

NSW SCIENTIFIC COMMITTEE

Final Determination

The Scientific Committee, established by the *Threatened Species Conservation Act 1995*, has made a Final Determination to list the tree, *Eucalyptus* sp. Cattai (Gregson s.n., 28 Aug 1954) as a CRITICALLY ENDANGERED SPECIES in Part 1 of Schedule 1A of the Act and, as a consequence, to omit reference to *Eucalyptus* sp. Cattai (NSW 318983) from Part 1 of Schedule 1 (Endangered species) of the Act. Listing of Critically Endangered species is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. The currently accepted name for the taxon is *Eucalyptus* sp. Cattai (Gregson s.n., 28 Aug 1954), hereafter referred to as *Eucalyptus* sp. Cattai. The species was listed under the synonym of *Eucalyptus* sp. Cattai (NSW 318983) as an Endangered species in 1999 prior to the existence of the critically endangered threat category. *Eucalyptus* sp. Cattai was previously regarded as an intergrade between *E. notabilis* and *E. resinifera* subsp. *resinifera* by K.D. Hill and L.A.S. Johnson (Royal Botanic Gardens and Domain Trust accessed 2014) but has since been identified as a separate species (V. Klaphake pers. comm. May 2013).
2. The following description of *Eucalyptus* sp. Cattai (family Myrtaceae) is taken from PlantNet (The Royal Botanic Gardens and Domain Trust accessed June 2014): “Small mallee-like tree to 4.5 m high, with more or less crooked trunks and bark thick, sub-fibrous, furrowed, but loose on lower trunk tending to scaly bloodwood type higher up. Adult leaves disjunct, lanceolate to broad lanceolate, 4.6–11.5 cm long, 1–4.2 cm wide, dark green, glossy, discolorous, penniveined. Umbellasters 6–8-flowered; peduncle flattened or angular, 5–13 mm long; pedicels terete, 0–6 mm long. Buds fusiform to ovoid or conical, 6–10 mm long, 3.5–5 mm diam., scar present; calyptra conical to hemispherical, sometimes slightly beaked, more or less ribbed, at least as wide as hypanthium, length longer or shorter than hypanthium. Fruit hemispherical or cup-shaped, 5–6 mm long, 5–7 mm long; disc flat to raised; valves exserted.” V. Klaphake (*in litt.* September 2014) provides the following comparisons between *E. sp. Cattai*, *E. resinifera* and *E. notabilis*. Note these should be used only as a guide to help identification:

Character	<i>E. sp. Cattai</i>	<i>E. resinifera</i>	<i>E. notabilis</i>
Habit	mallee or small crooked tree to 5 (rarely 8) m tall	tree to 25 m tall	tree to 25 m tall
Bark	coarse fibrous with thin flat pieces on ridges	coarse fibrous	coarse fibrous
Soil type	sandstone	sand/clay transition	sand/clay transition
Habitat	heath, or areas with scattered low trees	forest	forest
Intermediate leaves	ovate	lanceolate	lanceolate
Buds	calyptra compressed	calyptra tapered	calyptra compressed
Fruit	valves enclosed or tips only to rim height, disc slightly raised	valves exsert, often strongly so, disc slightly raised	valves exsert, often strongly so, disc strongly raised

3. *Eucalyptus* sp. Cattai is only known from north-western Sydney between Castle Hill and Cattai. Previously the species was thought to occur at Colo Heights (Scientific Committee 1999), however this record is now considered to be of a different taxon. *Eucalyptus* sp. Cattai grows as isolated trees or small

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groups of trees in scrub, heath and low woodland, on sandstone-derived soils (Royal Botanic Gardens and Domain Trust, accessed 2014). The habitat may also be associated with the edges of the Mittagong Formation, which may include Mittagong sandstone and shale, and at some sites with the presence of laterised loose stones (S. Douglas pers. comm. March 2013).

4. The number of mature individuals of *Eucalyptus* sp. Cattai is unknown, however there are currently estimated to be fewer than 2500 individuals. There are up to seven populations of *E.* sp. Cattai located on land of various tenures. The three largest populations total approximately 280 – 570 trees, the range here indicating the difficulty in differentiating individuals of this mallee species (Scott, 2013). These three populations occur on former Crown Land granted to the Deerubbin Local Aboriginal Land Council. The remainder of the species is restricted to scattered individuals or groups of trees across the species' range. There are no populations known from a conservation reserve.
5. The geographic distribution of *Eucalyptus* sp. Cattai is very highly restricted. The extent of occurrence is approximately 40 km², measured by a convex polygon encompassing the currently known sites, as recommended in the IUCN Guidelines (2014). The area of occupancy (AOO) was estimated to be 32 km² based on eight 2 x 2 km grid cells, the scale recommended for assessing AOO by IUCN (2014).
6. The area where *Eucalyptus* sp. Cattai occurs is highly urbanised and the remnant vegetation is fragmented due to expanding urban development. Known or likely threats to *E.* sp. Cattai are ongoing clearing and fragmentation, road works, disturbance to habitat from urban and rural-residential land use, clearing and understorey suppression for bushfire management and an altered fire regime and apparent lack of recruitment (S. Douglas *in litt.* December 2012, V. Klaphake *in litt.* September 2014). These threats are impacting on the species across its current geographic range. 'Clearing of native vegetation' is listed as a Key Threatening Process under the NSW *Threatened Species Conservation Act 1995*.
7. *Eucalyptus* sp. Cattai (Gregson s.n., 28 Aug 1954) is eligible to be listed as a Critically Endangered species as, in the opinion of the Scientific Committee, it is facing an extremely high risk of extinction in New South Wales in the immediate 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:

(a) very highly restricted,

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.

Dr Mark Eldridge
Chairperson
Scientific Committee

Exhibition period: 22/05/15 – 17/07/15

Proposed Gazettal date: 22/05/15

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References:

IUCN Standards and Petitions Subcommittee (2014) Guidelines for Using the IUCN Red List Categories and Criteria. Version 11. Prepared by the Standards and Petitions Subcommittee.

<http://www.iucnredlist.org/documents/RedListGuidelines.pdf>.

NSW Scientific Committee (1999) *Eucalyptus* sp. Cattai (NSW 318983). Final Determination to list an endangered species under the Threatened Species Conservation Act 1995. NSW Scientific Committee, Sydney.

<http://www.environment.nsw.gov.au/determinations/EucalyptusSpCattaiEndSpListing.htm>

(accessed November 2014)

Royal Botanic Gardens and Domain Trust (2014) 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-](http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&search=yes&name=eucalyptus+cattai)

[bin/NSWfl.pl?page=nswfl&search=yes&name=eucalyptus+cattai](http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&search=yes&name=eucalyptus+cattai)

(accessed June 2014)

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-](http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Eucalyptus~sp.+Cattai+(Gregson+s.n.,+28+Aug+1954))

[bin/NSWfl.pl?page=nswfl&lvl=sp&name=Eucalyptus~sp.+Cattai+\(Gregson+s.n.,+28+Aug+1954\)](http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Eucalyptus~sp.+Cattai+(Gregson+s.n.,+28+Aug+1954))

(accessed August 2013)

Scott J (2013) *Eucalyptus* sp. Cattai (Gregson s.n., 28 Aug 1954). Draft report to NSW Scientific Committee.