

**Advice to the Minister for the Environment
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. Reason for Conservation Assessment by the Committee

This advice follows assessment of new information provided by the Victorian Government to change the category of:

***Pterostylis valida* (robust greenhood)**

The robust greenhood was transferred from the extinct category to the critically endangered category under Section 192 of the EPBC Act, effective from 30 September 2011. The Committee provides the following assessment of the appropriateness of retaining this species in the critically endangered category of the EPBC Act list of threatened species.

2. Summary of Species Details

Taxonomy	Conventionally accepted as <i>Pterostylis valida</i> (Nicholls) D.L. Jones (CHAH 2005).
State/Territory Listing Status	Listed as presumed extinct on the Advisory List of Rare or Threatened Plants in Victoria, and listed as threatened under the Victorian <i>Flora and Fauna Guarantee Act 1988</i> .
Description	The robust greenhood is a terrestrial orchid growing to 20 cm high with four to eight stem-encircling basal rosette leaves approximately 2 cm long and 1.2 cm wide. Leaves are usually withered at flowering stage. The flowering stem is slender, greenish in colour and with up to six sheathing bracts. There are two to six flowers that are to 2 cm long on short, stout pedicels. Flowers are white with green markings. The labellum is up to 7 mm long, narrowly ovate, channelled, and the margins with a few prominent coarse white bristles (Backhouse and Jeanes, 1995; Jones, 2006).
Distribution	Until rediscovered in 2009, the robust greenhood had been last seen in 1941 (Bush Heritage, 2011) where it was known from only one location in central Victoria at Mount Tarrengower, near Maldon (Backhouse and Jeanes, 1995; Jones, 2006). It was thought to be extinct for about 70 years (Foreman, 2011) until 2009, when the robust greenhood was rediscovered at Charlton East Bush Reserve, about 100 km north-east of Bendigo. Subsequent surveys rediscovered geographically separate populations at Charlton East quarry, Howells Hill Scenic Reserve and at Mount Kerang in the Nardoo Hill Reserves (DSE, pers. comm. 2011).
Relevant Biology/Ecology	The robust greenhood flowers in October and November (Backhouse and Jeanes, 1995). Suitable areas for growth are recorded as having open forest with emergent granite boulders (Backhouse and Jeanes, 1995; Jones, 2006). The isolated nature of its populations means the species is susceptible to lack of genetic diversity (DSE, pers. comm., 2011).
Threats <i>Known</i>	The reasons for the past decline and apparent extinction of the robust greenhood are unclear. However, the main current

<i>Potential</i>	<p>threats are sheep grazing (currently allowed in Charlton East Bush Reserve), disturbance from mining at the quarry, loss of habitat from land clearing, habitat fragmentation and competition with weeds (DSE pers. comm., 2011) such as Patersons Curse (<i>Echium plantagineum</i>) (Foreman, 2011).</p> <p>Inappropriate fire regimes and foraging by introduced herbivores such as rabbits may have altered much of this species' habitat (Backhouse and Jeanes, 1995).</p>
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3. Public Consultation

Notice of the proposed amendment was made available for public comment for 30 business days between 11 July and 23 August 2011. No comments were received.

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

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

Not eligible

Criterion element	Evidence
Reduction in numbers	No – Since being rediscovered in 2009, surveys have resulted in around 980 individuals being found (DSE, pers. comm., 2012).

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

Eligible for listing as critically endangered

Criterion element	Evidence
Geographic distribution AND	Very restricted – The species' extent of occurrence and area of occupancy are estimated to be 15 km ² and 5 km ² respectively (DSEWPAC, 2011).
Geographic distribution precarious	Yes – The species is only known to exist at a limited location, with four populations occurring in two locations (DSE, pers. comm., 2011). There appears to be an increase in numbers, with 980 individuals being found since 2009, however this is due to an increased survey effort carried out since the species was rediscovered. A continued likely decline can be inferred due to the known threats of sheep grazing (allowed in Charlton East Bush Reserve), loss of habitat from land clearing, disturbance from mining at the quarry, habitat fragmentation and competition from weeds.

- Criterion 3:** The estimated total number of mature individuals is very low, low or limited; **and either**
 (a) evidence suggests that the number will continue to decline at a very high, high or substantial rate; **or**
 (b) the number is likely to continue to decline **and** its geographic distribution is precarious for its survival

Eligible for listing as endangered

Criterion element	Evidence
Total no. of mature individuals AND Continued rate of decline	Low – The estimated number of mature individuals is 980 (DSE, pers. comm., 2012). Insufficient data – Although a continued likely decline can be inferred due to a number of known threats, there is insufficient data to indicate a rate of decline.
OR	
Total no. of mature individuals AND Continued decline likely AND Geographic distribution precarious	Low – The estimated number of mature individuals is 980 (DSE, pers. comm., 2012). Yes – A likely continued decline can be inferred due to the known threats of sheep grazing, habitat fragmentation and competition with weeds. Yes – See Criterion 2.

- Criterion 4:** The estimated total number of mature individuals is extremely low, very low or low
Eligible for listing as vulnerable

Criterion element	Evidence
Total no. of mature individuals	Low – The estimated number of mature individuals is 980 (DSE, pers. comm., 2012).

- 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

Not eligible

Criterion element	Evidence
Probability of extinction in the wild	No data

5. Recovery Plan

There should not be a recovery plan for *Pterostylis valida* as the approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats.

6. Recommendations

- (i) The Committee recommends **no amendment** to the list referred to in section 178 of the EPBC Act and that *Pterostylis valida* remains eligible for inclusion in the **critically endangered** category of the list.
- (ii) The Committee recommends that there should not be a recovery plan for this species.

Threatened Species Scientific Committee

6 March 2012

References cited in the advice

Backhouse GN and Jeanes JA (1995). The orchids of Australia. Miegunyah Press Series, Melbourne University Press, Melbourne.

Bush Heritage (2011). Nardoo Hills Reserve. Viewed 31 January 2012.

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http://www.bushheritage.org.au/our_reserves/state_victoria/reserves_nardoo_hills

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Department of Sustainability, Environment, Water, Population and Communities (DSEWPAC) (2011). Internal detailed distribution map – robust greenhood. Canberra: Environment Research & Information Network, Department of Sustainability, Environment, Water, Population and Communities.

Foreman, P. (2011). Significant plant conservation on Bush Heritage reserves – the meaning of a new discovery. *Australasian Plant Conservation* 20(1): 3–4.

Jones DL (2006). A complete guide to native orchids of Australia, including the island territories. Reed New Holland, Australia.