

**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)

Isopogon robustus (Robust Coneflower)

2. Reason for Conservation Assessment by the Committee

This advice follows assessment of information gathered through the Commonwealth's Species Information Partnership with the Western Australian Department of Environment and Conservation which is aimed at systematically reviewing species that are inconsistently listed under the EPBC Act and the Western Australian *Wildlife Conservation Act 1950*.

The Robust Coneflower 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 Criterion 2 to make it **eligible** for listing as **critically endangered**.

The Committee judges that the species has been demonstrated to have met sufficient elements of Criterion 4 to make it **eligible** for listing as **endangered**.

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

4. Taxonomy

The species is conventionally accepted as *Isopogon robustus* (Robust Coneflower) (Gibson, 2005).

5. Description

The Robust Coneflower is an open shrub growing to 1.5 m high. Branchlets are red-brown to grey-brown in colour and minutely pubescent (clothed with soft, short hairs), and hairs are also present on leaves. Solitary flower heads are 38 mm in diameter, pink in colour and surrounded by long, narrow leaves in a cone-like formation. The flowering period is from September to October (WAH, 2006).

6. National Context

The Robust Coneflower is endemic to Western Australia and is known from a single population in the Parker Range, approximately 200 km southwest of Kalgoorlie within the Avon Natural Resource Management Region (WAH, 2006).

7. Relevant Biology/Ecology

The Robust Coneflower occurs in very open shrubland. It grows in grey, skeletal sandy loam over laterite and occurs on a decomposing laterite shelf (WAH, 2006).

There is very little known about the species' biology and ecology (DEC, 2006).

8. Description of Threats

The key threats to the Robust Coneflower are mining and its associated exploration activities, and inappropriate fire regimes.

The single known population of the Robust Coneflower occurs in an area that is highly prospective for mining. Plants have been subject to damage and destruction during mineral exploration activities in the past. Although there is no evidence available to suggest that this is a current threat, future mining activities may potentially reduce the area of occupancy and potential habitat as the species occurs on unallocated Crown Land, which is subject to mineral exploration. When grid lines and roads are developed to explore for minerals, whole plants can be damaged or killed (DEC, 2006).

Inappropriate fire regimes are a potential threat to the Robust Coneflower. The species' response to fire is unknown, however inappropriate intervals between fires may affect recruitment. As the species is only found in one location, one catastrophic fire in this location may potentially eliminate the species.

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 Robust Coneflower is endemic to Western Australia where it is known from a single population in the Parker Range, approximately 200 km southwest from Kalgoorlie within the Avon Natural Resource Management Region (WAH, 2006).

In 2006, the estimated total number of plants was 217 (including 203 mature plants and 14 seedlings), a decline of 66 mature plants since 2003, but an increase of 83 mature plants overall since 2001. The reason for these fluctuations are unknown, and there is no evidence to suggest that the number will continue to decline at a particular rate (DEC, 2008).

In the past, plants have been subject to damage and destruction during mineral exploration activities. However, there are no available data to show historical decline.

Potential future threats from mineral exploration or fire may cause the species to decline in future, however there is no evidence to estimate the likelihood or rate of such a decline.

There are insufficient data available to judge whether the species has undergone, is suspected to have undergone or is likely to undergo a 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

In 2006, the extent of occurrence and area of occupancy of the Robust Coneflower were estimated to be less than 1 km², which the Committee considers to be a very restricted geographic distribution.

The very restricted distribution of this species renders it highly susceptible to potential future threats from mining activities, and catastrophic events such as an intense fire.

The single known population occurs in an area that is highly prospective for mining. The species has been subject to damage and destruction during mineral exploration activities in the past. When grid lines and roads are developed to explore for minerals, whole plants can be damaged or killed (DEC, 2006).

While the species' response to fire is unknown, it is possible that one intense fire could potentially eliminate the species. Therefore given the range of threats the species' geographic distribution is considered precarious for its survival.

The Committee considers that the Robust Coneflower has a very restricted geographic distribution, which is precarious for its survival. 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

In 2006, the estimated total number of mature individuals was approximately 200, which the Committee considers to be very low. The number of mature plants has declined by 66 mature plants since 2003, but has increased by 83 mature plants overall since 2001. The reasons for these fluctuations are unknown, and there is no evidence to suggest that the number will continue to decline at a particular rate (DEC, 2008).

The extent of occurrence and area of occupancy of the Robust Coneflower were estimated to be less than 1 km² in 2006, which the Committee considers to be a very restricted geographic distribution.

Within this distribution, the species is subject to potential future threats from mining and associated activities, and catastrophic events such as an intense fire.

The Committee judges that the total number of mature individuals is very low. However there are no data available to suggest the number is declining or will continue to decline at a particular rate. Therefore, as the species has not been demonstrated to have met the required elements of Criterion 3, it is **not eligible** for listing in any category under this criterion.

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

In 2006 the estimated total number of mature individuals of the Robust Coneflower was approximately 200 (DEC, 2008).

The Committee considers that the estimated total number of mature individuals of the Robust Coneflower is very low. Therefore, the species has been demonstrated to have met the relevant element of Criterion 4 to make it **eligible** for listing as **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 the Western Australian Department of Environment and Conservation, 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 accepts that the species has a very restricted geographic distribution, which is precarious for the survival of the species. Therefore, the species has been demonstrated to have met sufficient elements of Criterion 2 to make it **eligible** for listing as **critically endangered**.

The Committee accepts that the estimated total number of mature individuals is approximately 200, which is considered to be very low. Therefore, the species has been demonstrated to have met the relevant element of Criterion 4 to make it **eligible** for listing as **endangered**.

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

Recovery Plan

The Committee considers that there should not be a recovery plan for this species.

The approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats. A recovery plan is not considered to be necessary at this time.

12. Recommendations

The Committee recommends that:

- (i) the list referred to in section 178 of the EPBC Act be amended by **including** in the list in the **critically endangered** category:

***Isopogon robustus* (Robust Coneflower)**

- (ii) there should not be a recovery plan for this species.

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Chair

Threatened Species Scientific Committee

References cited in the advice

Department of Environment and Conservation, Western Australia (DEC) (2006). Records held in DEC's Declared Flora Database and rare flora files.

Department of Environment and Conservation, Western Australia (DEC) (2008). Records held in DEC's Declared Flora Database and rare flora files.

Gibson N (2005). A new species of *Isopogon* (Proteaceae) from southwest Western Australia. *Muelleria* 21:97-99.

Western Australian Herbarium, Department of Environment and Conservation (WAH) (2006). FloraBase – The Western Australian Flora. Available on the Internet at: <http://florabase.calm.wa.gov.au/>