

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)

Plectrachne bromoides (a spinifex)

2. Description

Plectrachne bromoides is a perennial grass that grows in tussocks of between 0.5 – 1.0 m high. The flowering spikes of the species are green and purple, appearing between July and October.

This taxon was first described by F. Mueller (1866) as *Triraphis bromoides*. Hubbard then moved it to the genus *Plectrachne* as *P. bromoides* (F. Mull.) C.E. Hubbard in 1939. The species was renamed again as *Triodia bromoides* (F.Muell.) Lazarides after a taxonomic revision of the genera by Lazarides in 1997.

3. National Context

Plectrachne bromoides is endemic to Western Australia and is known from thirteen populations between Kalbarri (approximately 130 km northwest of Geraldton) and Dirk Hartog Island near Shark Bay (approximately 350 km northwest of Geraldton). Information held at the WA Herbarium indicates there may be additional populations that have not yet been surveyed (CALM 2005). The species grows in red, grey and calcareous sand occurring in dunes, sand plains and stony rises (WA Herbarium, 2005).

Plectrachne bromoides was listed as extinct under the Western Australian *Wildlife Conservation Act 1950* until it was rediscovered in the mid 1990's. It was then listed as vulnerable but was delisted altogether in 1998 as further survey found it was more common than previously considered. Western Australia will continue to monitor the species for any change in conservation status.

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

The Committee judges the species to be **not eligible** for listing 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

Based on surveys conducted between 1989 and 1995, the total population size of *Plectrachne bromoides* is estimated to be over 10 000 mature individuals (CALM 2005). The species is currently known from thirteen populations in the Kalbarri and Shark Bay areas, however, information on specimens held at the WA Herbarium indicates there may be additional populations that have not yet been surveyed. Therefore, the actual population size may be larger than the estimate based on known populations.

Potential habitat for the species may have been cleared in the past for agricultural purposes, however, most of the area between the current known locations remains uncleared. There are no

historical survey data available to confirm if there has been a decline in numbers of the species due to clearing.

Potential threats to *Plectrachne bromoides* include grazing as well as road and fire break maintenance, however, the species was not being impacted by these threats when last surveyed in 1995 to an extent that it was in decline (CALM 2005). Survey work has been limited since this time, however, there are no current threats identified that are likely to cause a substantial reduction in the species' numbers. Therefore, as there is no evidence to suggest the species has undergone or is likely to undergo a substantial reduction in numbers, it 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

Plectrachne bromoides is currently known from 13 populations with an estimated extent of occurrence of 11 050 km². Information held at the WA Herbarium indicates there may be additional populations that have not yet been surveyed, and therefore, the actual extent of occurrence of the species may be slightly larger, although most potential additional populations appear to be within the current extent of occurrence.

Whilst there are insufficient data to accurately determine the area of occupancy of the species (CALM 2005), the available information indicates that the geographic distribution of the species is not limited, and as discussed under Criterion 1, the species is not subject to any current threats that are likely to lead to a decline in numbers. Therefore the geographic distribution of the species is not precarious for its survival and it is **not eligible** for listing 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

The total population size of *Plectrachne bromoides* was estimated to be over 10 000 mature individuals when the species was last surveyed in 1995, which is not limited. Survey work has not been extensive since this time, however there are no current threats identified that are likely to cause a substantial reduction in the species' numbers. Therefore, the 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 total population size of *Plectrachne bromoides* is estimated to be over 10 000 mature individuals. Information on specimens held at the WA Herbarium indicates there may be additional populations of the species that have not yet been surveyed (CALM 2005), and therefore, the total number of mature individuals may be higher than the current estimate. The species 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 *Plectrachne bromoides* in the wild and therefore there is insufficient information to assess the species against this criterion.

5. CONCLUSION

Plectrachne bromoides is endemic to Western Australia and is currently known from thirteen populations, however, information held at the WA Herbarium indicates there may be additional populations of the species that have not yet been surveyed. The total population size of *Plectrachne bromoides* is estimated to be over 10 000 mature individuals. Potential threats to *Plectrachne bromoides* include grazing as well as road and fire break maintenance, however, the species was not being impacted by these threats to an extent that it was in decline when it was last surveyed in 1995. There is no evidence to suggest that the species is currently in decline and the geographic distribution of the species is not precarious for its survival, therefore, the species is **not eligible** for listing under the EPBC Act.

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 **vulnerable** category:

Plectrachne bromoides (a spinifex)

References cited in the advice

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

Hubbard, (1930) Hooker's Icon. Pl. 34: Sub.Tab.3385, p2

Lazarides, M. (1997) A revision of *Triodia* including *Plectrachne* (Poaceae, Eragrostidae, Triodiinae) in Australian Systematic Botany 10: 381-489.

Mueller, F. Von (1866) *Fragm.* Vol viii