

Project Name: PR4698 Scrub Turpentine (*Rhodamnia rubescens*) Assessment
Date: 9 August 2019

Attn: Ashley Love

Bellingen Environment Centre
1/4 Church Street Lane
Bellingen NSW 2454

Dear Ashley

RE: Assessment of the likelihood of occurrence of Critically Endangered *Rhodamnia rubescens* (scrub turpentine) within Scotchman and Roses Creek State Forests

The following information has been provided in response to a request Bellingen Environment Centre (BEC) to address potential impacts to Critically Endangered *Rhodamnia rubescens* (scrub turpentine) as a result of proposed forestry operations within the Scotchman and Roses Creek State Forests in the Kalang region, west of Bellingen NSW.

Ecosure was contracted by BEC to assess the likelihood of occurrence of *R. rubescens* within the area identified as General Management (FMZ 4) as per the Forestry Corporation NSW (FCNSW) Draft Harvest Plan Operational Map for logging compartment numbers 125, 126, 127 and 128 in Scotchman and Roses Creek State Forests. The occurrence of *R. rubescens* potentially triggers the application of Conditions 1.2 and 1.3 of Appendix B of the Terms of Licence under the *Biodiversity Conservation Act 2016* (BC Act) (formerly the *Threatened Species Conservation Act 1995*), of the Integrated Forest Operations Approval (IFOA) for the Lower North East (LNE) of NSW.

Due to BioNet records of *R. rubescens* within five kilometres of proposed logging operations, the habitat suitability of the vegetation communities present at the site, and the Critically Endangered status of the species, Ecosure recommends that comprehensive surveys be undertaken by a suitably qualified professional. This will determine whether *R. rubescens* occurs in the Scotchman and Roses Creek State Forests, and will ensure adequate protection protocols are installed prior to commencement of logging operations. The information provided in the following section supports this recommendation.

Should you require any further information please do not hesitate to contact me on 0456 801 483 or ncotsell@ecosure.com.au.

Yours faithfully



Nigel Cotsell
Manager – Coffs Harbour

Scrub turpentine (*Rhodamnia rubescens*)

1.1 Distribution and ecology

Rhodamnia rubescens (scrub turpentine) is a shrub or small tree to 25 metres tall with a widespread distribution along the east coast of NSW from Bateman’s Bay to Bundaberg in Queensland. It occurs along the coastal fringe and extends inland onto escarpments up to 600 metres elevation where rainfall may exceed 1000 mm (OEH 2018). On the NSW North Coast, *R. rubescens* is associated with a range of rainforest and wet sclerophyll vegetation formations and classes (Table 1) (OEH 2019).

Table 1 Vegetation formations and classes associated with the occurrence of *Rhodamnia rubescens* (OEH 2019 from Keith 2006)

Vegetation Formation	Vegetation Class
Rainforest	Dry Rainforests Littoral Rainforests Northern Warm Temperate Rainforests
Wet Sclerophyll Forest (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests Northern Tableland Wet Sclerophyll Forests Southern Lowland Wet Sclerophyll Forests
Wet Sclerophyll Forest (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests Northern Escarpment Wet Sclerophyll Forests

In the broader area surrounding Kalang and the Bellingen region, rainforest and wet sclerophyll vegetation communities commonly occur throughout the landscape. The Office of Environment and Heritage (now the Department of Planning, Industry and Environment) conducted fine-scale vegetation mapping of the Bellingen Local Government Area (LGA) and identified that wet sclerophyll forest was the dominant vegetation formation within the LGA comprising 6907 hectares, with rainforest comprising 1038 hectares (OEH 2014).

Rainforest and wet sclerophyll forest classes are also mapped by Keith (2006) as the dominant vegetation type for the coastal fringe and nearby escarpment within north eastern NSW. Additionally, a large portion of the FCNSW Draft Harvest Plan Operational Map for Scotchman and Roses Creek State Forests is mapped as containing rainforest.

1.2 Threatened species listing

The NSW Threatened Species Scientific Committee published a Final Determination listing *Rhodamnia rubescens* as Critically Endangered on 1 February 2019 (OEH 2019a). The species is extremely susceptible to infection by myrtle rust (*Austropuccinia psidii*), an exotic fungal disease affecting all plants in the Myrtaceae family. Following the discovery of myrtle rust in NSW in 2010, the ‘Introduction and establishment of Exotic Rust Fungi of the order

Austropucciniales pathogenic on plants of the family Myrtaceae' was listed as a Key Threatening Process in 2011 (OEH 2011).

Rhodamnia rubescens was found eligible for listing as Critically Endangered under the *Biodiversity Conservation Act 2016* Listing Guidelines Clause 4.2 – Reduction in Population Size, which stipulates that those species that have undergone or are likely to undergo a large population reduction in the future are likely to be at greater risk of extinction than those experiencing smaller declines (NSW Threatened Species Scientific Committee 2018).

Based on evidence from field surveys, the NSW Threatened Species Scientific Committee determined that *R. rubescens* had already experienced a severe population reduction across its entire range. Further, the Committee anticipates that the species will experience a population reduction of 96-99 percent over three generations as a result of infection by myrtle rust (Gallagher 2018).

In addition to the decline and loss of mature plants and lack of seed-based recruitment due to myrtle rust, *R. rubescens* is also threatened by:

- degradation of habitat and competition of transformer weed species
- clearing as a result of rural, agricultural and urban development
- habitat degradation and clearing due to forestry operations
- too frequent and intense fire destroying habitat
- damage from four-wheel drive vehicles
- construction and maintenance of roads and tracks (OEH 2018).

1.3 Omission from Coastal IFOA

Within the broader area west of Bellingen, approximately 60 records of *R. rubescens* occur according to the results of a desktop search conducted using NSW BioNet (OEH 2019b). At least eight records exist in the vicinity of Scotchman and Roses Creek State Forests, and two occur within five kilometres of the logging operational area.

In relation to the listing of *R. rubescens* as Critically Endangered, Amendment 5 of Appendix B of the Terms of Licence for the Lower North East Region, Clause 11 Threatened Species Conservation Act – New Listings, section 1(c), states that:

- (1) FCNSW must comply with subclauses (2) and (3) in respect of a species that is present or likely to be present in the Lower North East Region or in any area likely to be affected by the carrying out of Forestry Operations if:
 - c) a final determination listing the species as endangered, critically endangered or vulnerable under Schedule 1, 1A or 2 of the *Threatened Species Conservation Act 1995* has been published in the NSW Government Gazette

Subclauses (2) and (3) of clause 11(1) outlined above state that:

- (2) FCNSW must, as far as is reasonably practical, mitigate any adverse effect of forestry operations on animals or plants of the species referred to in clause 11(1) and develop Site-Specific Conditions for the species in accordance with condition 1.2 of the Threatened Species Licence.
- (3) In determining, for the purposes of clause 11(2), how to mitigate or minimise any adverse effect of forestry operations on animals or plants of the species concerned, FCNSW must be guided by any relevant advice provided by EPA.

Rhodamnia rubescens is not included in *Protocol 31: Matters covered by the approval*, which relates to protections to threatened flora species identified in the tables included in Part 3 and Part 4 of Protocol 31 (EPA 2018). The exclusion of *R. rubescens* from these tables is likely due to its recent listing as Critically Endangered, but also as a result of *Protocol 40: Transitional Arrangements*, which lists in Table 2 a number of operational plans including those for Scotchman and Roses Creek State Forests compartment numbers 123, 124, 125, 126, 127 and 128, that transitioned from the previous Coastal IFOAs.

This suggests that with the transition of previous operational plans, no effort to identify new threatened species listings would have been undertaken for Scotchman and Roses Creek State Forests, and potentially others listed in Table 2, Protocol 40.

Conclusion

The projection presented by the NSW Threatened Species Scientific Committee that *Rhodamnia rubescens* is likely to experience a population reduction of 96-99 percent over three generations prompted the relatively rapid listing of the species to Critically Endangered.

The Critically Endangered listing; major threat posed by myrtle rust together with other threats associated with habitat loss and degradation; the suitability of the habitat; and, two known records within five kilometres of the logging operational area, indicates the need for comprehensive surveys to identify potential occurrences of the species within the area of logging operations in Scotchman and Roses Creek State Forests, and more broadly in the LNE region.

In order for FCNSW to comply with the Terms of Licence for the LNE region, FCNSW must acknowledge the Final Determination for *R. rubescens* made under the *Biodiversity Conservation Act 2016* and develop Site-Specific Conditions for the species. Should FCNSW not undertake surveys and develop protection protocols for the species if found, the impact from logging operations would likely contribute to further degradation of *R. rubescens* in the LNE region, as well as the broader population.

References

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Revision history

Revision No.	Revision date	Details	Prepared by	Reviewed by	Approved by
03	09/08/2019	PR4698 Scrub Turpentine (Rhodamnia rubescens) Assessment	Vanessa Cain Environmental Scientist	Nigel Cotsell Senior Ecologist	Phil Shaw Managing Director

Distribution list

Copy #	Date	Type	Issued to	Name
1	09/08/2019	Electronic	Bellingen Environment Centre	Ashley Love
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Proposal compiled by Ecosure Pty Ltd

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PR4698-RE.Scrub turpentine (*Rhodamnia rubescens*) Assessment.R3

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