

**Advice to the Minister for the Environment, Heritage and the Arts
from the Threatened Species Scientific Committee (the Committee)
on Amendment to the list of Threatened Species
under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)**

1. Scientific name (common name)

Eucalyptus recta (a tree)

2. Reason for Conservation Assessment by the Committee

This advice follows assessment of information gathered through the Commonwealth's Species Information Partnership with Western Australia, which is aimed at systematically reviewing species that are inconsistently listed under the EPBC Act and the Western Australian *Wildlife Conservation Act 1950*.

Eucalyptus recta is listed as Declared Rare Flora under the Western Australian *Wildlife Conservation Act 1950*, and is managed as vulnerable (according to IUCN criteria) by the Western Australian Government. The Committee provides the following assessment of the appropriateness of including the species in the EPBC Act list of threatened species.

This is the Committee's first consideration of the species under the EPBC Act.

3. Summary of Conclusion

The Committee judges that the species has been demonstrated to have met sufficient elements of Criterion 2 to make it **eligible** for listing as **endangered**.

The Committee judges that the species has been demonstrated to have met sufficient elements of Criterion 3 to make it **eligible** for listing as **vulnerable**.

The highest category for which the species is eligible to be listed is **endangered**.

4. Taxonomy

The species is conventionally accepted as *Eucalyptus recta* (Johnson and Hill, 1992).

5. Description

Eucalyptus recta is a native tree that can grow to 15 m in height, with a straight trunk to approximately 5 m (Western Australian Herbarium, 2005). The species is readily distinguished by its smooth, shining pale silver-grey or white bark, its large buds (22-25 mm long, 8-9 mm diameter) which are broadly shallowly ribbed, and its large fruits (8-9 mm long, 10-12 mm diameter) (Johnson and Hill, 1992).

6. National Context

Eucalyptus recta is endemic to Western Australia, and is known from nine subpopulations in the Wongan Hills and Cadoux areas, approximately 250 km north-east of Perth.

Eight of the nine subpopulations occur in the Cadoux area. The ninth subpopulation occurs approximately 50 km west of the other subpopulations, in the Wongan Hills area. The extent of occurrence of the species is calculated to be approximately 360 km² and its estimated area

of occupancy is less than 1 km² (CALM, 2005). One subpopulation occurs within Manmanning Nature Reserve, and the remaining eight subpopulations occur on private property and road verges.

The species is located within the Avon Natural Resource Management region.

7. Relevant Biology/Ecology

Eucalyptus recta is geographically restricted to relatively prominent lateritic landforms associated with the Cadoux fault line. The species occurs on gravel rises and gravelly sands on slopes with *Eucalyptus gardneri* (Blue Mallet) and *Eucalyptus salmonophloia* (Salmon Gum) in the Cadoux area, and with the Salmon Gum in the Wongan Hills area (CALM, 2005).

Eucalyptus recta is similar to *Eucalyptus ornata* (Silver Mallet) from which it differs by having larger buds (CALM, 2005).

8. Description of Threats

The main identified threats to *Eucalyptus recta* are stock grazing and trampling, wildfire, chemical drift from agricultural properties, competition from weeds, roads and firebreak maintenance, timber cutting and grazing by insects.

A number of the subpopulations are located on private property, as small pockets of remnant vegetation. As none of the sites are fenced, stock are able to move through the sites and graze or trample on seedlings (CALM, 2005).

While the effects of fire on the species are unknown, fire that is too frequent is likely to kill plants before they reach maturity, as well as degrade the surrounding habitat. Conversely, a certain fire frequency is likely to be required to stimulate recruitment (CALM, 2005).

The nine subpopulations are surrounded by land cleared for agriculture, to which pesticides and herbicides are periodically applied. These chemicals can be carried by the wind or water, and damage *Eucalyptus recta* or other non-target plants, particularly seedlings (CALM, 2005).

Weeds are prevalent at many of the subpopulations and can compete with *Eucalyptus recta*, particularly seedlings, for resources. Weeds suppress early plant growth by competing for soil moisture, nutrients and light. They also increase the fire hazard due to the easy ignition of high fuel loads, which are produced annually by many weed species (CALM, 2005).

A number of the subpopulations occur on Shire road verges, and are particularly vulnerable to road and firebreak widening and maintenance works, such as slashing, grading, clearing and soil compaction by vehicle movement (CALM, 2005).

One subpopulation exists in and around an old gravel pit on private property and may be subject to timber cutting for fence posts (CALM, 2005).

An herbivorous insect is grazing on *Eucalyptus recta* trees at two of the nine subpopulations, and is likely to be reducing plant health (CALM, 2005).

Past threats to *Eucalyptus recta* are land clearing. The clearing of land for agriculture has reduced the amount of suitable habitat for this species (CALM, 2005).

9. Public Consultation

The information used in this assessment was made available for public exhibition and comment for 30 business days. No comments were received.

10. How judged by the Committee in relation to the criteria of the EPBC Act and Regulations

The Committee judges that the species is **eligible** for listing as **endangered** under the EPBC Act. The assessment against the criteria is as follows:

Criterion 1: It has undergone, is suspected to have undergone or is likely to undergo in the immediate future a very severe, severe or substantial reduction in numbers

The total population size of the species is approximately 3500 mature plants. This figure was calculated using actual and estimated counts during population monitoring (DEC, 2008).

The species' distribution is fragmented and surrounded by land cleared for agriculture (CALM, 2005). While the Committee judges that clearing for agriculture was a past threat to the species, there are no quantitative data available to assess the past rate of decline in population numbers.

A range of current threats to the species have been identified, including stock grazing and trampling, wildfire, chemical drift from agricultural properties, competition from weeds, road and firebreak maintenance, and grazing by insects. However, the impact of these threats has not been quantified. The Committee considers that these threats may cause the species to decline in the future, but there are insufficient data to judge whether this decline would be at a particular rate.

There are insufficient quantitative data available to judge whether the species has undergone, is suspected to have undergone or is likely to undergo a very severe, severe or substantial reduction in numbers. Therefore, as the species has not been demonstrated to have met any of the elements of Criterion 1, it is **not eligible** for listing in any category under this criterion.

Criterion 2: Its geographic distribution is precarious for the survival of the species and is very restricted, restricted or limited

The Committee considers *Eucalyptus recta* to have a restricted geographic distribution, as the extent of occurrence of the species is estimated to be 360 km² (CALM, 2005).

Not all subpopulations have data on area of occupancy, however, the total area of occupancy is estimated to be less than 1 km² (CALM, 2005).

The geographic distribution of *Eucalyptus recta* is fragmented and generally surrounded by farmland. This lack of suitable habitat surrounding the species' known area of occupancy limits the geographic distribution of the species.

A range of current threats to the species have been identified, including stock grazing and trampling, wildfire, chemical drift from agricultural properties, competition from weeds, road and firebreak maintenance, and grazing by insects. However, the impact of these threats has not been quantified. The Committee considers that these threats may cause the species to decline in the future, but there are insufficient data to judge whether this decline would be at a particular rate.

The Committee considers that *Eucalyptus recta* has a restricted geographic distribution which is precarious for the survival of the species due to a number of current threats. Therefore, the species has been demonstrated to have met the relevant elements of Criterion 2 to make it **eligible** for listing as **endangered**.

- Criterion 3: The estimated total number of mature individuals is limited to a particular degree; and either**
- (a) evidence suggests that the number will continue to decline at a particular rate; or**
 - (b) the number is likely to continue to decline and its geographic distribution is precarious for its survival**

The total population size of *Eucalyptus recta* is approximately 3500 mature plants (DEC, 2008).

The species' geographic distribution is fragmented. The nine known subpopulations are surrounded by land cleared for agriculture (CALM, 2005). This lack of suitable habitat surrounding the species' known area of occupancy limits the geographic distribution of the species. A number of current threats are known to be impacting on the species, including stock grazing and trampling, wildfire, chemical drift from agricultural properties, competition from weeds, road and firebreak maintenance, and grazing by insects.

The Committee considers that the estimated total number of mature individuals of the species is limited. The number is likely to decline due to a number of current threats, and the species' geographic distribution is fragmented and precarious for its survival. Therefore, the species has been demonstrated to have met the relevant elements of Criterion 3 to make it **eligible** for listing as **vulnerable**.

- Criterion 4: The estimated total number of mature individuals is extremely low, very low or low**

The total population size of *Eucalyptus recta* is approximately 3500 mature plants (DEC, 2008). The Committee does not consider that the estimated total number of mature individuals of the species is extremely low, very low or low for the purpose of this criterion. Therefore, as the species has not been demonstrated to have met any required element of Criterion 4, it is **not eligible** for listing in any category under this criterion.

- Criterion 5: Probability of extinction in the wild that is at least:**

- a) 50% in the immediate future; or**
- b) 20% in the near future; or**
- c) 10% in the medium-term future.**

There are no data available to estimate a probability of extinction of the species in the wild over a relevant timeframe. Therefore, as the species has not been demonstrated to have met the required elements of Criterion 5, it is **not eligible** for listing in any category under this criterion.

11. CONCLUSION

Conservation Status

This advice follows assessment of information gathered through the Commonwealth's Species Information Partnership with Western Australia, which is aimed at systematically reviewing species that are inconsistently listed under the EPBC Act and the Western Australian *Wildlife Conservation Act 1950*.

The Committee judges that *Eucalyptus recta* has a restricted geographic distribution, with an extent of occurrence of approximately 360 km². This geographic distribution is precarious for the survival of the species, due to a number of current threats directly impacting the species, including stock grazing and trampling, wildfire, chemical drift from agricultural properties, competition from weeds, road and firebreak maintenance, and grazing by insects. Therefore, the species has been demonstrated to have met sufficient elements of Criterion 2 to make it **eligible** for listing as **endangered**.

The total population size of *Eucalyptus recta* is approximately 3500 mature plants, which the Committee judges to be limited. The number is likely to decline due to a number of current threats, and the species' geographic distribution is fragmented and precarious for its survival. The Committee judges that the species has been demonstrated to have met the relevant elements of Criterion 3 to make it **eligible** for listing as **vulnerable**.

The highest category for which the species is eligible to be listed is **endangered**.

Recovery Plan

The Committee considers that there should not be a recovery plan for this species. The conservation advice for the species provides sufficient direction to implement priority actions and mitigate against threats at this time.

12. Recommendations

- (i) The Committee recommends that the list referred to in section 178 of the EPBC Act be amended by **including** in the list in the **endangered** category:

***Eucalyptus recta* (a tree)**

- (ii) The Committee recommends that there should not be a recovery plan for this species.

Associate Professor Robert J.S. Beeton *AM FEIANZ*

Chair

Threatened Species Scientific Committee

13. References cited in the advice

- CALM (2005). Records held in Department of Environment and Conservation (formerly the Department of Conservation and Land Management). Declared Flora Database and rare flora files. WA Department of Environment and Conservation, Western Australia.
- DEC (2008). Records held in Department of Environment and Conservation. Declared Flora Database and rare flora files. WA Department of Environment and Conservation, Western Australia.
- Johnson LAS and Hill KD (1992). Systematic studies in the eucalypts. Five new taxa and combinations in *Eucalyptus* (Myrtaceae) in Western Australia. *Telopea* 4: 604-605.
- Western Australian Herbarium (2005). FloraBase – The Western Australian Flora. Department of Conservation and Land Management.
Available on the Internet at: <http://florabase.calm.wa.gov.au/>