

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

1. Scientific name (common name)

Gastrolobium lehmannii (Cranbrook Pea)

2. Description

The Cranbrook Pea is an erect, domed shrub growing to 1.5 metres high with soft hairy branches and oblong leaves. The species occurs in low, open woodland and it has orange, yellow and red pea flowers that blossom between September and October (WA Herbarium 2005, Brown *et al.* 1998).

This species was originally described by Meissner (1844) as *Gastrolobium lehmannii* Meisn. The species name *Nemcia lehmannii* (Meisn.) Crisp was published by Crisp (1987) but the species was later returned to *Gastrolobium lehmannii* by Chandler *et al.* (2002).

3. National Context

The Cranbrook Pea is endemic to Western Australia and is known from six populations near Tunney, approximately 120 km northwest of Albany.

The species is currently listed as rare under the Western Australian *Wildlife Conservation Act 1950* and is managed as 'vulnerable' (according to IUCN criteria) by the Western Australian Government.

4. How judged by the Committee in relation to the EPBC Act criteria.

The Committee judges the species to be **eligible** for listing as **vulnerable** under the EPBC Act. The justification 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 Cranbrook Pea is known from six isolated populations near Tunney, approximately 120 km northwest of Albany. Based on surveys conducted between 2000 and 2002, the estimated combined total number of mature plants from these six populations is 1600. The species had not been collected in the wild since 1918 and was thought to be extinct until a single population was discovered in September 1994, followed by discovery of a further five populations (CALM 2005).

The Cranbrook Pea occurs across a landscape which has been significantly altered by clearing for agriculture (CALM 2005). This clearing may have resulted in the removal of populations in the past, however, there are no data available to confirm a decline in the number of the species.

The known populations of the Cranbrook Pea appear to be viable as there are an extensive number of plants in several of the populations that have recently matured. However, all six known populations of the Cranbrook Pea occur either on road verges, private property or gravel reserves. Threats to these populations include grazing by stock or rabbits, clearing by landowners, road maintenance and competition from weeds. A sooty black fungal disease is

also present on the plants at two populations, though the long term impact of this disease is unknown (CALM 2005). These threats may lead to a reduction in numbers of the Cranbrook Pea in the future, however, there are currently no data to quantify the potential reduction in numbers of this species, and therefore there are insufficient data available to assess the species against this criterion.

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

The Cranbrook Pea is known from six isolated populations near Tunney, approximately 120 km northwest of Albany. The combined total number of mature plants from these six populations is 1600. The extent of occurrence of the Cranbrook Pea is 300 km² and the species has an area of occupancy of less than 1 km² (CALM 2005).

All six known populations of the Cranbrook Pea occur either on road verges, private property or gravel reserves. None of these areas are specifically managed for conservation purposes and threats to populations of the Cranbrook Pea include grazing by stock or rabbits, clearing by landowners, road maintenance and competition from weeds. A sooty black fungal disease is also present on the plants at two populations, though the long term impact of this disease is unknown (CALM 2005).

A number of threat abatement and recovery actions are being undertaken to protect this species, including the notification of land managers with populations on their property of their responsibilities under Western Australian legislation, fencing of three populations to exclude grazing by stock and the erection of rare flora markers at the two populations on road verges.

The Cranbrook Pea occurs in fire prone habitat and field observations indicate that the species does not regenerate well following a fire. Therefore fire also poses a threat to the species, in particular for one population adjacent to a rubbish tip where fires regularly occur.

The restricted extent of occurrence of the species in a few isolated populations, combined with the potential threats to these populations posed by fire, disease, grazing by stock or rabbits, clearing, road maintenance and competition from weeds makes the geographical distribution of the species precarious for its survival. Therefore the species is **eligible** for listing as **vulnerable** under this criterion.

Criterion 3 – The estimated total number of mature individuals is limited to a particular degree and: (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.

As discussed under criterion two, the Cranbrook Pea is known from six isolated populations with an estimated combined total number of mature plants of 1600 across an extent of occurrence is 300 km². The total number of mature individuals of the Cranbrook Pea is limited, and the geographic distribution is precarious for the survival of the species due to potential threats to these populations of fire, disease, grazing by stock or rabbits, clearing, road maintenance and competition from weeds.

However, although the geographic distribution of the Cranbrook Pea is precarious for its survival, there are insufficient data available to quantify the likely decline in numbers of this species, and therefore there are insufficient data available to assess the species against this criterion.

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

The Cranbrook Pea is known from six isolated populations with an estimated combined total number of mature plants of 1600. Although this is a limited number of mature individuals, the population estimate does not meet the threshold for low and therefore the Cranbrook Pea is **not eligible** for listing under this criterion.

Criterion 5 - Probability of extinction in the wild

There are no quantitative data available regarding the probability of extinction of the Cranbrook Pea in the wild and therefore there is insufficient information to assess the species against this criterion.

5. CONCLUSION

The Cranbrook Pea is known from six isolated populations near Tunney, approximately 120 km northwest of Albany. The estimated combined total number of mature plants from these six populations is 1600, and the species' extent of occurrence is 300 km². The species was thought to be extinct until a single population was rediscovered in September 1994, followed by a further five populations.

Known populations of the Cranbrook Pea appear to be viable as there are an extensive number of young plants that have recently matured in several of the populations. However, all populations of the Cranbrook Pea occur either on road verges, private property or gravel reserves. Threats to populations of the Cranbrook Pea include fire, disease, grazing by stock or rabbits, clearing by landowners, road maintenance and competition from weeds. Combined with the species' restricted extent of occurrence, these threats make the geographic distribution of the species precarious for its survival.

Therefore the Cranbrook Pea is **eligible** for listing as **vulnerable** under criterion 2.

6. Recommendation

The Committee recommends that the list referred to in section 178 of the EPBC Act be amended by **deleting** from the list in the **extinct** category:

Nemcia lehmannii (Cranbrook Pea)

AND

The Committee recommends that the list referred to in section 178 of the EPBC Act be amended by **including** in the list in the **vulnerable** category:

Gastrolobium lehmannii (Cranbrook Pea)

References cited in the advice

Brown, A., Marchant and Thomson-Dans (1998). *Western Australia's Threatened Flora*. WA Department of Conservation and Land Management, Perth.

CALM (2005). Records held in CALM's Declared Flora Database and rare flora files. WA Department of Conservation and Land Management.

Chandler, G. T., Crisp, M., Cayzer, L, and Bayer, R. (2002). Monograph of *Gastrolobium* (Fabacea: Mirbelieae). *Australian Systematic Botany*. 15:705

Crisp, M. (1987). *Advances in Legume Systematics* 3:127, 619-739

Western Australian Herbarium (2005). *Florabase – The Western Australian Flora*. Department of Conservation and Land Management. <http://florabase.calm.wa.gov.au/>

Meissner (1844). *Plantae Preissianae* 1:70