

**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)

Eremophila sp. Koobabbie (R.J.Chinnock 9540) (Koobabbie Poverty Bush)

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*.

The Koobabbie Poverty Bush is listed as Declared Rare Flora under the Western Australian *Wildlife Conservation Act 1950*, and is managed as critically endangered (according to IUCN criteria) by the Western Australian Government. The Committee provides the following assessment of the appropriateness of the species' inclusion 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 Criteria 2, 3 and 4 to make it **eligible** for listing as **critically endangered**.

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

4. Taxonomy

The species has been described as *Eremophila koobabbiensis*, but has yet to be published. Until the species has been formally published, the phrase name *Eremophila* sp. Koobabbie (R.J.Chinnock 9540) is the currently accepted name (CHAH, 2007). The Western Australian Department of Environment and Conservation has advised that the accepted common name for the species is Koobabbie Poverty Bush (DEC, 2007).

5. Description

The Koobabbie Poverty Bush is an erect shrub that can grow to 1.5 m in height. The species has small lobed leaves 4 to 6 mm long by 1.5 to 2 mm wide and small dark purple flowers (DEC, 2007). The species flowers all year round, but flowers most prominently between October and November.

The species is related to *E. pinnatifida* (Pinnate-leaved Eremophila) but is distinguished from it by its smaller flowers and smaller, less prominently lobed leaves (DEC, 2007).

6. National Context

The Koobabbie Poverty Bush is endemic to Western Australia, and is known from three subpopulations, on private property, near the town of Coorow, which is approximately 245 km north of Perth (DEC, 2008).

The species is located within the Northern Agricultural Natural Resource Management region.

7. Relevant Biology/Ecology

The Koobabbie Poverty Bush is known from three subpopulations within a small area of degraded remnant vegetation surrounded by cleared farmland. The habitat of the species consists of open *Eucalyptus salmonophloia* (Salmon Gum) and *Eucalyptus salubris* (Gimlet) woodland in flat, loamy, brown soil. The species is sympatric with *Eremophila sargentii* (CALM, 2006).

The species is very distinctive and easily identified amongst its associated vegetation.

Little is known about the reproductive requirements of the species. The species' response to fire is unknown but it is thought that the species may require occasional fire to induce germination of soil-stored seed (CALM, 2006).

8. Description of Threats

The Koobabbie Poverty Bush is known from patches of degraded remnant vegetation surrounded by cleared farmland. The main threat to the species is competition from weeds. Weeds can compete with the Koobabbie Poverty Bush, 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.

Inappropriate fire regimes may affect the long term viability of the Koobabbie Poverty Bush. It is not known what the fire response of the species is, however frequent fire would most likely destroy subpopulations if it occurs before regenerating or juvenile plants have reached maturity, produced seed and replenished the soil seed bank.

A past threat to the Koobabbie Poverty Bush was land clearing. The clearing of land for agriculture reduced the amount of suitable habitat for this species.

Stock grazing and trampling was also a past threat to the Koobabbie Poverty Bush. It is likely that the species was grazed by stock until the area was fenced in 1989. Prior to fencing, stock would have been able to move through the site and graze or trample on the species. Grazing would also have contributed to the degradation of the habitat, and the introduction of weeds.

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 **critically 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 Koobabbie Poverty Bush is endemic to Western Australia and is known from three subpopulations, consisting of 4 mature plants and 74 seedlings, on private property near the town of Coorow, which is approximately 245 km north of Perth (DEC, 2008).

The first collection of the Koobabbie Poverty Bush was made from an area of remnant bushland on private property near the township of Coorow in 2000. Following searches on other parts of the property and in similar habitat in surrounding areas, a second subpopulation was discovered on the same property in 2007.

In 2008, a third (translocated) subpopulation was established on the property. This third subpopulation consisted of 74 seedlings in August 2008 (DEC, 2008).

The main current threat to the species is competition from weeds. Past threats include land clearing, and stock grazing and trampling. Although weeds are impacting on the species, it is unclear whether the species will decline in the immediate future, because the threats are being managed closely and additional actions are being taken to establish new populations, which may lead to an increase in mature individuals in the long term.

However, the species is not showing any signs of recruitment, and it is possible the four mature plants could senesce, leaving the 74 seedlings from the translocated subpopulation which are not guaranteed to survive to maturity and reproduce. Therefore it is possible that the species may undergo a future decline, but there are no data to suggest how likely or how significant this would be.

The Committee judges that the species, has not undergone, is not suspected to have undergone, and is not likely to undergo at least a 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 the Koobabbie Poverty Bush to have a very restricted geographic distribution, as the extent of occurrence of the species is estimated to be less than 1 km² (DEC, 2008). The species' area of occupancy is unknown, but it would be less than the extent of occurrence (DEC, 2008).

The geographic distribution of the Koobabbie Poverty Bush is fragmented into three very small populations occurring within patches of remnant vegetation surrounded by cleared areas. This lack of suitable habitat surrounding the species' known area of occupancy limits the geographic distribution of the species.

The main current threats to the species are competition from weeds, and stochastic events such as fire. Past threats include land clearing, and stock grazing and trampling. Although weeds and stochastic events such as fire are impacting on the species, it is unclear whether the species will decline in future, because the threats are being managed closely and additional actions are being taken to establish new populations, which may lead to an increase in mature individuals in the long term.

However, the species is not showing any signs of recruitment, and it is possible the four mature plants could senesce, leaving the 74 seedlings from the translocated subpopulation which are not guaranteed to survive to maturity and reproduce. Therefore it is possible that

the species may undergo a future decline, but there are insufficient data to judge whether this decline would be at a particular rate.

The Committee considers that the Koobabbie Poverty Bush has a very restricted geographic distribution, which is precarious for the survival of the species due to its fragmentation and current threats. Therefore, the species has been demonstrated to have met the relevant elements of Criterion 2 to make it **eligible** for listing as **critically 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 estimated total number of mature individuals is four plants (DEC, 2008), which the Committee considers to be very low for the purpose of Criterion 3. There has been a recent increase in the number of seedlings as a result of translocation, however it is not certain that these 74 seedlings will survive to maturity and reproduce.

The species' geographic distribution occurs within patches of degraded remnant vegetation surrounded by cleared farmland. This lack of suitable habitat surrounding the species' known area of occupancy limits the geographic distribution of the species.

The main current threats to the Koobabbie Poverty Bush are competition from weeds and stochastic events such as fire. Past threats include land clearing, and stock grazing and trampling.

The species is not showing any signs of recruitment, and it is possible the four mature plants could senesce, leaving the 74 seedlings from the translocated subpopulation which are not guaranteed to survive to maturity and reproduce. Therefore it is possible that the species may undergo a future decline, but there are insufficient data to judge whether this decline would be at a particular rate.

The Committee considers that the estimated total number of mature individuals of the species is very low. The number is likely to continue to decline due to 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 **critically endangered**.

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

The estimated total number of mature individuals of the Koobabbie Poverty Bush is four plants (DEC, 2008). The Committee considers this number to be extremely low for the purpose of Criterion 4. Therefore, the species has been demonstrated to have met sufficient elements of Criterion 4 to make it **eligible** for listing as **critically endangered**.

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 the Koobabbie Poverty Bush has a very restricted geographic distribution, with an extent of occurrence estimated to be less than 1 km². This geographic distribution is precarious for the survival of the species, due to its fragmentation and a number of current threats directly impacting the species, including competition from weeds and stochastic events such as fire. Therefore, the species has been demonstrated to have met sufficient elements of Criterion 2 to make it **eligible** for listing as **critically endangered**.

The total number of mature individuals of the Koobabbie Poverty Bush is four plants, which the Committee judges to be very low for the purpose of Criterion 3. The number is likely to decline due to a number of 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 **critically endangered**.

The total number of mature individuals of the Koobabbie Poverty Bush is four plants, which the Committee judges to be extremely low for the purpose of Criterion 4. Therefore, the species has been demonstrated to have met sufficient elements of Criterion 4 to make it **eligible** for listing as **critically endangered**.

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

Recovery Plan

The Committee considers that there should be a recovery plan for this species. The species is currently subject to ongoing threats and needs active management, and this can be better achieved with a recovery plan in place.

The Committee notes that in April 2007, the Western Australian Department of Environment and Conservation finalised the Koobabbie Poverty Bush Interim Recovery Plan (DEC, 2007).

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 **critically endangered** category:

***Eremophila* sp. Koobabbie (R.J.Chinnock 9540) (Koobabbie Poverty Bush)**

- (ii) The Committee recommends that there should 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 (2006). Conservation and Land Management. Records held in the Department of Environment and Conservation's (formerly Department of Conservation and Land Management) Declared Flora Database and rare flora files. Western Australian Department of Environment and Conservation.
- CHAH (2007). Council of Heads of Australian Herbaria. Review of Australian vascular plant names – report to the Department of the Environment and Water Resources.
- DEC (2007). Department of Environment and Conservation. Koobabbie poverty bush (*Eremophila koobabbiensis* ms), Interim Recovery Plan 2007-2012. Interim Recovery Plan No. 233. Department of Environment and Conservation, Western Australia.
- DEC (2008). Department of Environment and Conservation. Records held in DEC's Declared Flora Database and rare flora files. Western Australian Department of Environment and Conservation.