

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

Approved Conservation Advice for
Zieria collina

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

Zieria collina, Family Rutaceae, is a large spreading velvety hairy shrub growing to 3 m tall. Leaves are opposite, with three leaflets. Leaflets are elliptic to lanceolate, 12–20 mm long and 3–5 mm wide. The upper surface is dull green and usually has hairs and tubercles and the lower surface is paler, and has dense velvety hairs. Leaflet margins are tuberculate and slightly curved towards the lower surface. Inflorescences are in axils and are generally longer than the subtending leaves, usually with 15–30 flowers. The flowers are white, conspicuous and approximately 7 mm in diameter (Armstrong, 2002).

Conservation Status

Zieria collina 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). The species is also listed as vulnerable under the *Nature Conservation Act 1992* (Queensland).

Distribution and Habitat

Zieria collina is endemic to Queensland and is restricted to Mt Tamborine and the surrounding area in south-eastern Queensland. It is known from 10 fragmented populations, mostly on steep slopes and in narrow gullies, where it occurs in the transition zone between wet open forest and rainforest (Armstrong, 2002). Four populations are recorded from Palm Grove National Park (NP), Cedar Grove NP, The Knoll NP, and, more recently, Clagiraba Conservation Area (Queensland Herbarium, 2008). Three of the six populations occurring outside of conservation reserves are in areas of remnant vegetation (Environmental Protection Agency, 2007) as defined under the *Vegetation Management Act 1999* (Queensland) and are therefore currently protected from broad-scale clearing. One population is located on the Department of Defence Land Warfare Centre and another on a road reserve (Queensland Herbarium, 2008). This species occurs in the South East Queensland Natural Resource Management Region.

The distribution of this species is not known to overlap with any EPBC Act-listed threatened ecological communities.

Threats

The main identified threats to *Zieria collina* are habitat loss; habitat fragmentation; and weed invasion, particularly from Lantana (*Lantana camara*) (Duretto & Forster, 2007).

The main potential threat to the species includes changes to fire regimes. Fitzsimmons (1999) found that the species has restricted dispersal of seed and abundance at sites occasionally disturbed. Increased frequency of hot fires that reduce the soil seed bank could impact on populations. The population on the road reserve is also potentially threatened by road widening and maintenance activities.

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.
- Identify optimal fire regimes to ensure maintenance of healthy populations.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.

Regional and Local Priority Actions

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of *Z. collina*.

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.
- Ensure road widening and maintenance activities and park walking tracks involving substrate or vegetation disturbance in areas where *Z. collina* occurs do not adversely impact on known populations.
- Control access routes to suitably control public access to known sites on public land.
- Minimise adverse impacts from land use at known sites.
- Manage trampling by visitors to habitat. Keep walking tracks away from populations to minimise physical damage.
- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.

Invasive Weeds

- Implement management plan for the control of Lantana in the region (ARMCANZ, 2001).
- Identify and remove weeds in the local area, which could become a threat to the *Z. collina*, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to the species, using appropriate methods.
- Ensure chemicals and other mechanisms used to eradicate weeds do not have a significant adverse impact on the *Z. collina*.

Fire

- Develop and implement a suitable fire management strategy for *Z. collina*.
- 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.

Conservation Information

- Raise awareness of the *Z. collina* within the local community, especially NP visitors.

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

This Conservation Advice was approved by the Minister / Delegate of the Minister on: 1/10/2008

This list does not necessarily encompass all actions that may be of benefit to *Z. collina*, 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

- Fitzsimmons, LE 1999, 'Management of *Zieria collina* C.T. White'. M.Sc. Thesis. University of New England, and
- Weeds of National Significance: Lantana (*Lantana camara*) (ARMCANZ, 2001).

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

Information Sources:

Agriculture & Resource Management Council of Australia & New Zealand (ARMCANZ) 2001, *Weeds of National Significance: Lantana (Lantana camara) Strategic Plan*, National Weeds Strategy, viewed 14 May 2008, <<http://www.dpi.qld.gov.au/cps/rde/xbcr/dpi/IPA-Lantana-Nsplan.pdf>>.

Armstrong, JA 2002, '*Zieria* (Rutaceae): a systematic and evolutionary study', *Australian Systematic Botany*, vol. 15, no. 3, pp. 277–463.

Duretto, MF & Forster, PI 2007, 'A taxonomic revision of the genus *Zieria* Sm. (Rutaceae) in Queensland', *Austrobaileya*, vol. 7, no. 3, pp. 473–544.

Environmental Protection Agency 2007, *Copy of the certified regional ecosystem map for the purpose of the Vegetation Management Act 1999*, online RE Maps, Environmental Protection Agency, Brisbane, viewed 14 May 2008, <<http://www.epa.qld.gov.au/REMAP>>

Fitzsimmons, LE 1999, 'Management of *Zieria collina* C.T. White', MSc Thesis, University of New England.

Queensland Herbarium 2008, specimen label information, viewed 8 April 2008.

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia* (2nd ed.), Australian Network for Plant Conservation, Canberra.