

A statement for the purposes of approved conservation advice  
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

**Approved Conservation Advice for**  
***Acrophyllum australe***

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

**Description**

*Acrophyllum australe*, Family Cunoniaceae, is a small hairless shrub, growing 1–2 m high. Leaves are green with hairless upper surfaces, while the lower surfaces are a dull blue-green (often with a reddish tinge) and are strongly veined. Leaves have regularly toothed margins, occurring in whorls of three, four sometimes opposite and are ovate (egg-shaped, with a tapering point) to lanceolate (long, wider in the middle), growing to 3–10 cm long and 10–45 mm wide (DECC, 2005). The species flowers in November to December, producing small white flowers that are tinged with pink, with petals that are 2–4 mm long (DECC, 2005).

**Conservation Status**

*Acrophyllum australe* 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 *Threatened Species Conservation Act 1995* (NSW).

**Distribution and Habitat**

*Acrophyllum australe* has a very restricted geographic distribution and occurs only in the mid-Blue Mountains within the Wollemi sub-catchment area. Twenty-seven populations are known, of which eight occur in NSW reserves and one within the Blue Mountains National Park (Briggs & Leigh, 1996; Harden, 2007). The species occurs within the Hawkesbury–Nepean (NSW) Natural Resource Management Region.

*Acrophyllum australe* inhabits damp crevices and rock faces, usually near waterfalls and drip zones. It grows in moist clayey soils on Hawkesbury Sandstone, with damp humus accumulation, low nutrients and permanent moisture. This species is usually found growing in a south-east to south-west aspect, and occurs at elevations of 350–700 m (Benson & McDougall, 1995).

The distribution of this species overlaps with the following EPBC Act-listed threatened ecological communities:

- Shale/Sandstone Transition Forest,
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland,
- Turpentine-Ironbark Forest in the Sydney Basin Bioregion, and
- Temperate Highland Peat Swamps on Sandstone.

**Threats**

The main identified threats to *A. australe* are landslip (particularly due to track erosion at popular walking trails), changes to hydrology, fire and weed invasion.

A potential threat to *A. australe* is loss of genetic diversity due to the separation and fragmentation of populations.

### **Research Priorities**

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

- Undertake survey work in suitable habitat or 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 *Acrophyllum australe*.

#### **Habitat Loss, Disturbance and Modification**

- Ensure road/track widening and maintenance activities (or other infrastructure or development activities as appropriate) in areas where *A. australe* occurs do not adversely impact on known populations.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on *Acrophyllum australe*.
- Manage any changes to hydrology that may result in changes to the water table levels, increased run-off, sedimentation or pollution.
- Protect populations of *A. australe* currently located outside of the Blue Mountains National Park and other reserves through the development of conservation agreements and covenants.

#### **Invasive Weeds**

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

#### **Fire**

- Prioritise protection of populations with large, well established plants that are able to regenerate from lignotubers post-fire.
- Identify appropriate intensity and interval of fire to promote seed 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.

#### **Conservation Information**

- Raise awareness of *A. australe* within the local community, particularly with landowners who have the species present on their land.
- Engage local Bushcare and Landcare groups (>60 groups in the Blue Mountains region) to assist with walking track monitoring/repair and weed control.

#### **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 research into the prevalence of, or reliance on, asexual (clonal) reproduction and the implications for genetic diversity of the species.
- Maintain *ex-situ* populations reported to be in cultivation at Adelaide Botanic Gardens (SA), Mt Annan Botanic Gardens (NSW) and Mt Tomah Botanic Gardens (NSW) (CHABG, 1994).

### **Local Priority Actions**

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

### 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.
- Control access routes to suitably constrain public access to known sites and/or confine public access to maintained walking tracks on public land.
- Suitably control and manage access on private land.
- Minimise adverse impacts from land use at known sites.
- Manage any disruptions to water flows.
- 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, which could become a threat to *A. australe*, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to *A. australe*, using appropriate methods.

### Fire

- Implement an appropriate fire regime for local populations.

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

- NSW Threatened Species Priority Action Statement for *Acrophyllum australe* (DECC, 2005), and
- Blue Mountains National Park - Fire Management Strategy (NSW NPWS, 2004).

### **Information Sources:**

Benson, D & McDougall, L 1995, 'Ecology of Sydney Plant Species: Part 3: Dicotyledon families Cabombaceae to Eupomatiaceae', *Cunninghamia*, vol. 4, pp. 217-431.

Briggs, JD & Leigh, JH 1996, *Rare or Threatened Australian Plants 1995 rev. edn*, Collingwood, CSIRO Publishing.

Council of Heads of Australian Botanic Gardens (CHABG) 1994, *Census of plants in botanic gardens*, Australian National Botanic Gardens, viewed 11 March 2008, <<http://www.anbg.gov.au/chabg/census/census.html>>.

Department of Environment and Climate Change (NSW) (DECC) 2005, *Acrophyllum australe - Priority actions* (NSW Threatened Species Priority Action Statement), viewed 11 March 2008, <[http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/pas\\_profile.aspx?id=10031](http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/pas_profile.aspx?id=10031)>.

Harden, GJ 2007, *Acrophyllum australe* (A.Cunn.) Hoogland, PlantNET - The Plant Information Network System of Botanic Gardens Trust, Sydney, Australia, viewed 11 March 2008, <<http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Acrophyllum~australe>>.

NSW National Parks and Wildlife Service (NSW NPWS) 2004, *Blue Mountains National Park - Fire Management Strategy*, Report for the Department of Environment and Conservation (NSW), viewed 11 March 2008. <<http://www.environment.nsw.gov.au/resources/parks/FMSBlueMountainsNP.pdf>>.

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.