

**Advice to the Minister for the Environment and Heritage from the Threatened Species
Scientific 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)

Hibiscus brennanii (a shrub)

2. Description

Hibiscus brennanii is an erect woody shrub, growing up to 3 m tall with pink flowers that occur from March to May. Its distinguishing features include velvety grey/green foliage and soft hairy leaves, and the species is lacking the prickly hairs of many other *Hibiscus* species. *Hibiscus brennanii* is a short lived perennial estimated to live between 4-5 years (Kerrigan 2004).

3. National Context

Hibiscus brennanii only occurs in the Northern Territory. The species is known from one population at Baroalba Creek, on the Mount Brockman outlier of the western Arnhem Land Plateau in Kakadu National Park. The species grows on sandstone cliffs, in gullies and on broken sandstone.

Hibiscus brennanii is currently listed as vulnerable under the Northern Territory *Territory Parks and Wildlife Conservation Act 2000*.

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.

Hibiscus brennanii only occurs in the Northern Territory. The species is known from one population of approximately 450 mature individuals at Baroalba Creek, on Mount Brockman in Kakadu National Park. The known population is healthy with evidence of successful reproduction recorded at the site.

Hibiscus brennanii is potentially threatened by inappropriate fire regimes. *Hibiscus* species are known to regenerate after wildfire, but inappropriate fire regimes (for example, those more frequent than the generation time) are a potential threat to the species. However, generation time for the species has not been assessed, and the species' patchy distribution and rocky habitat may offer a degree of protection from fire.

Due to a lack of historical survey information, there are no quantitative data available to indicate past trends in the population size of the species, nor any current evidence to suggest that the species is likely to undergo a decline in numbers in the immediate future.

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.

Hibiscus brennanii only occurs in the Northern Territory and is known from one population in Kakadu National Park. The geographic distribution of the species is very restricted, with a total area of occupancy estimated to be 1.5 km² (Kerrigan 2004).

While inappropriate fire regimes may potentially have an impact on the species, further research is required to determine the species' response to fire.

While the geographic distribution of *Hibiscus brennanii* is very restricted, it is not precarious for the survival of the species.

There are insufficient data available to assess the species against 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.

Hibiscus brennanii is known from one population of approximately 450 mature individuals at Baroalba Creek, on Mount Brockman in Kakadu National Park. The species' area of occupancy is currently estimated to be 1.5 km² but is not precarious for the survival of the species (see Criterion 2).

There is a lack of historical survey information, and there is no quantitative data available to indicate past trends in the population size of the species, nor any current evidence to suggest that the species number of mature individuals will continue to decline at a particular rate.

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.

Hibiscus brennanii is known from one population of approximately 450 mature individuals. The species has a very restricted area of occupancy (approximately 1.5 km²) and is currently known from only one location at the Mt Brockman outlier in Kakadu National Park. The species may be vulnerable to inappropriate fire regimes but there is currently insufficient data to verify the likely degree of threat that this process may have on the species over time and no other threats have been identified for the species.

The estimated total number of mature individuals is low.

Therefore, the species is **eligible** for listing as **vulnerable** under this criterion.

Criterion 5 - Probability of extinction in the wild

There are no quantitative data available to assess the species against this criterion.

5. CONCLUSION

Hibiscus brennanii only occurs in the Northern Territory and is known from one population in Kakadu National Park. The geographic distribution of the species is very restricted, with a total area of occupancy estimated to be 1.5 km². The species population is approximately 450 mature individuals.

There are currently no data available to indicate population trends in the number of mature individuals, extent of occurrence, or area of occupancy. Inappropriate fire regimes have been identified as a potential threat to the species.

The estimated number of mature individuals is low.

The species is **eligible** for listing as **vulnerable** under criterion 4.

6. Recommendation

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:

Hibiscus brennanii (a shrub)

Associate Professor Robert J.S. Beeton

Chair

Threatened Species Scientific Committee

References cited in the advice

Holtze (2005). Darwin Herbarium Specimen Database. Northern Territory.

Kerrigan, R. (2004). Kakadu Threatened Flora Report. Volume 2. Results of a threatened flora survey 2004. Department of Infrastructure Planning and Environment, Darwin.

Kerrigan, R., I. Cowie, & B. Baker (2004). Threatened Species Information Sheet, *Hibiscus brennanii*. Darwin Herbarium, Department of Infrastructure, Planning and Environment.

Russell-Smith, J., P.G. Ryan, D. Klessa, G. Waights & R.K. Harwood (1998). Fire regimes, fire-sensitive vegetation and fire management of the sandstone Arnhem Plateau, monsoonal northern Australia. *Journal of Applied Ecology* **35**, 829-846.

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