

**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)

Hibbertia priceana (a shrub)

2. Reason for Conservation Assessment by the Committee

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

Hibbertia priceana is listed as Declared Rare Flora under the Western Australian *Wildlife Conservation Act 1950*, and is managed as endangered (according to IUCN criteria) by the Western Australian Government. The Committee provides the following assessment of the appropriateness of including the species 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 3 to make it **eligible** for listing as **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 **vulnerable**.

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

4. Taxonomy

The species is conventionally accepted as *Hibbertia priceana* (Wheeler, 2002).

5. Description

Hibbertia priceana is a dwarf shrub that can grow to 0.15 m in height (Western Australian Herbarium, 2006). It is usually compact, but is sometimes sprawling, and typically occurs on sandy clay with laterite gravel. The flowers are yellow, and the flowering period is from June to August (Western Australian Herbarium, 2006).

Hibbertia priceana is most closely related to *Hibbertia depressa* and *Hibbertia helianthemoides*, but differs in its more compact form and its bluish, grey-tinged leaves which are flat, narrowly oblong-elliptic and not clustered (CALM, 2006).

6. National Context

Hibbertia priceana is endemic to Western Australia, and is known from four subpopulations approximately 20 km east of the town of Borden, which is approximately 110 km north-east of Albany. The extent of occurrence of the species is approximately 17 km² and its estimated area of occupancy is less than 1 km² (DEC, 2008). The species occurs on private property, road reserves and road verges.

The species is located within the South Coast Natural Resource Management region.

7. Relevant Biology/Ecology

Hibbertia priceana occurs on sandy clay with laterite gravel and occurs primarily on ridges (Western Australian Herbarium, 2006). Little is known about the levels of flower and fruit production, but it is thought the species may recruit more vigorously following disturbance (CALM, 2006).

The species occurs with *Banksia pseudoplumosa* and *Leucopogon* sp. Ongerup.

8. Description of Threats

The main identified threats to *Hibbertia priceana* are road maintenance works, competition from weeds and stock grazing and trampling.

A number of the subpopulations occur on road verges, and are particularly vulnerable to road widening and maintenance works, such as grading and clearing, and soil compaction by vehicle movement.

Weeds can compete with *Hibbertia priceana*, particularly seedlings, for resources. Weeds suppress early plant growth by competing for soil moisture, nutrients and light. They also increase the fire hazard due to the easy ignition of high fuel loads, which are produced annually by many weed species.

Subpopulations on private property can be under threat from grazing by stock. This can be due to inadequate fencing or instances where stock are given access to sites where they may graze or trample on seedlings.

Salinity may be a potential future threat to the species, particularly where it occupies lower slopes (CALM, 2006). It has the potential to affect plant growth and degrade soil structure.

A past threat to *Hibbertia priceana* is land clearing. The clearing of land for agriculture, primarily for crops, has reduced the amount of suitable habitat for this 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 total population size of the species is approximately 1100 mature plants (DEC, 2008).

The species' distribution is fragmented and known areas of occurrence are surrounded by land cleared for agriculture. While the Committee judges that clearing for agriculture was a past threat to the species, there are no quantitative data available to assess the past rate of decline in population numbers (CALM, 2006).

A range of current and potential future threats to the species have been identified, including road maintenance works, competition from weeds, stock grazing and trampling, and salinity. However, the impact of these threats has not been quantified. The Committee considers that these threats may cause the species to decline in the future, but there are insufficient data to judge whether this decline would be at a particular rate.

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

The Committee considers *Hibbertia priceana* to have a very restricted geographic distribution. The extent of occurrence of the species is estimated to be 17 km² in four locations and its area of occupancy is estimated to be less than 1 km² (DEC, 2008).

The geographic distribution of *Hibbertia priceana* is highly fragmented and the species occurs within patches of remnant vegetation surrounded by cleared areas. This lack of suitable habitat surrounding the species' known area of occupancy limits the geographic distribution of the species.

A range of current and potential future threats to the species have been identified, including road maintenance works, competition from weeds, stock grazing and trampling, and salinity. However, the impact of these threats has not been quantified. The Committee considers that these threats may cause the species to decline in the future, but there are insufficient data to judge whether this decline would be at a particular rate.

The four subpopulations of *Hibbertia priceana* do not occur on protected or reserved land, nor are they protected under any conservation covenants with landholders.

The Committee considers that *Hibbertia priceana* has a very restricted geographic distribution, which is precarious for the survival of the species due to a number of current and potential future threats. 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**

The total population size of *Hibbertia priceana* is approximately 1100 mature plants (DEC, 2008), and is known from four subpopulations approximately 20 km east of the town of Borden, in south-west Western Australia.

The species' geographic distribution is highly fragmented and occurs within patches of remnant vegetation surrounded by cleared areas. This lack of suitable habitat surrounding the species' known area of occupancy limits the geographic distribution of the species. A number of threats are known to be impacting on the species, including road maintenance works, competition from weeds, and stock grazing and trampling. Salinity is considered a potential future threat to the species, particularly where it occupies lower slopes.

The Committee considers that the estimated total number of mature individuals of the species is low. The number is likely to decline due to a number of current and potential future threats, and the species' geographic distribution is fragmented and precarious for its survival. Therefore, the species has been demonstrated to have met the relevant elements of Criterion 3 to make it **eligible** for listing as **endangered**.

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

The total population size of *Hibbertia priceana* is approximately 1100 mature plants (DEC, 2008). For a species that is highly fragmented and occurs within patches of remnant vegetation surrounded by cleared areas, the Committee considers this number to be low. Therefore, the species has been demonstrated to have met sufficient elements of Criterion 4 to make it **eligible** for listing as **vulnerable**.

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 Western Australia, 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 judges that *Hibbertia priceana* has a very restricted geographic distribution, with an extent of occurrence of approximately 17 km² and an area of occupancy that is estimated to be less than 1 km². This geographic distribution is precarious for the survival of the species, due to a number of current threats directly impacting the species, including road maintenance works, competition from weeds, and stock grazing and trampling. Salinity is considered a potential future threat to 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 total population size of *Hibbertia priceana* is approximately 1100 mature plants, which the Committee judges to be low. The number is likely to decline due to a number of current and potential future threats, and the species' geographic distribution is fragmented and precarious for its survival. The Committee judges that the species has been demonstrated to have met the relevant elements of Criterion 3 to make it **eligible** for listing as **endangered**.

The Committee judges the estimated total number of mature individuals to be low. Therefore, the species has been demonstrated to have met sufficient elements of Criterion 4 to make it **eligible** for listing as **vulnerable**.

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 now provides sufficient direction to implement priority actions and mitigate against threats at this time. A recovery plan is not considered to be necessary at this time.

12. Recommendations

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

***Hibbertia priceana* (a shrub)**

- (ii) The Committee recommends that there should not be a recovery plan for this species.

Associate Professor Robert J.S. Beeton *AM FEIANZ*

Chair

Threatened Species Scientific Committee

13. References cited in the advice

- CALM (2006). Records held in Department of Environment and Conservation (formerly the Department of Conservation and Land Management) Declared Flora Database and rare flora files. Western Australian Department of Environment and Conservation, Western Australia.
- DEC (2008). Records held in Department of Environment and Conservation Declared Flora Database and rare flora files. Western Australian Department of Environment and Conservation, Western Australia.
- Western Australian Herbarium (2006). FloraBase – The Western Australian Flora. Department of Environment and Conservation.
Available on the Internet at: <http://florabase.calm.wa.gov.au/>
- Wheeler JR (2002). A revision of *Hibbertia depressa* and its allies (Dilleniaceae) from Western Australia. *Nuytsia* 15:136–138, Figure 5.