

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

Approved Conservation Advice for
Leucopogon exolasius

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

Description

Leucopogon exolasius, Family Epacridaceae, is an erect shrub growing to 1 m tall with hairy branchlets (Harden, 1992; Fairley & Moore, 2000). Its sharp-pointed leaves grow to about 15 mm long by 2.5 mm wide and have a convex upper surface and striated (striped) lower surface (Harden, 1992; Fairley & Moore, 2000; DECC, 2005). Up to three drooping, white, tubular flowers on stalks to 5 mm long are borne in spikes in the angles where leaves meet the stems. Flowers occur in August. Like most beard-heaths the flowers have furry throats, but also have tiny hairs on the outside of the tube (Harden, 1992; DECC, 2005).

Conservation Status

Leucopogon exolasius 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). *Leucopogon exolasius* is also listed as vulnerable under the *Threatened Species Conservation Act 1995* (NSW).

Distribution and Habitat

Leucopogon exolasius is endemic to the Sydney region and central coast of NSW (Fairley & Moore, 2000) occurring within the Sydney Metro and Hawkesbury–Nepean Natural Resource Management Regions. The species occurs along the upper Georges River and in Heathcote National Park (NP) and Royal NP (DECC, 2005; Powell, 2007) and is also known from the Blue Mountains along the Grose River (Harden, 1992).

Germination of dormant seeds is prompted by seasonal changes rather than fire, although fire may enhance germination once it has begun (Ooi et al., 2006).

This species inhabits woodland on sandstone (DECC, 2005) and prefers rocky hillsides along creek banks (NSW NPWS, 1997) up to 100 m altitude (Powell, 2007). Associated species include *Eucalyptus piperita* and *E. sieberi* and the shrubs *Pultenaea flexilis*, *Leptospermum trinervium* and *Dillwynia retorta* (Powell, 2007).

The distribution of this species overlaps with the “Shale/Sandstone Transition Forest” EPBC Act-listed threatened ecological community.

Threats

The main identified threat to *L. exolasius* is stochastic events leading to extinction (DECC, 2005). Due to the small range and population size, this species is highly susceptible to habitat loss, weed invasion and fire, which may make the species vulnerable to local extinction (DECC, 2005).

Research Priorities

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

- Design and implement a monitoring program.
- Undertake biological and ecological studies on *L. exolasius*.

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- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- Further research into the effects of different fire regimes on *L. exolasius*.
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.

Regional Priority Actions

The following regional priority recovery and threat abatement actions can be done to support the recovery of *Leucopogon exolasius*.

Habitat Loss, Disturbance and Modification

- Identify populations of high conservation priority.
- Manage threats to areas of vegetation that contain populations/occurrences/remnants of *L. exolasius*.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on *L. exolasius*.
- Investigate formal conservation arrangements, such as the use of covenants, conservation agreements or inclusion in reserve tenure.

Fire

- Develop and implement a suitable fire management strategy for *L. exolasius*. This strategy should include appropriate intensity and interval of fire such as burning not more often than once every 13 years (not in mid-winter) (NSW RFS, 2004).
- Hazard Reduction Techniques should not include slashing, tree removal or trittering (NSW RFS, 2004).
- 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 *L. exolasius* within the local community.
- Provide information on the location of potential habitat and required survey techniques to consent and determining authorities to assist decision making (DECC, 2005).

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 *L. exolasius*.

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

Invasive Weeds

- Identify and remove weeds in the local area, which could become a threat to the *L. exolasius*, using appropriate methods.

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- Manage sites to prevent introduction of invasive weeds, which could become a threat to *L. exolasius*, using appropriate methods.

Fire

- Implement an appropriate fire management regime for local populations.

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

- Georges River National Park Fire Management Strategy (NSW NPWS, 2002a) and Plan of Management NSW NPWS, 1994), and
- Royal, Heathcote National Park and Garawarra State Recreation Area Fire Management Strategy (NSW NPWS, 2002b) and Plan of Management (NSW NPWS, 2000).

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

Information Sources:

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