

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

1. Scientific name (common name)

Typhonium jonesii (a herb)

2. Description

Typhonium jonesii is a perennial herb which dies back in the dry season. It has mauve-cream flowers and flowers in December.

3. National Context

Typhonium jonesii is endemic to the Northern Territory. It is known from three locations on the Tiwi Islands north of Darwin (one population occurs on Bathurst Island and two populations occur on Melville Island). The three populations of *Typhonium jonesii* occur on rocky or red iron rich soil hills in eucalypt woodlands and wet rainforests. The total population is estimated to be between 150 and 300 mature plants.

Typhonium jonesii is currently listed as endangered under the Northern Territory *Territory Parks and Wildlife Conservation Act 2000*.

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

TSSC judges the species to be **eligible** for listing as **endangered** 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.

Typhonium jonesii is estimated to have a total population between 150 and 300 plants. However, there are no quantitative data available to indicate past trends in the population size of the species.

Therefore, this species is **not eligible** for listing under this criterion.

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

Typhonium jonesii is known from three locations on the Tiwi Islands. The current locations are estimated to have a total population of 150 – 300 mature plants. The extent of occurrence is 85km² and the area of occupancy is estimated to be 0.03km².

A recent targeted survey for this species did not relocate the species at these locations or uncover any additional populations. However due to the cryptic nature of the species it is expected that the three known populations still exist.

The eucalypt forests where the species occurs are being degraded by feral buffalo, cattle and horses. Increased clearing, road development and activity in the area around known populations may also increase the invasion of exotic plants species. Although the

underground tuber and seasonal nature of this species offers protection from fire, the effect of perennial grass invasions on this species is unknown. Pigs are present on Bathurst Island and have recently been introduced to Melville Island. Pigs may potentially dig up the tuber of this species.

Typhonium jonesii has a restricted geographic distribution, which is precarious for its survival. The species is likely to be impacted by ongoing land clearing and habitat disturbance within its range and is also likely to be impacted by feral animals such as buffalo, cattle, horses and pigs.

Therefore, the species is **eligible** for listing as **endangered** 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.

Typhonium jonesii is estimated to have a total population between 150 and 300 plants. The species extent of occurrence is 85km² and area of occupancy is 0.03km². However, there are no quantitative data available to indicate past trends in the population size of the species.

Therefore, this species is **not eligible** for listing under this criterion.

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

The estimated number of mature individuals is estimated to be very low, with the total number of mature plants estimated to be between 150 and 300. *Typhonium jonesii* is located at three locations on the Tiwi Islands (one population occurs on Bathurst Island and two populations occur on Melville Island). The eucalypt forests where this species occurs are being degraded by feral buffalo, cattle and horses. Increased clearing, road development and activity in the area around known populations may increase the invasion of exotic plants species, causing further decline in the future.

Therefore, the species is **eligible** for listing as **endangered** 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

Typhonium jonesii is endemic to the Northern Territory's Tiwi Islands. The species is only known from three populations (one population occurs on Bathurst Island and two populations occur on Melville Island). *Typhonium jonesii* occurs on rocky hills in eucalypt woodlands and wet rainforests. The total population is between 150 and 300 mature plants. The species has a restricted range, with an extent of occurrence of 85km² and an area of occupancy of 0.03km². There are a number of threats operating within this range. The species appears to be impacted by feral buffalo, cattle and horses and increased clearing. Road development and activity in the area around known populations may increase the invasion of exotic plants

species, causing further decline in the future. The species is eligible for listing as **endangered** under criteria 2 and 4.

6. Recommendation

TSSC recommends that the list referred to in section 178 of the EPBC Act be amended by **including** in the list in the **endangered** category:

Typhonium jonesii (a herb)

Associate Professor Robert J.S. Beeton

Chair

Threatened Species Scientific Committee

Publications used to assess the nomination

Woinarski, J., Brennan, K., Hempel, C., Firth, R. and Watt, F. (2000). Biodiversity Conservation on the Tiwi Islands: *Plants, vegetation types and terrestrial vertebrates on Melville Island*. unpublished report. Parks and Wildlife Commission of NT, Palmerston.