

This Conservation Advice was approved by the Minister / Delegate of the Minister on: 3/07/2008.

Approved Conservation Advice
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*).

**Approved Conservation Advice for
Darwinia meeboldii (Cranbrook Bell)**

This Conservation Advice has been developed based on the best available information at the time this conservation advice was approved.

Description

Darwinia meeboldii, Family Myrtaceae, also known as Cranbrook Bell, is an erect, spindly shrub growing 0.5–3 m tall. It has erect crowded leaves to about 10 mm long and 2 mm wide, with red, white and green pendent flowers from August to November (Gardner, 1942).

Conservation status

Cranbrook Bell is listed as **vulnerable**. This species is eligible for listing as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, prior to the commencement of the EPBC Act, it was listed as vulnerable under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth).

Distribution and Habitat

Cranbrook Bell grows on hill slopes in peaty soils over quartzite in south-west Western Australia in the Esperance Plains, Avon Wheatbelt, and Jarrah Forest regions (Western Australian Herbarium, 1998). In 1995, five populations were known, all within the western part of the Stirling Range National Park (Robinson & Coates, 1995). This species occurs within the South Coast and the South West (Western Australia) Natural Resource Management Regions.

The distribution of this species overlaps with the “Eastern Stirling Range Montane Heath and Thicket” EPBC Act-listed threatened ecological community.

Threats

The main identified threats to Cranbrook Bell are its restricted distribution; exposure from the loss of canopy cover due to dieback caused by *Phytophthora cinnamomi* in other flora species; fire and grazing, particularly by rabbits (*Oryctolagus cuniculus*) (Robinson & Coates, 1995; Comer et al., 2008). The species will recover from fires; however, new individuals can take four or five years to reach sexual maturity (Robinson & Coates, 1995).

The main potential threat to Cranbrook Bell in the Stirling Ranges National Park is weed invasion.

Research Priorities

Research priorities that would inform future regional and local priority actions include:

- Design and implement a monitoring program.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.

Regional Priority Actions

The following regional priority recovery and threat abatement actions can be done to support the recovery of Cranbrook Bell.

Habitat Loss, Disturbance and Modification

- Monitor known populations to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

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- Identify populations of high conservation priority.
- Manage threats to areas of vegetation that contain populations/occurrences of Cranbrook Bell.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Cranbrook Bell.

Invasive Weeds

- Develop and implement a management plan for the control of weeds in the local region.

Grazing

- Develop and implement a management plan for the control of introduced grazing species, particularly rabbits, which might threaten populations of Cranbrook Bell.

Fire

- Develop and implement a suitable fire management strategy for Cranbrook Bell.
- Identify appropriate intensity and interval of fire to promote seed production and germination.
- Provide maps of known occurrences to local and state rural fire services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

Diseases, Fungi and Parasites

- Develop and implement suitable hygiene protocols to protect known sites from further outbreaks of dieback caused by *Phytophthora cinnamomi*.

Conservation Information

- Raise awareness of Cranbrook Bell within the local community.

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed collection and storage.
- Investigate options for linking, enhancing or establishing additional populations.
- Implement national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.
- Undertake a re-invigorated program of introduction to ornamental horticulture.

Local Priority Actions

The following local priority actions can be done to support the recovery of Cranbrook Bell.

Habitat Loss, Disturbance and Modification

- Control access routes to suitably constrain public access to known sites on public land.
- Minimise adverse impacts from land use at known sites.

Invasive Weeds

- Identify and remove weeds in the local area, which could become a threat to Cranbrook Bell, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to Cranbrook Bell, using appropriate methods.

Grazing

- Control introduced pests such as rabbits to manage threats at known sites in reserve areas.

Fire

- Implement an appropriate fire management regime for local populations.

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Diseases, Fungi and Parasites

- If necessary, implement appropriate management actions to minimise the adverse impacts of existing *Phytophthora cinnamomi* infestations on other plant species in vegetation where Cranbrook Bell occurs.

This list does not necessarily encompass all actions that may be of benefit to Cranbrook Bell but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

Existing Plans/Management Prescriptions that are Relevant to the Species

- Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits (Environment Australia, 1999).
- Threat Abatement Plan for Dieback Caused by the Root-rot Fungus *Phytophthora cinnamomi* (Environment Australia, 2001), and
- The South Coast Regional Strategy for Natural Resource Management. State and National Listings – threatened species and communities (Southern Prospects, 2004-2009).

These prescriptions were current at the time of publishing; please refer to the relevant agency's website for any updated versions.

Information Sources:

Comer, S, Gilfillan, S, Grant, M, Barrett, S, & Anderson, L, Esperance 1 (ESP1 - Fitzgerald subregion). Department of Conservation and Land Management, viewed 8 January 2008, <http://www.naturebase.net/pdf/science/bio_audit/esperance01_p188-208.pdf>.

Environment Australia 1999, *Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits*, Biodiversity Group, Environment Australia, viewed 16 January 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/rabbits/index.html>>.

Environment Australia 2001, *Threat Abatement Plan for Dieback Caused by the Root-rot Fungus Phytophthora cinnamomi*, Canberra, Australia.

Gardner, CA 1942, 'Contributions Florae Australiae Occidentalis XI', *Journal of the Royal Society of Western Australia*, vol. 27, pp. 165–207.

Robinson, CJ & Coates, DJ 1995, *Declared Rare & Poorly Known Flora in the Albany District*, Western Australian Wildlife Management Program, Perth.

Southern Prospects 2004-2009, Appendix 5, *The South Coast Regional Strategy for Natural Resource Management. State and National Listings – threatened species and communities* (covers the South Coast NRM region), viewed 8 January 2008, <<http://www.script.asn.au/documents/publications/strategy/appendices/Appendix05.pdf>>.

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia - Second Edition*, Australian Network for Plant Conservation, Canberra.

Western Australian Herbarium 1998, FloraBase — The Western Australian Flora version 2.5.1, Department of Environment and Conservation, viewed 8 January 2008, <<http://florabase.calm.wa.gov.au/browse/profile/5517>>.