

# NSW SCIENTIFIC COMMITTEE

## Final Determination

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list the shrub *Pomaderris brunnea* N.A.Wakef. as an ENDANGERED SPECIES in Part 1 of Schedule 1 of the Act, and as a consequence, to omit reference to *Pomaderris brunnea* Wakef. from Part 1 of Schedule 2 (Vulnerable species) of the Act. Listing of Endangered species is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. *Pomaderris brunnea* N.A.Wakef. (family Rhamnaceae) or Rufous Pomaderris, is described by Harden (1990) as "Shrub 2–3 m high, stems with long spreading brownish simple hairs above a short whitish tomentum. Leaves elliptic to oblanceolate, 2–4 cm long, 8–15 mm wide, margins  $\pm$  toothed; upper surface dark green and glabrous with veins impressed; lower surface densely hairy with long brownish hairs above a short whitish tomentum. Flowers yellowish, in dense panicles; bracts shed early, with long hairs in central region and along margins. Petals absent. Capsule and hypanthium covered with long rusty hairs".
2. *Pomaderris brunnea* is limited in distribution to NSW and Victoria in south-eastern Australia. Within New South Wales there are at least 24 known but scattered populations (Sutter 2011; M. Bremner *in litt.* June 2012; J Scott *in litt.* May 2012), extending from Tuggolo State Forest near Walcha in the north to Goonook Nature Reserve north of Taree, Wollemi National Park and the lower Colo River, the Upper Hunter Valley, and the Capertee Valley, and as far as the Nepean River and associated tributaries around Camden and Bargo.
3. *Pomaderris brunnea* grows in open forest (PlantNet 2013) on clay or alluvial soils of floodplains and riparian habitats (Sutter 2011). Associated species in the overstorey in the northernmost part of the range include Silver-top Stringybark (*Eucalyptus laevopinea*), Sydney Blue Gum (*E. saligna*) and New England Blackbutt (*E. campanulata*). In the southern part of the range within New South Wales, the overstorey species are usually Cabbage Gum (*E. amplifolia*), River Peppermint (*E. elata*), Sydney Peppermint (*E. piperita*) or Grey Gum (*E. punctata*) growing in association with *Allocasuarina* spp. and *Bursaria spinosa* (Sutter 2011).
4. The extent of occurrence of *P. brunnea*, including all likely NSW sites and extending to the Victorian border, is estimated at 55 900 km<sup>2</sup>. The extent of occurrence is based on a minimum convex polygon enclosing all mapped occurrences of the species, the method of assessment recommended by IUCN (2011). The area of occupancy (AOO) of *P. brunnea* in NSW ranges between 104 km<sup>2</sup> based on known populations, up to 140 km<sup>2</sup> based on all possible populations. The estimate of AOO is based on 2 x 2 km grid cells, the scale recommended for assessing area of occupancy by IUCN (2011). Hence, the geographic distribution of *P. brunnea* is estimated to be highly restricted.
5. There is uncertainty about the total population size for *Pomaderris brunnea* in NSW. Sutter (2011) reported a total of 600 plants, with highest numbers reported for populations from south-west Sydney. Bremner (*in litt.* June 2012) gave a lower estimate, with *c.* 190 plants reported from 10 of his 18 possible sites; the largest single site had *c.* 70 plants. No data were available for the remaining sites. Even with the uncertainty in the estimates of populations and numbers within populations, it is likely that the estimated number of mature individuals of *P. brunnea* is low.
6. Populations of *Pomaderris brunnea* are subject to a number of current threats. Populations along the Nepean River have been severely disturbed by extraction of sand and gravel in the past (P Cuneo *in litt.* June 2012; P Ridgeway *in litt.* October 2013). Invasion of the riparian zone of the Nepean River by woody weeds such as *Ligustrum* spp. (Privet), *Olea europaea* subsp. *cuspidata* (African Olive) and

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*Gleditsia triacanthos* (Honey Locust) results in heavy shading of the ground layer. This can adversely affect regeneration of *P. brunnea*, which occurs best on open sandy patches (P Cuneo *in litt.* June 2012; M Bremmer *in litt.* June 2012; P Ridgeway *in litt.* October 2013). An additional threat to riparian zone populations is heavy grazing of seedlings and ringbarking of adult plants by feral goats (*Capra hircus*) and Fallow Deer (*Dama dama*). These riparian populations are also under threat from stock grazing, bank erosion and mowing (P Ridgeway *in litt.* October 2013). Weeds were also identified as a threat by Sutter (2011) at six sites. Other small populations occur on road verges, and are subject to threats from road works. Sutter (2011) identifies disturbance from trampling and recreational vehicle use as a threat at two populations in NSW. Other small non-riparian populations are threatened by habitat clearing and grazing (R. Johnstone *in litt.* June 2012; Sutter 2011) or burning or slashing for fuel reduction (S Douglas *in litt.* May 2012). This is evidence of ongoing continuing decline in habitat quality or diversity of *P. brunnea*. 'Invasion of native plant communities by African Olive *Olea europaea* L. subsp. *cuspidata*', 'Competition and habitat degradation by feral goats (*Capra hircus*)' and 'Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants' are listed as Key Threatening Processes under the NSW *Threatened Species Conservation Act* (1995).

7. *Pomaderris brunnea* N.A.Wakef. is not eligible to be listed as a Critically Endangered species.
8. *Pomaderris brunnea* N.A.Wakef. is eligible to be listed as an Endangered species as, in the opinion of the Scientific Committee, it is facing a very high risk of extinction in New South Wales in the near future as determined in accordance with the following criteria as prescribed by the *Threatened Species Conservation Regulation* 2010:

## **Clause 7 Restricted geographic distribution and other conditions**

The geographic distribution of the species is estimated or inferred to be:

- (b) highly restricted,  
and:
- (d) a projected or continuing decline is observed, estimated or inferred in either of the key indicators:
  - (a) an index of abundance appropriate to the taxon, or
  - (b) the geographic distribution, habitat quality or diversity, or genetic diversity.

## **Clause 8 Low numbers of mature individuals of species and other conditions**

The estimated total number of mature individuals of the species is:

- (b) low,  
and either:
- (d) a projected or continuing decline is observed, estimated or inferred in either of the key indicators:
  - (a) an index of abundance appropriate to the taxon, or
  - (b) the geographic distribution, habitat quality or diversity, or genetic diversity.

Professor Michelle Leishman  
Chairperson  
Scientific Committee

Exhibition period: 30/05/04 – 25/07/14

Proposed Gazettal date: 30/05/14

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ESTABLISHED BY THE THREATENED SPECIES CONSERVATION ACT 1995

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## References:

Harden GJ (1990) Rhamnaceae. In: 'Flora of New South Wales' Vol. 1 (Ed. GJ Harden) p. 354 - 373. (University of NSW Press, Kensington)

IUCN Standards and Petitions Subcommittee (2011) Guidelines for Using the IUCN Red List Categories and Criteria. Version 9.0. Prepared by the Standards and Petitions Subcommittee in September 2011.

Royal Botanic Gardens and Domain Trust (2013) PlantNET - The Plant Information Network System of The Royal Botanic Gardens and Domain Trust, Sydney, Australia (version 2.0). <http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Gossia~acmenoides> (accessed March 2013)

Sutter G (2011) National Recovery Plan for the Rufous Pomaderris *Pomaderris brunnea*. State of Victoria Department of Sustainability and Environment, Melbourne, March 2011.