information is not available for a particular criterion, a statement to this effect is required.
- If you hold unpublished data that support assessment of a criterion, you must provide them with the nomination.
- Standards for assessing a species' conservation status in Australia align with the IUCN Red List Criteria and Categories. Please refer to the IUCN guidelines for explanations of how to address the criteria <http://s3.amazonaws.com/iucnredlist-newcms/staging/public/attachments/3151/redlistguidelines.pdf>.

## DECLARATION

In signing this nomination form, you agree to grant the Queensland Government (as represented by the Department of Environment and Science) a perpetual, non-exclusive, worldwide, royalty-free licence to use, reproduce, publish, communicate and distribute information that you have provided in the nomination form that is not referenced to other sources with the exception of information specifically identified by you as confidential, in websites and publications and to promote those websites and publications in any medium.

As nominator, your details are automatically subject to the provisions of the *Privacy Act 1988* and will not be divulged to third parties. The Commonwealth, State and Territory governments have agreed to collaborate on national threatened species assessments using the CAM. As part of this collaboration, your nomination, including your details as nominator, may be provided to other government jurisdictions, who will also observe these privacy and confidentiality arrangements.

If you subsequently agree to be cited as the author of specific, cited information, you will be acknowledged in all publications and websites in which that information appears, in a manner consistent with the *Style Manual for Authors, Editors and Printers* (latest edition).

# Nomination form to change the conservation class of a species in Queensland

## Details of the nominated species

### SCIENTIFIC NAME OF SPECIES (SUBSPECIES, VARIETY, ETC. TO BE SPECIFIED WHERE RELEVANT)

*Rhodamnia angustifolia* N. Snow & Guymer

### COMMON NAME(S)

Narrow-leaved Malletwood

### TAXONOMY

Provide any relevant detail on the species' taxonomy (e.g. authors of taxon or naming authority, year and reference; synonyms; Family and Order).

N. Snow & Guymer

Snow, N., and Guymer, G. P. (1999). *Rhodamnia angustifolia* (Myrtaceae), a new and endangered species from south-eastern Queensland. *Austrobaileya* 5(3), 421-426.

Myrtales: Myrtaceae

### \*CONVENTIONAL ACCEPTANCE OF TAXONOMY

Is the species' taxonomy conventionally accepted?

Yes

No

If the species is not conventionally accepted, please provide the following information:

- a taxonomic description of the species in a form suitable for publication in conventional scientific literature

OR

- evidence that a scientific institution has a specimen of the species, and a written statement signed by a person who is a taxonomist and has relevant expertise (has worked with, or is a published author on, the group of species nominated) that the species is considered to be a new species.

[Click or tap here to enter text.](#)

### \*DESCRIPTION

Provide a description of the species. Include where relevant its distinguishing features, size and social structure.

How distinct is this species in its appearance from other species? How likely is it to be misidentified?

#### Short description

An erect shrub to tree, 4-10 m tall with grey, rough and fissured bark (Snow 2007). Leaves narrowly elliptic to narrow elliptic-obovate, glabrous or slightly hairy, 20-70 mm long and 5-12 mm wide, with obscure oil glands (Snow 2007). The leaves are strongly discolourous; darker green above with a white underside (Figure 4). Inflorescence are monad, with pedicels 0.5-1.5 mm long and creamy-white flowers. Fruit 3-5 mm long and 4-6 mm wide, globose and red-yellow when mature with 1-2 seeds (Snow 2007).

#### Full description (as in Snow and Guymer 1999):

"Single or multi-stemmed erect trees, 4-10 m tall. Bark of main trunk smooth but furrowed and somewhat flaking in small angular greyish. Branches of current year's growth rounded, brownish, smooth, sparsely sericeous but becoming glabrous; oil absent. Stipules of two to several very (and obscure) ferruginous setose hairs. Leaves opposite, decussate, discolourous, coriaceous, trinerved, mostly narrowly but occasionally narrowly obovate or falcate, 20-70(-85) mm long, (3-)5- 12(- 15) mm cuneate at base, obtuse to acute at margins flat; adaxial surface sparsely sericeous becoming glabrous, oil glands scattered dense but usually invisible to naked midvein impressed; abaxial surface very and densely tomentose, lateral, tertiary intramarginal veins usually prominent. 2.5-4.0 mm long, channelled, eglandular. Inflorescence a cluster of 2-7 flowers on short shoots less than 1 mm long in axils of leaves or leaf scars; peduncles rigid, up to 1.5 mm long, shortly sericeous. Bracteoles two, narrowly ovate, not foliaceous, c. 0.5 mm long by 0.3 mm wide, rigid, not exceeding base of sepal lobes, sericeous, caducous in fruit. Hypanthium obconic to urceloate, the tube not extending beyond ovary apex, oil glands sparse to common and visible with magnification, sparsely short sericeous. Sepals 4, distinct in bud, lobes free, 0.3-0.5 mm long, broadly ovate, apex rounded to obtuse, sparsely short sericeous above and below, persistent in fruit, mostly ascending above body of fruit. Petals four,

*alternate with sepals, yellowish-white, c. 2.5 mm long by 3.0 mm wide, broadly ovate to oblate, apex rounded, glabrous above but margins somewhat ciliate, glabrous below, oil glands sparse but visible with magnification. Stamens 65-75, multiseriate, excluded, folded centrewards in bud; filaments 2-4 mm long, staminal disk glabrous; anthers globose, dorsifixed near base, versatile, 0.5-0.8 mm long, dehiscent via longitudinal slits, with a single apical gland. Ovary 1-locular 1 with 2 parietal placentas; ovules 18-21 and attached irregularly. Style 1, 4.5-5.0 mm long, mostly straight, glabrous, narrowly if at all capitate. Fruit a berry, subglobose to globose, rounded at base, 3-5 mm long by 4-6 mm wide, glabrous or glabrescent, yellowish orange with some red when fresh but increasingly red upon drying. Seeds 1 or 2(-4), globose or suborbicular to somewhat reinform, smooth, light brown; testa hard and somewhat bony; adjacent seeds not fused. Embryo slightly curved to C-shaped, lacking oil glands; hypocotyl longer than cotyledons, about same diameter as cotyledonary pair, barely swollen near radicle, the tip at same horizontal (= transverse) plane as cotyledons; cotyledons relatively thin (see Landrum and Stevenson 1986), not folded back towards hypocotyl”.*

## DISTRIBUTION

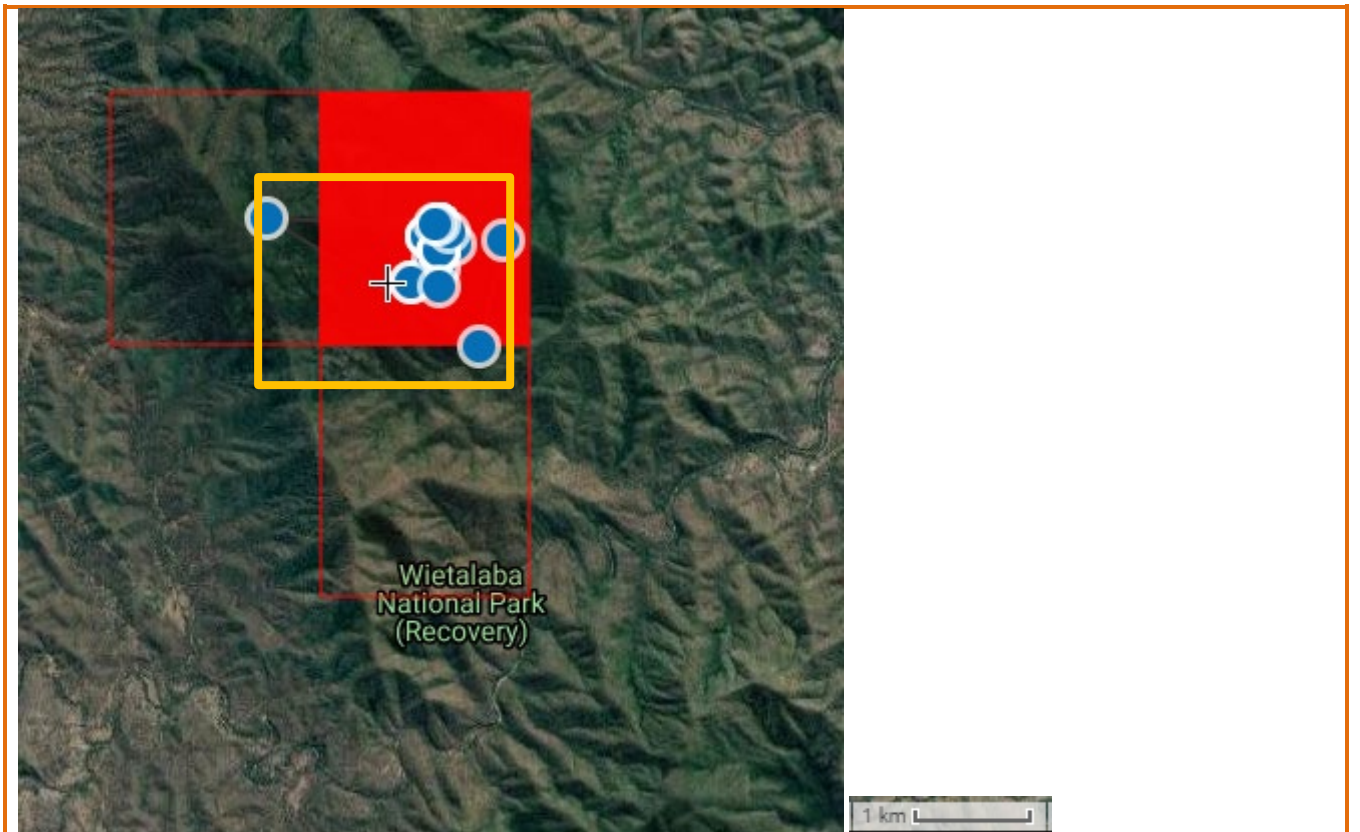
Provide a succinct overview of the species' known or estimated current and past distribution, including international/national distribution. Provide a map if available.

Is the species' habitat protected within the reserve system (e.g. national parks, Indigenous Protected Areas, or other conservation estates, private land covenants, etc.)? If so, which populations? Which reserves are actively managed for this species? To your knowledge, which reserves are being actively managed in way that provides incidental benefits for this species? Give details.

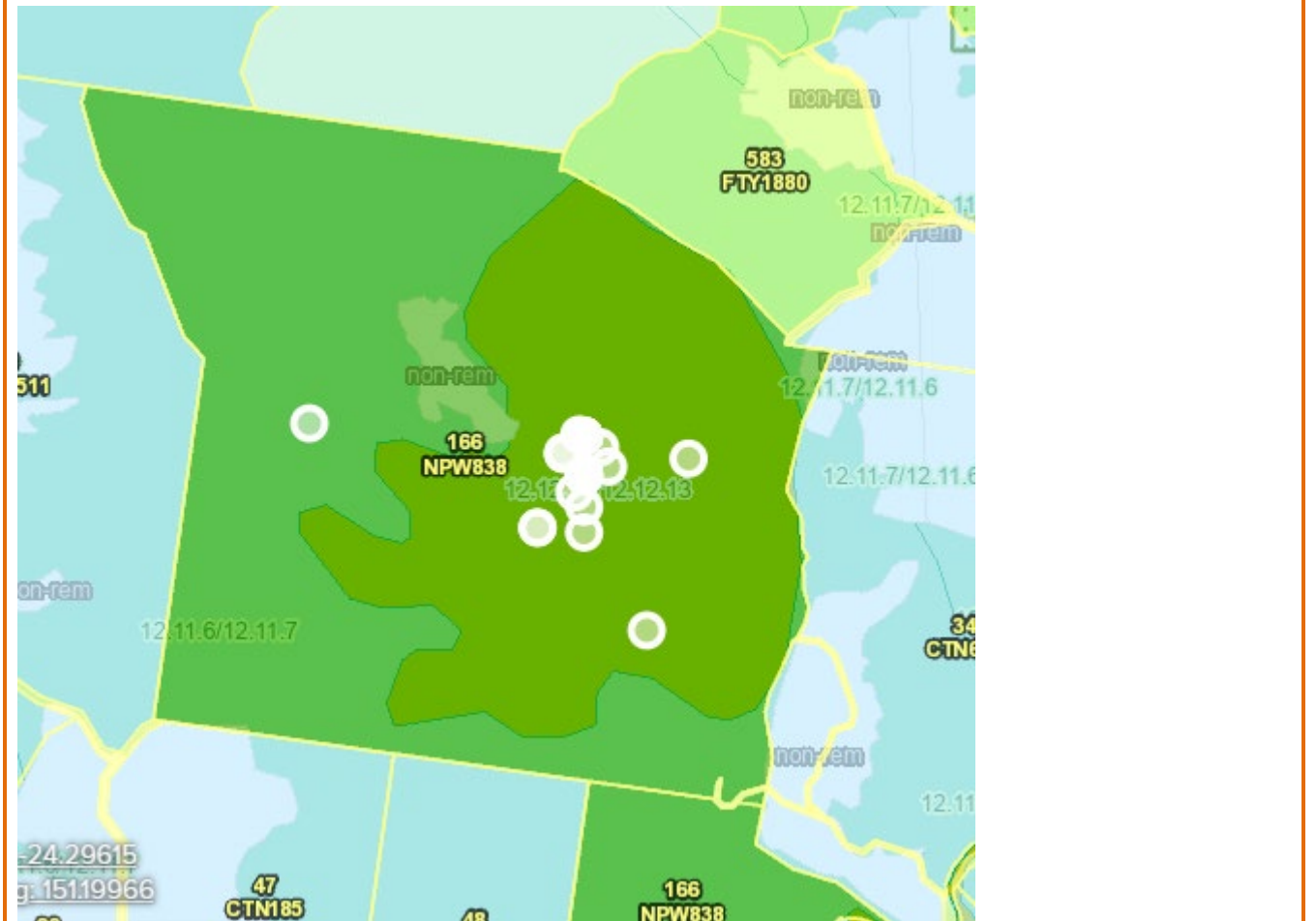
*Rhodamnia angustifolia* is known from a single population with a very restricted range to the south of Gladstone in the South Eastern Queensland bioregion (Department of the Environment 2012). The species was first collected from the headwaters of Cedar Creek along a single ridgetop and associated slopes in 1993 and subsequently in 1994, 1995, 1997 and 1998 (Queensland Herbarium 2020). The extent of occurrence (EOO) and area of occupancy (AOO) are calculated as 4 km<sup>2</sup>, using expert verified records and the 2 km x 2 m<sup>2</sup> grid cell method (Figure 1; IUCN 2019; Queensland Herbarium 2020).

*Rhodamnia angustifolia* was known from 19 mature individuals in 1999 within Wietalaba State Forest (SF), some areas of which were logged (Snow and Guymer 1999). Extensive field surveys were conducted throughout potential habitat by botanists when logging activities were occurring and tracks facilitated access through otherwise inaccessible areas. No additional subpopulations were found during this period (Snow and Guymer 1999).

Wietalaba SF is now gazetted as Wietalaba National Park and managed for conservation. As a consequence of land tenure change and cessation of logging activities, re-survey became difficult due to lack of track maintenance. Only three mature individuals were located during surveys in 2017, although it is unclear whether this was due to accessibility limitations or reflected actual population declines (B. Laffineur, pers. comm. 2020). Although it is possible additional individuals exist, the species remains extremely rare. Although the precise number of *R. angustifolia* is unknown, the population is estimated at <20 mature individuals. Further targeted surveys are required to try to locate additional populations.



**Figure 1.** *Rhodamnia angustifolia* is restricted to Wietalaba National Park in the South Eastern Queensland bioregion (Department of the Environment 2012). The EOO and AOO are automatically generated as 12 km<sup>2</sup>. By moving the automated grid, a modified but more representative estimate of 4 km<sup>2</sup> was calculated for this assessment (orange square). Map generated on GeoCat (Bachman et al. 2011).





**Figure 2.** Collection records of *Rhodamnia angustifolia* within Wietalaba National Park. A small area of this national park is considered 'non-remnant' (cleared) due to past logging activities. The species occurs in Regional Ecosystems (REs) mapped as 12.12.13/12.12.18 (QG 2020).

## BIOLOGY/ECOLOGY

Provide a summary of biological and ecological information.

Include information on:

- life cycle including age at sexual maturity, life expectancy and natural mortality rates
- specific biological characteristics
- the species' habitat requirements
- for fauna: feeding behaviour and food preference and daily/seasonal movement patterns
- for flora: pollination and seed dispersal patterns

*Rhodamnia angustifolia* grows on reddish brown loams derived from Muncon volcanic mudstones at 200-600 m above sea level amongst Araucarian microphyll vine forest. Associated species include *Choricarpia subargentea*, *Backhousia kingii* and *Barklya syringifolia*. The species occurs in remnant vegetation mapped as Regional Ecosystems (REs) 12.12.13 and 12.12.18, which are considered to be fire-sensitive (Queensland Government 2019).

Abundant flowers have been observed in November, with flowering presumably continuing through summer (QH 2020). The flowers are thought to be insect pollinated and fruit have been observed in January (Snow and Guymer 1999). The species grows in disturbed areas with little canopy cover, but predominantly occurs under a closed canopy in groups of three to six individuals (Snow and Guymer 1999). Similarly, *R. angustifolia* seemed to occur predominantly on disturbed edges in Wietalaba National Park. This suggests that historic timber logging may have favoured the species, which may persist as a small understorey plant and grow into a large tree in response to disturbance (B. Laffineur, pers. comm. 2020). After such disturbance, it is possible the species may begin flowering 4-5 years post-germination (A. Ford, pers. comm. 2020). However, under less favourable conditions where the canopy cover is dense, flowering may occur 10-15 years after germination (A. Ford, pers. comm. 2020). Basal resprouting has been observed in several plants (Snow and Guymer 1999), and therefore individuals may live for hundreds of years, but each stem might live for 40-60 years based on functionally similar myrtle species (A. Ford, pers. comm. 2020). Fertility of *R. angustifolia* appears to be low as fruit often lack embryos, possibly due to insect predation (Snow and Guymer 1999).

## Threats

### IDENTIFICATION OF KNOWN THREATS AND IMPACT OF THE THREATS

Identify any known threats to the species in the table below. Describe **past, current or future** threats, whether the threats are **actual or potential**, and the **type and level of impact** you believe each threat is having on the species.

Past threats	Impact of threat
Timber harvesting	Timber harvesting occurred within the habitat of <i>R. angustifolia</i> when the land tenure was State Forest. Direct impacts on the species are not known, although these activities may have degraded habitat. Alternatively, the disturbance associated with track maintenance and logging activities may have favoured the species (see Biology and Ecology).
Current threats	Impact of threat
Introduced pathogens	<i>Rhodamnia angustifolia</i> is a host to the introduced rust pathogen, <i>Austropuccinia psidii</i> (Myrtle Rust), (Fensham and Radford-Smith 2021). <i>Ex situ</i> host susceptibility tests indicate the species is 'extremely susceptible' to infection (Pegg et al. 2014). Myrtle Rust affects the capacity of <i>R. angustifolia</i> to recruit by infecting flowers, fruit and the new shoots of seedlings that have germinated (Pegg et al. 2014). The species is identified as a 'very high' priority in the National Action Plan for Myrtle Rust (Makinson et al. 2020), on the basis it is strongly suspected to be in serious or total decline on a regional basis. The distribution of the species occurs entirely within the climatically suitable envelope for Myrtle Rust (Kriticos et al. 2013).  Field observations have confirmed naturally occurring individuals are susceptible to infection. During these field surveys, 3 mature individuals were located and exhibited dieback of new shoots but not extensive canopy or branch mortality (B. Laffineur, pers. obs. 2017). Recruitment was not observed during this survey (B. Laffineur, pers. comm. 2020), however this is not unusual for <i>Rhodamnia</i> spp. which may germinate periodically in response to disturbance.
Small population – genetic effects	The conservation genetics of <i>R. angustifolia</i> remains unstudied. However, the species is restricted to a single isolated area with a small population size. The

	<p>species also appears to have low fertility, with embryos absent in many mature fruit (Snow and Guymer 1999). A natural progression of past isolation and restricted associated with refugial endemics is the loss of genetic diversity over time (Cartwright 2019; Levin 2000), rendering the species vulnerable to effects such as inbreeding depression, which may explain the low fecundity of the species.</p> <p>Seedling recruitment was not observed in historic or recent (2017) surveys, although three saplings &lt;2 m tall have been sighted in the past (Snow and Guymer 1999). Flowering, fruiting and thus seed production is likely to be further limited by Myrtle Rust infection (Pegg et al. 2014). As Myrtle Rust infects new plant shoots (Pegg et al. 2014), any individuals that successfully germinate will be vulnerable to Myrtle Rust infection, further limiting the genetic diversity of the population.</p>
Invasive weeds	Invasive weeds are present in the immediate habitat of <i>R. angustifolia</i> including lantana ( <i>Lantana camara</i> ) (Snow and Guymer 1999; Snow 2007; B. Laffineur, pers. comm. 2020). Invasive weeds increase competition, may limit recruitment and alter fuel loads and thus fire regimes (Fensham 1995). Fire has been observed around the population of <i>R. angustifolia</i> and may limit population abundance by causing death of mature adults in the absence of recruitment.
Inappropriate fire regimes	The species occurs in ecosystems that are fire-sensitive and although basal resprouting has been observed in several plants (Snow and Guymer 1999), fire exclusion is recommended (Queensland Herbarium 2019). Fire may predispose regenerating plants to Myrtle Rust infection, due to susceptibility of regrowth tissues. The habitat of <i>R. angustifolia</i> was not burnt in the 2019 bushfires (Howell 2020).
<b>Future threats – potential</b>	<b>Impact of threat</b>
Small population – stochastic events	<p><i>Rhodamnia angustifolia</i> is known from a very restricted area on a mountain summit. The species has little capacity to ‘move’ and is therefore especially vulnerable to stochastic events such as prolonged, severe drought and/or repeated wildfires, which may occur under more extreme weather conditions in the future (McInnes et al. 2015; Moise et al. 2015).</p> <p>The plants that occur on mountain tops in the adjacent Wet Tropics bioregion of Queensland are threatened by a changing climate, with modelled projections of widespread species extinction by 2080 (Costion <i>et al.</i> 2015; Hoffman <i>et al.</i> 2019). Species with restricted habitats like <i>R. angustifolia</i> are thought to be particularly vulnerable to environmental change (Porembski <i>et al.</i> 2016; Michael &amp; Lindenmayer 2018).</p>

**\*CONSERVATION ADVICE: THREAT ABATEMENT AND RECOVERY ACTIONS**

Give an overview of recovery and threat abatement/mitigation actions that are underway, have been formally proposed or that you would like to recommend. Address all threats listed or state threats that lack conservation advice.

<b>Past threats</b>	<b>Abatement or recovery action underway</b>
Timber harvesting	The northern subpopulation is protected in Wietalaba National Park.
<b>Past threats</b>	<b>Abatement or recovery action proposed</b>
Timber harvesting	No further recovery actions required.
<b>Current threats</b>	<b>Abatement or recovery action underway</b>
Introduced pathogens	<p>The species is identified as ‘very high’ priority in the National Action Plan for Myrtle Rust (Makinson et al. 2020).</p> <p>The susceptibility of <i>R. angustifolia</i> to Myrtle Rust infection has been determined from observation of cultivated specimens and confirmed via observations of a sample of wild individuals (Pegg et al. 2014; Fensham and Radford-Smith 2021).</p> <p>A small number of individuals exist in private collections, which could potentially be used as a propagation source to preserve genetic diversity in an <i>ex situ</i> conservation collection.</p>
Allee effects	Leaf material has been collected from multiple genotypes for DNA analysis (Snow and Guymer 1999).

Invasive weeds	No recovery actions currently address this threat for the northern subpopulation. The landholder of the southern subpopulation actively controls weeds in the immediate vicinity of the single known individual (B. Laffineur, pers. comm. 2020).
Inappropriate fire regimes	No recovery actions currently address this threat.
Lack of recruitment	No recovery actions currently address this threat.
<b>Abatement or recovery action proposed</b>	
Introduced pathogens	<p>Implement the recommendations of the National Action Plan for Myrtle Rust (Makinson et al. 2020), including germplasm capture and investigating management options for Myrtle Rust infection.</p> <p>Engage with Traditional Owners in the conservation of the species.</p> <p>Develop and implement a long-term monitoring plan to more accurately ascertain the susceptibility of the whole population of <i>R. angustifolia</i> to myrtle rust infection, using permanent plot data.</p> <p>Establish <i>ex situ</i> collection of <i>R. angustifolia</i> with maximum range of genetic diversity possible/feasible.</p> <p>Determine the presence of individuals that are less susceptible to myrtle rust infection.</p> <p>Conduct further targeted surveys in attempts to locate additional subpopulations.</p>
Small population – genetic effects	<p>Partner with, or support the Traditional Custodians to lead the recovery actions for this species to address the potential threat of genetic effects.</p> <p>Undertake research to better understand the species biology and ecology, including conservation genetics, fire ecology, reproductive strategies, germination cues and pollinator relationships. A conservation genetics study is required for <i>R. angustifolia</i> to determine if the species demonstrates genetic substructuring; what is an effective population size based on genetic variation; and whether some genetic variation is already infrequent or at threat of extinction.</p> <p>Undertake targeted surveys to identify additional subpopulations of the species elsewhere in the general region in similar habitat.</p> <p>Establish an <i>ex situ</i> population via seed banking or propagation for conservation and research, ensuring the maximum range of genetic diversity possible is represented.</p>
Invasive weeds	<p>Incorporate the species into the management plan for Weitalaba National Park.</p> <p>Undertake research to better understand the impacts of invasive weeds on the species, including interactions with other threatening processes.</p> <p>Investigate potential benefits and feasibility of invasive weed (especially lantana) control within the vicinity of the northern subpopulation.</p>
Inappropriate fire regimes	<p>Partner with, or support the Traditional Custodians to lead the recovery actions for this species to address the threat of inappropriate fire regimes.</p> <p>Incorporate <i>R. angustifolia</i> into the management plans for Weitalaba NP, including provisions for fire management.</p> <p>Undertake research and time-series monitoring to quantify the impact of prevailing fire regimes on the population demographics of <i>R. angustifolia</i>. Identify a suitable fire regime for this species and determine the viability of implementing this management strategy. Undertake management to reduce the frequency and intensity of wildfires within the distribution of the species. Monitor the impacts on the health of the population, including mature individuals and recruitment.</p> <p>Undertake additional surveys (especially away from the tracks) to document additional occurrences of the species. Precisely map the occurrences of the species to guide management actions.</p> <p>Undertake research to better understand the fire ecology of the species.</p>

	<p>Manage the interactions between climate change and increased fire frequency, by adapting fire management approaches as necessary (ecological burns to reduce fuel loads on a semi-regular basis).</p> <p>Establish an <i>ex situ</i> subpopulation of the species that represents the maximum range of genetic diversity possible.</p>
<b>Future threats – potential</b>	<b>Abatement or recovery action underway</b>
Stochastic events	No recovery actions currently address this threat.
	<b>Abatement or recovery action proposed</b>
Stochastic events	<p>Partner with, or support the Traditional Custodians to lead the recovery actions for this species to address the potential threat of stochastic events.</p> <p>Undertake research to better understand the species biology and ecology, including conservation genetics, fire ecology, reproductive strategies, germination cues and pollinator relationships.</p> <p>Undertake targeted surveys to identify additional subpopulations of the species in the general region in similar habitat.</p> <p>Establish an <i>ex situ</i> population via seed banking or propagation for conservation and research, ensuring the maximum range of genetic diversity possible is represented.</p>

## Listing class/category

### CURRENT LISTING CLASS/CATEGORY

[Please mark the boxes that apply by double clicking them with your mouse.]

In what class is the species currently listed under the **NC Act**?

- |                                     |                                              |                                                |                                                |
|-------------------------------------|----------------------------------------------|------------------------------------------------|------------------------------------------------|
| <input type="checkbox"/> Extinct    | <input type="checkbox"/> Extinct in the Wild | <input type="checkbox"/> Critically Endangered | <input checked="" type="checkbox"/> Endangered |
| <input type="checkbox"/> Vulnerable | <input type="checkbox"/> Near Threatened     | <input type="checkbox"/> Least Concern         | <input type="checkbox"/> Not listed            |

In what category is the species currently listed under the **EPBC Act**?

- |                                     |                                                 |                                                |                                                |
|-------------------------------------|-------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <input type="checkbox"/> Extinct    | <input type="checkbox"/> Extinct in the Wild    | <input type="checkbox"/> Critically Endangered | <input type="checkbox"/> Endangered            |
| <input type="checkbox"/> Vulnerable | <input type="checkbox"/> Conservation Dependent |                                                | <input checked="" type="checkbox"/> Not listed |

### NOMINATED LISTING CLASS

To what class under the **NC Act** is the species being nominated?

- |                                     |                                              |                                                           |                                     |
|-------------------------------------|----------------------------------------------|-----------------------------------------------------------|-------------------------------------|
| <input type="checkbox"/> Extinct    | <input type="checkbox"/> Extinct in the Wild | <input checked="" type="checkbox"/> Critically Endangered | <input type="checkbox"/> Endangered |
| <input type="checkbox"/> Vulnerable | <input type="checkbox"/> Near Threatened     | <input type="checkbox"/> Least Concern                    | <input type="checkbox"/> Not listed |

## Nominating a species to transfer to another class

### REASON FOR A NOMINATION TO TRANSFER TO ANOTHER CLASS

What is the reason for the nomination?

- |                                                              |                                          |                                   |                                          |
|--------------------------------------------------------------|------------------------------------------|-----------------------------------|------------------------------------------|
| <input checked="" type="checkbox"/> Genuine change of status | <input type="checkbox"/> New knowledge   | <input type="checkbox"/> Mistake  | <input type="checkbox"/> Other           |
| Taxonomic change - <input type="checkbox"/> 'split'          | <input type="checkbox"/> newly described | <input type="checkbox"/> 'lumped' | <input type="checkbox"/> no longer valid |

### INITIAL LISTING

Describe the reasons for the species' initial listing under the NC Act and/or the EPBC Act and, if available, the criteria under which it was formerly considered eligible.

The species was listed as Endangered under the NC Act due to the very small population size that occurred at a single site where threatening processes (invasive weeds, fire) were occurring (Snow and Guymer 1999).

## CHANGES IN SITUATION LEADING TO THE NOMINATION TO TRANSFER TO ANOTHER CLASS

Please complete (a), (b) OR (c) as appropriate to the nomination.

### (a) Critically Endangered, Endangered, Vulnerable or Near Threatened

Describe the change in circumstances that make the species eligible for listing in a class other than Extinct and Extinct in the Wild.

*R. angustifolia* now qualifies for listing as Critically Endangered due to pathogen-induced dieback associated with Myrtle Rust *Austropuccinia psidii*.

### (b) Extinct in the Wild

A native species is eligible to be included in the Extinct in the Wild class if: (a) thorough searches have been conducted for the species; and (b) the species has not been seen in the wild over a period appropriate for its life cycle or form. The species may still survive in cultivation, captivity or as a naturalised population (or populations) well outside the historic range.

Describe how circumstances have changed that now make the species eligible for listing as Extinct in the Wild. Provide details of the last valid record or observation of the species in the wild.

Click or tap here to enter text.

### (c) Extinct

A native species is eligible to be included in the Extinct class if there is no reasonable doubt that the last member of the species has died. A taxon is presumed Extinct when exhaustive surveys in the known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual.

Describe how circumstances have changed that now make the species eligible for listing as Extinct. Provide details of the last valid record or observation for the species in the wild and captivity.

Click or tap here to enter text.

## Standard of scientific evidence and adequacy of survey

Please complete as appropriate to the nomination

For this assessment it is considered that the survey of the species has been adequate and there is sufficient scientific evidence to support the listing outcome.

## Eligibility against the criteria

## CRITERION A

### Population size reduction (reduction in total numbers) measured over the longer of 10 years or 3 generations based on any of A1 to A4

	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
A1	≥ 90%	≥ 70%	≥ 50%	≥ 20%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%	≥ 20%
A1	Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.			
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.			
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]			
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.			
		based on any of (a) to (e)		
			(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, hybridisation, pathogens, pollutants, competitors or parasites	

Please identify whether the species meets A1, A2, A3 or A4. Include an explanation, supported by data and information, on how the species meets the criterion (A1 – A4). If available include information on:

- whether the population trend is increasing, decreasing or static
- estimated generation length and method used to estimate the generation length

**You must provide a response.** If there is no evidence to demonstrate a population size reduction, this **must be** stated.

#### ***Rhodamnia angustifolia* meets the Data Deficient category under Criterion A.**

The generation length for *R. angustifolia* is not documented. The species likely becomes reproductively mature between 5-15 years and may live for over 100 years. One generation is therefore conservatively estimated as 42.5 years according to extrapolations of these parameters. Three generations are therefore estimated as 127.5 years.

Although past population declines may have occurred, the extent of this decline relative to generation length cannot be quantified.

Population declines are evident due to myrtle rust infection and dieback. However, the rate of this decline is uncertain given the variable impact of the disease on the species (see Fensham and Radford-Smith 2021).

**CRITERION B:**

<b>Geographic distribution is precarious for either extent of occurrence AND/OR area of occupancy</b>				
	<b>Critically Endangered (CR)</b>	<b>Endangered (EN)</b>	<b>Vulnerable (VU)</b>	<b>Near Threatened (NT)</b>
B1. Extent of occurrence (EOO)	< 100 km <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>	< 40,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>	< 4,000 km <sup>2</sup>
AND at least 2 of the following 3 conditions for CR, EN or VU:				AND (b) for NT
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10	Not applicable
(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				≥ 10% within the longer of 10 years or 3 generations
(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				Not applicable

Please refer to the ‘[Guidelines for Using the IUCN Red List Categories and Criteria](#)’ for assistance with interpreting the criterion particularly in relation to calculating ‘extent of occurrence’, ‘area of occupancy’ and understanding of the definition and use of ‘severely fragmented’, ‘locations’, ‘continuing decline’ and ‘extreme fluctuations’.

Please identify whether the species meets B1 or B2. Except for Near Threatened species, include an explanation, supported by data and information, on how the species meets at least 2 of (a), (b) or (c). For Near Threatened species, include an explanation, supported by data and information, on how the species meets (b).

Please note that locations must be defined by a threat. A location is a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the species present.

**If available, include information on:**

- Whether there are smaller populations of the species within the total population and, if so, the degree of geographic separation between the smaller populations within the total population
- Any biological, geographic, human induced or other barriers enforcing separation

**You must provide a response.** If there is no evidence to demonstrate that the geographic distribution is precarious for either extent of occurrence AND/OR area of occupancy, this **must be** stated.

***Rhodamnia angustifolia* meets the Critically Endangered category under criterion B1+2ab(i-v).**

The species has an EOO and AOO of 4 km<sup>2</sup>. The EOO and AOO is unlikely to increase beyond the thresholds for Critically Endangered with additional survey.

Continuing decline is projected due to a range of threats. When assessed against the most serious threat, Myrtle Rust, the species occurs at 1 location as all individuals are simultaneously affected. This is because the species distribution occurs within the climatically suitable envelope for disease. This threat is projected to cause a decline in the EOO, AOO, number of locations/subpopulations and number of mature individuals. Continuing decline in habitat quality has been observed as all individuals occur in habitat that is infected with Myrtle Rust.

*Rhodamnia angustifolia* is a long-lived tree and is unlikely to undergo extreme fluctuations.

## CRITERION C

Small population size and decline				
	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
Estimated number of mature individuals	< 250	< 2,500	< 10,000	< 20,000
AND either (C1) or (C2) is true				AND (C1) is true
C1 An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in the 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)	10% in 10 years or 3 generations (whichever is longer)
C2 An observed, estimated, projected or inferred continuing decline AND its geographic distribution is precarious for its survival based on at least 1 of (a) or (b):				
(a) (i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000	Not applicable
OR				
(a) (ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%	Not applicable
(b) Extreme fluctuations in the number of mature individuals	Applicable	Applicable	Applicable	Not applicable

Please identify the estimated total number of mature individuals and either an answer to C1 or C2. Include an explanation, supported by data and information, on how the species meets the criteria. **Note:** If the estimated total number of mature individuals is unknown but presumed to be likely to be >10 000, you are not required to provide evidence in support of C1 or C2, just state that the number is likely to be >10 000.

**You must provide a response.** If there is no evidence to demonstrate small population size and decline this **must be** stated.

***Rhodamnia angustifolia* meets the Critically Endangered category under criterion C2a(i,ii).**

The population of *R. angustifolia* is estimated at <20 mature individuals, which is well-within the thresholds for listing as Critically Endangered.

Continuing decline is projected given the threat of Myrtle Rust.

100% of mature individuals occur in the single subpopulation.

Extreme fluctuations in the number of mature individuals are unlikely given this species is long-lived.



## CRITERION D:

Very small population				
	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
D. Number of mature individuals	< 50	< 250	D1. < 1,000	D1. < 3,000
OR				
D2. [Only applies to the VU and NT categories] Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time.	Not applicable	Not applicable	D2. Typically: AOO < 20 km <sup>2</sup> or number of locations ≤ 5	D2. Typically: AOO < 40 km <sup>2</sup> or number of locations ≤ 10

Please identify the estimated total number of mature individuals and evidence of how the figure was derived.  
For Criterion D2, please provide information on the species' area of occupancy, number of locations and plausible threats.

**You must provide a response.** If there is no evidence to demonstrate eligibility, this **must be** stated.

***Rhodamnia angustifolia* meets the Critically Endangered category under criterion D.**

The population of *R. angustifolia* is estimated at <20 mature individuals, which is well-within the thresholds for listing as Critically Endangered.

The AOO of *R. angustifolia* is estimated as 4 km<sup>2</sup> and occurs at a single location when assessed in relation to the threat of Myrtle Rust that could cause the taxon to become extinct in a very short time.

## CRITERION E:

Quantitative Analysis				
	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% within 100 years	≥ 5% within 100 years

Please identify the probability of extinction and evidence of how the analysis was undertaken.

**You must provide a response.** If there has been no quantitative analysis undertaken this **must be** stated.

**Data Deficient.**

Population viability analysis has not been undertaken.

## SUMMARY OF CRITERIA UNDER WHICH THE SPECIES IS ELIGIBLE FOR LISTING AS: CR, EN, V, NT, EW or EX

Please mark the criteria and sub-criteria that apply.

- |                                                 |                                                                                                                                                                                                                                                      |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Criterion A            | <input type="checkbox"/> A1 (specify at least one of the following) <input type="checkbox"/> a) <input type="checkbox"/> b) <input type="checkbox"/> c) <input type="checkbox"/> d) <input type="checkbox"/> e); <b>AND/OR</b>                       |
| <b>Data Deficient</b>                           | <input type="checkbox"/> A2 (specify at least one of the following) <input type="checkbox"/> a) <input type="checkbox"/> b) <input type="checkbox"/> c) <input type="checkbox"/> d) <input type="checkbox"/> e); <b>AND/OR</b>                       |
|                                                 | <input type="checkbox"/> A3 (specify at least one of the following) <input type="checkbox"/> a) <input type="checkbox"/> b) <input checked="" type="checkbox"/> c) <input type="checkbox"/> d) <input checked="" type="checkbox"/> e); <b>AND/OR</b> |
|                                                 | <input type="checkbox"/> A4 (specify at least one of the following) <input type="checkbox"/> a) <input type="checkbox"/> b) <input type="checkbox"/> c) <input type="checkbox"/> d) <input type="checkbox"/> e)                                      |
| <input checked="" type="checkbox"/> Criterion B | <input checked="" type="checkbox"/> B1 (specify at least two of the following) <input checked="" type="checkbox"/> a) <input checked="" type="checkbox"/> b) <input type="checkbox"/> c); <b>AND/OR</b>                                              |
| <b>Critically Endangered</b>                    | <input checked="" type="checkbox"/> B2 (specify at least two of the following, other than NT) <input checked="" type="checkbox"/> a) <input checked="" type="checkbox"/> b) <input type="checkbox"/> c)                                              |
| <input checked="" type="checkbox"/> Criterion C | <input checked="" type="checkbox"/> estimated number of mature individuals <b>AND</b>                                                                                                                                                                |
|                                                 | <input checked="" type="checkbox"/> C1 <b>OR</b>                                                                                                                                                                                                     |

<b>Critically Endangered</b>	<input checked="" type="checkbox"/> C2 <input checked="" type="checkbox"/> a (i) <b>OR</b> <input checked="" type="checkbox"/> a (ii) <b>OR</b> <input type="checkbox"/> C2 <input type="checkbox"/> b)
<input checked="" type="checkbox"/> Criterion D	<input checked="" type="checkbox"/> D <b>OR</b> <input type="checkbox"/> D1 <b>OR</b> <input type="checkbox"/> D2
<b>Critically Endangered</b>	
<input type="checkbox"/> Criterion E	
<b>Data Deficient</b>	
<input type="checkbox"/> EX	
<input type="checkbox"/> EW	
<input type="checkbox"/> LC	Species nominated to change from a higher conservation class to Least Concern. No above boxes apply.

## Other Considerations

**\*INDIGENOUS CULTURAL SIGNIFICANCE**  
Is the species known to have cultural significance for Indigenous groups within Australia? If so, to which groups? Provide information on the nature of this significance if publicly available.

The cultural, customary and spiritual significance of species and the ecological communities they form are diverse and varied for Indigenous Australians and their stewardship of Country. This section describes some examples of this significance but is not intended to be comprehensive or applicable to, or speak for, Indigenous Australians. Such knowledge may be held by Indigenous Australians who are the custodians of this knowledge and have the rights to decide how this knowledge is shared and used.

*Rhodamnia angustifolia* is known from occurrences on the lands of the Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda People (whilst acknowledging that other peoples may have a connection to the Country). There is little published information on how the Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda People relate to Country in this region and what that may mean for the cultural significance of *R. angustifolia*.

**FURTHER STUDIES**  
Identify relevant studies or management documentation that might relate to the species (e.g. research projects, national park management plans, recovery plans, conservation plans, threat abatement plans, etc.).

Makinson, R. O. (2018). *Myrtle rust in Australia: a draft action plan*. Presented at the Plant Biosecurity Cooperative Research Centre's National Science Exchange, Melbourne, 31 May 2018. Available at [http://www.apbsf.org.au/wp-content/uploads/2018/06/Myrtle-rust-action-plan\\_accessible.pdf](http://www.apbsf.org.au/wp-content/uploads/2018/06/Myrtle-rust-action-plan_accessible.pdf).

**ADDITIONAL COMMENTS/INFORMATION**  
Please include any additional comments or information on the species such as survey or monitoring information, and maps that would assist with the consideration of the nomination.

Click or tap here to enter text.

## IMAGES OF THE SPECIES

Please include or attach images of the species if available, and indicate if you are in a position to authorise their use.



**Figure 4.** Buds and flowers of *R. angustifolia* in cultivation. Image credit: Andrew Ford.

## Reviewers and references

### REVIEWER(S)

Has this nomination been peer-reviewed? Have relevant experts been consulted on this nomination? If so, please include their names, current professional positions and contact details.

Andrew Ford, Botanist, CSIRO Atherton.  
Boris Laffineur, Environmental Research Scientist, The University of Queensland and Queensland Herbarium, Department of Environment and Science.  
Associate Professor Roderick Fensham, Principal Botanist, Queensland Herbarium, Department of Environment and Science.

### REFERENCE LIST

Please list key references/documentation you have referred to in your nomination.

Bachman S, Moat J, Hill AW, de la Torre J, Scott B (2011) Supporting Red List threat assessments with GeoCAT: geospatial conservation assessment tool. In 'e-Infrastructures for data publishing in biodiversity science. ZooKeys 150: 117-126. (Version BETA). (Eds V Smith and L Penev).

Michael, D.R. & Lindenmayer, D.B. (2018). *Rocky Outcrops in Australia. Ecology, Conservation and Management*. CSIRO Publishing: Melbourne.

Moise, A., Abbs, D., Bhend, J., Chiew, F., Church, J., Ekström, M., Kirono, D.,

- Cartwright, J. (2019). Ecological islands: conserving biodiversity hotspots in a changing climate. *Frontiers in Ecology and the Environment* 17: 331–340.
- Costion, C.M., Simpson, L., Pert, P.L., Carlsen, M.M., Kress, W.J. & Crayn, D. (2015). Will tropical mountaintop plant species survive climate change? Identifying key knowledge gaps using species distribution modelling in Australia. *Biological Conservation* 191: 322–330.
- Department of the Environment (2012). *Interim biogeographic regionalisation for Australia (regions – states and territories) v. 7 (IBRA)*. Commonwealth of Australia. Canberra. Available at <https://www.environment.gov.au/land/nrs/science/ibra#ibra>.
- Fensham, R. J. (1995). Land clearance and conservation of inland dry rainforest in north Queensland, Australia. *Biological Conservation* 75, 289-298.
- Fensham RJ, Radford-Smith J (2021). Unprecedented extinction of tree species by fungal disease. *Biological Conservation*. 261 (109276).
- Howell, S. (2020). *Bushfire impacts on Rhodamnia angustifolia*. Unpublished report. Department of Environment and Science, Brisbane.
- IUCN Standards and Petitions Committee (2019). Guidelines for Using the IUCN Red List Categories and Criteria. Version 14. Prepared by the Standards and Petitions Committee. <http://www.iucnredlist.org/documents/RedListGuidelines.pdf>.
- Kriticos, D. J., Morin, L., Leriche, A., Anderson, R. C., and Caley, P. (2013). Combining a climatic niche model of an invasive fungus with its host species distributions to identify risks to natural assets: *Puccinia psidii* Sensu Lato in Australia. *PLOS ONE*, 8(5), e64479.
- Levin, D.A. (2000). *The origin, expansion, and demise of plant species*. Oxford University Press: New York/Oxford.
- Makinson, R. O. (2018). *Myrtle rust in Australia: a draft action plan*. Presented at the Plant Biosecurity Cooperative Research Centre's National Science Exchange, Melbourne, 31 May 2018. Available at [http://www.apbsf.org.au/wp-content/uploads/2018/06/Myrtle-rust-action-plan\\_accessible.pdf](http://www.apbsf.org.au/wp-content/uploads/2018/06/Myrtle-rust-action-plan_accessible.pdf).
- Makinson, R. O., Pegg, G. S., Carnegie, A. J. (2020). *Myrtle Rust in Australia – A National Action Plan*. Australian Plant Biosecurity Science Foundation. Canberra, Australia. <https://www.anpc.asn.au/wp-content/uploads/2020/11/Myrtle-Rust-National-Action-Plan-2020.pdf>
- Lenton, A., Lucas, C., McInnes, K., Monselesan, D., Mpelasoka, F., Webb, L. & Whetton, P. (2015). *Monsoonal North Cluster Report. Climate Change in Australia Projections for Australia's Natural Resource Management Regions: Cluster Reports*. CSIRO and Bureau of Meteorology: Australia.
- Porembski, S., Silveira, F.A.O, Fiedler, P.L., Watve, A., Rabarimanarivo, M., Kouame, F. & Hopper, S.D. (2016). Worldwide destruction of inselbergs and related rock outcrops threatens a unique ecosystem. *Biodiversity and Conservation* 25: 2827–2830.
- Pegg, G. S., Giblin, F. R., McTaggart, A. R., Guymer, G. P., Taylor, H., Ireland, K. B., Shivas, R. G., and Perry, S. (2014). *Puccinia psidii* in Queensland, Australia: disease symptoms, distribution and impact. *Plant Pathology* 63, 1005-1021.
- Queensland Herbarium (2020) Herbarium records for *Rhodamnia angustifolia*, Department of Environment and Science, Queensland, viewed 21 November 2019.
- Queensland Government (2019). *Regional ecosystem descriptions*, The State of Queensland, viewed 31 January 2020, <https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions>.
- Queensland Government (2020). *Queensland Globe*. The State of Queensland, viewed 14 February 2020, <https://qldglobe.information.qld.gov.au/>
- Snow, N. (2007). Systematics of the Australian species of *Rhodamnia* (Myrtaceae). *Systematic Botany Monographs* 82, 1-69.
- Snow, N., and Guymer, G. P. (1999). *Rhodamnia angustifolia* (Myrtaceae), a new and endangered species from south-eastern Queensland. *Austrobaileya* 5(3), 421-426.
- Hoffmann, A.A., Rymer, P.D., Byrne, M., Ruthrof, K.X., Whinam, J., McGeoch, M., Bergstrom, D.M., Guerin, G.R., Sparrow, B., Joseph, L, Hill, S.J., Andrew, N.R. Camac, J., Bell, N., Riegler, M., Gardner, J.L. & Williams, S.E. (2019). Impacts of recent climate change on terrestrial flora and fauna: some emerging Australian examples. *Austral Ecology* 44: 3–27.

## Nominator's Details

Note: Your details are subject to the provisions of the *Privacy Act 1988* and will not be divulged to third parties, except for state and territory governments and scientific committees that have agreed to collaborate on national threatened species assessments using a CAM. If there are multiple nominators please include details below for all nominators.

**TITLE** (e.g. Mr/Mrs/Dr/Professor/etc.)

Ms

**FULL NAME**

Teghan D. Collingwood

**ORGANISATION OR COMPANY NAME (IF APPLICABLE)**

Queensland Herbarium, Department of Environment and Science.

**CONTACT DETAILS**

**DECLARATION**

I declare that, to the best of my knowledge, the information in this nomination and its attachments is true and correct.

Signed: [Click here to enter text.](#)

Date: 2/03/2020

*\* If submitting by email, please attach an electronic signature*

## Lodging your nomination

Completed nominations may be lodged either:

1. by email in Microsoft Word format to: [SpeciesTechnical.Committee@des.qld.gov.au](mailto:SpeciesTechnical.Committee@des.qld.gov.au)
2. by mail to: The Chair  
Species Technical Committee  
Queensland Herbarium  
Mount Coot-tha Rd  
Toowong QLD 4066

**\* If submitting by mail, you must include an electronic copy on a memory stick.**

Suggested citation:

Collingwood, T. D. (2020). Nomination to change the conservation class of *Rhodamnia angustifolia* under the Queensland Nature Conservation Act 1992. Department of Environment and Science. Brisbane.