

Approved Conservation Advice for
***Colobanthus curtisiae* (Curtis' colobanth)**

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

This Conservation Advice has been developed based on the best available information at the time this Conservation Advice was approved; this includes existing plans, records or management prescriptions for this species.

Description

Colobanthus curtisiae, Family Caryophyllaceae, also known as Curtis' colobanth, is a glabrous tufted perennial herb to 40 mm high, forming small clumps from laterally branching short stems. Leaves are soft, narrow and crowded at the base that spreads to form circular tufts (West, 1991). The flowers are solitary on the end of the stalk. Capsules are oval and seeds are red-brown. Flowering from November to February and is largely self-pollinated (TSU, 2001).

Conservation Status

Curtis' colobanth 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). Curtis' colobanth is also listed as rare under the *Threatened Species Protection Act 1995* (Tasmania).

Distribution and Habitat

At the time of its original listing (1992) on the *Endangered Species Protection Act 1992*, Curtis' colobanth was thought to be endemic to Tasmania (West, 1991), a view held at the time of its down-listing to vulnerable in 1998. Its distribution in the interim has expanded to include Victoria and New South Wales (Walsh and Ross, 2003; CHAH, 2006).

Within Tasmania Curtis' colobanth extends from the Central Plateau to Ben Lomond in the north, to Fingal Tier in the east and Kempton in the south, with an extent of occurrence of about 13,000 km² and an area of occupancy of several km². The species has been recorded from 60 populations in Tasmania, two of which are presumed extinct (TSU, 2002; TSS, 2010). Nine of the populations have at least 1000 individuals, though most populations are typically small, with the majority estimated to have less than 100 individuals. While there can be a year to year variation, the total number of mature individuals is estimated to be less than 20 000 (TSS, 2010). The species has been recorded from the following reserves: Ben Lomond National Park, Cradle Mountain – Lake St Clair National Park, Central Plateau Conservation Area, Great Lake Conservation Area and Top Marshes Conservation Area.

This species can be found in areas subject to a wide variety of environmental conditions, vegetation types ranging from lowland Poa and Themeda grasslands, to grassy and shrubby woodland/forests and rockplates. It occurs on gentle slopes with elevations of between 160 m in lowlands areas and 1300 m in alpine areas. Rainfall varies from 530 mm in the Midlands area to 1400 mm on Ben Lomond. The species is most commonly found on soils derived from sandstone as well as clay loams derived from dolerite and basalt. It can persist in remnant grasslands, which may be grazed by stock (TSU, 2001).

This species occurs within the Tasmanian South East, Tasmanian Central Highlands, Tasmanian Ben Lomond and Tasmanian Northern Midlands Bioregions, and the North, South and Cradle Coast Natural Resource Management Regions.

Parts of the distribution of this species are associated with the “Lowland Native Grasslands of Tasmania” EPBC Act-listed threatened ecological community.

There are limited data on this species geographic distribution, ecology and population figures in New South Wales as all specimens kept in the herbarium are from Tasmania. In Victoria, this species is derived from 6 herbarium specimens all from the Howqua/Macalister River headwaters. Based on preliminary observations Walsh (2010) describes this species as a rare (even at sites of occupation) herb of bands of perennial herbaceous vegetation on sandy scree between steep mudstone cliffs. This is a fairly common, but perhaps undersampled because of its inaccessibility, habitat between Mt McDonald, The Bluff and Mt Howitt. Typically associated species here include *Rhodanthe anthemoides*, *Celmisia*, *Poa fawcettiae*, *Ozothamnus 'cupressoides' (aff. hookeri)*. It has been recorded in similar vegetation, but on the Bluff summit. Collections, from Howitt Plain, note it growing in 'alpine meadow, beside creek' and from Mt Clear. Associated species here include *Neopaxia australasica*, *Scleranthus biflorus*, *Agrostis venusta*, *Brachyscome nivalis*, *Leucochrysum albicans*, *Poa fawcettiae* (Walsh, pers. comm., 2010).

Threats

The main identified threat to Curtis' colobanth in the past has been loss of habitat to pasture improvement and cropping. This is thought to be the cause of the present limited distribution of this species in its lowland grassland habitat (Gilfedder and Kirkpatrick, 1996; TSU, 2001). A lack of disturbance, to create bare ground suitable for germination, has also been cited as a threat to the species (Gilfedder and Kirkpatrick, 1996).

The main potential threats to Curtis' colobanth include an on-going loss of habitat on private properties, through pasture improvement and cropping, and conversion to plantation. Invasion by Gorse (*Ulex europaeus*) poses a threat to some of the lowland grassland occurrences (TSU, 2001).

Walsh (2010) describes no particular threats in Victoria, other than drying/warming tendencies that many alpine sites face.

Research Priorities

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

- Design and implement a monitoring program or, if appropriate, support and enhance existing programs.
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes in Tasmania.
- Undertake research to determine distribution, population size, ecological requirements in New South Wales and Victoria.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations.

Regional Priority Actions

The following regional priority recovery and threat abatement actions can be done to support the recovery of Curtis' colobanth.

Habitat Loss, Disturbance and Modification

- Manage any other known, potential or emerging threats.
- 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.
- Identify populations of high conservation priority.

- Ensure there is no disturbance in areas where Curtis' colobanth occurs, excluding necessary actions to manage the conservation of the species.
- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate and/or secure inclusion in reserve tenure if possible.
- Take appropriate actions to prevent loss of habitat on private land.

Invasive Weeds

- Develop and implement a management plan for the control of Gorse (*Ulex europaeus*) in the region.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Curtis' colobanth.

Conservation Information

- Raise awareness of Curtis' colobanth within the local community.
- Engage with private landholders and land managers responsible for the land on which populations occur and encourage these key stakeholders to contribute to the implementation of conservation management actions.

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.

Local Priority Actions

The following local priority recovery and threat abatement actions can be done to support the recovery of Curtis' colobanth.

Habitat Loss, Disturbance and Modification

- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land and other land tenure.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations.
- Minimise adverse impacts from land use at known sites.
- Protect populations of the listed species through the development of conservation agreements and/or covenants.

Invasive Weeds

- Identify and remove weeds in the local area that could become a threat to Curtis' colobanth, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds that could become a threat to Curtis' colobanth using appropriate methods.

Trampling, Browsing or Grazing

- If livestock grazing occurs in the area, ensure land owners/managers use an appropriate management regime and density that does not detrimentally affect this species.

Fire

- Implement an appropriate fire management regime for local populations.

This list does not necessarily encompass all actions that may be of benefit to Curtis' colobanth, 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

- Ben Lomond National Park – Management Plan (PWS DPIWE, 1998).

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

Information Sources:

Council of Heads of Australian Herbaria (CHAH) (2006). Australian Plant Census. Available on the Internet at: http://www.anbg.gov.au/cgi-bin/apni?taxon_id=66772

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Parks and Wildlife Service Department of Primary Industries, Water and Environment (PWS DPIWE) (1998). Ben Lomond National Park – Management Plan. Department of Primary Industries, Water and Environment, Hobart Tasmania. Available on the Internet at: <http://www.parks.tas.gov.au/file.aspx?id=6392>

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

Walsh N (2010). Personal communication by email, 5 May 2010. Senior Conservation Botanist, Royal Botanic Gardens, Victoria.

West JG (1991). *Colobanthus curtisiae* (Caryophyllaceae), a new species from Eastern Tasmania, Australia. In: Banks MR, Smith SJ, Orchard AE and Kantvilas G., eds. Aspects of Tasmanian Botany - A Tribute to Winifred Curtis. Page(s) 75-77. Tasmania: Royal Society of Tasmania.