

# THREATENED SPECIES SCIENTIFIC COMMITTEE

Established under the *Environment Protection and Biodiversity Conservation Act 1999*

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The Minister's delegate approved this Conservation Advice on 16/12/2016.

## Conservation Advice

### *Westringia cremnophila*

Snowy River westringia

#### Conservation Status

*Westringia cremnophila* (Snowy River westringia) is listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) effective from the 16 July 2000. The species was eligible for listing under the EPBC Act as it was listed as Vulnerable under Schedule 1 of the preceding Act, the *Endangered Species Protection Act 1992* (Cwlth).

Species can also be listed as threatened under state and territory legislation. For information on the current listing status of this species under relevant state or territory legislation, see <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>

The main factors that are the cause of the species being eligible for listing in the Vulnerable category are that the area of occupancy is very restricted, there is only one population and the number of mature individuals is very limited.

#### Description

The Snowy River westringia is a low spreading shrub growing to 0.5 m in height. Stems are covered in slightly appressed white hairs, and larger stems develop a thick furrowed bark. Leaves are oblong to almost linear, 10 – 20 mm long and 1 – 2 mm wide, and occur in sets of 2 – 4 in whorls along stems. Leaf ends are rounded to pointed, and margins are entire and curl under at the edges. Silky hairs cover leaves when young but disappear with growth leaving a slightly rough surface. Inflorescences grow as racemes with one flower per stalk, the flower composed of a 10 mm long mauve tinged, white corolla with yellow-brown dots in its throat, surrounded by a calyx with five sharply pointed lobes, the lobes 0.6 – 0.7 times the length of the tube. The outer surface of the calyx is very hairy (description from Wakefield 1957; Walsh & Entwisle 1999). Snowy River westringia can be distinguished from other *Westringia* species by its distinctly spreading habit and the length of the tubular-shaped corolla and the length of the calyx lobes in relation to the tube (Walsh & Entwisle 1999).

#### Distribution

Snowy River westringia is endemic to the Snowy River gorge in East Gippsland in Victoria, east of Butchers Ridge (Walsh & Entwisle 1999).

The single known population of Snowy River westringia occurs in the Snowy River National Park, in Tulloch Ard Gorge. It was thought to number only about 14 plants (DSE 2009) but a survey expedition to the site in 2011 found approximately 500 plants in this population (Henry S., DELWP, personal communication, 23 August, 2016).

The species occurs in rocky outcrop open shrubland associated with *Platysace lanceolata* (shrubby platysace), *Olearia iodochroa* (violet daisy-bush), *Veronica perfoliata* (Digger's Speedwell), *Calytrix tetragona* (common fringe-myrtle) and *Sannantha pluriflora* (tall baeckea). Plants occur on an extremely exposed sheer (or nearly so) rock face, growing on narrow ledges and between crevices in very little soil. The rock face has an east to north-north easterly aspect and occurs at about 140 m above sea level (Carter & Walsh 2006). This habitat is considered likely to be habitat critical to the survival of the Snowy River westringia.

## Relevant Biology/Ecology

Little information is known about the biology and ecology of the Snowy River westringia. Until more information is known the following assumptions are made. The Snowy River westringia is a shrub species and is thought to have a life span of greater than 10 years (Smith 2011).

The species is known only from one very small remote area in East Gippsland. As there is no information on past distribution or abundance, and no evidence of any declines in the existing population, it is not possible to determine if the species has suffered any decline in range and/or abundance.

## Threats

The Snowy River westringia is potentially threatened by habitat loss and disturbance, inappropriate fire regimes and grazing impacts. These threats and their effects on the Snowy River westringia are described in the table below. The threats outlined below have corresponding conservation management priorities.

Table 1 – Threats impacting the Snowy River westringia in approximate order of severity of risk, based on available evidence.

Threat factor	Threat type and status	Evidence base
Habitat loss and disturbance		
Rockfalls	potential	Due to its very limited location on one sheer rockface and existence as a single population it is susceptible to damage by rockfalls (DSE 2009).
Fire		
Inappropriate fire regimes	potential	The response of Snowy River westringia to fire is unknown. However it is a long-lived shrubby plant that may potentially be killed by fires.
Impacts of domestic species		
Grazing by goats	potential	Pressure from grazing by introduced herbivores, such as goats, especially in dry years (DSE 2009).

## Conservation Actions

### Conservation and Management priorities

#### Habitat loss and disturbance

- Manage threats at the single known site to minimise the risk of rockfalls occurring by restricting potential on-site disturbance by livestock or recreational users, through improved education and access constraints.
- Ensure land managers are aware of the species' occurrence and provide protection measures against key and potential threats.
- Manage any other likely, potential or emerging threats to habitat quality, such as invasion of weeds.

## Fire

- Ensure fuel reduction and other planned fires are not implemented at the site.
- Where appropriate, employ fuel reduction activities and other protective measures at strategic locations nearby to reduce the potential adverse impacts of wildfire on the population but ensure these are well planned and implemented and do not constitute an increased risk (e.g. through escape of planned fires), and are of low intensity.
- Fire management authorities and land management agencies should use suitable maps and install field markers to avoid damage to the Snowy River westringia.
- If it becomes known that the species can resprout after fire, avoid successive fire intervals that are shorter than the period required to maintain recovery capacity of resprouting individuals.

## Impacts of domestic species

- 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 and manage total grazing pressure at the single known population site through exclusion fencing or other barriers.

## Seed collection, propagation and other ex-situ recovery action

- Establish plants in cultivation in appropriate institutions such as the Royal Botanic Gardens Melbourne.
- To manage the risk of losing genetic diversity, undertake appropriate seed and storage in appropriate institutions, such as the Victorian Conservation Seedbank and Royal Botanic Gardens Melbourne, and determine viability of stored seed. Best practice seed storage guidelines and procedures should be adhered to, to maximise seed viability and ability to germinate. Seeds from all natural populations to be collected and stored.
- Establish additional populations in suitable secure habitat. Implement the national translocation protocols of Vallee et al. (2004).

## Stakeholder Engagement

- Encourage ongoing and effective coordination of state-wide action to support conservation of the Snowy River westringia. Ensure that information and advice about the species has been provided to Parks Victoria.
- Engage interested nature conservation, land management and land holder groups in conservation management activities, such as survey and monitoring, and weed management. If necessary, use workshops to aid stakeholders in developing the skills and knowledge required to manage threats to this species.
- Prepare a management strategy with input from local experts.

## Survey and Monitoring priorities

- Conduct targeted surveys throughout the range of the Snowy River westringia to better define its distribution and abundance. Collect floristic and environmental information describing community ecology and condition.
- Accurately identify potentially suitable habitat, using ecological and bioclimatic information, and undertake survey work to locate and map any additional populations.

- Establish and maintain a monitoring programme based on these data to:
  - determine trends in population size and distribution, mortality and timing of life history stages;
  - determine threats and their impacts; and
  - monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Monitor the size, structure and reproductive status of populations at different stages in the fire cycle, taking opportunities to monitor after planned and unplanned fires (where they occur) and improve understanding of the fire response of the species.
- Precise fire history records must be kept for the habitat and extant populations (confirmed and suspected) of the Snowy River westringia.

### **Information and research priorities**

- Undertake research to evaluate current reproductive/regenerative status, seed bank status and longevity, fecundity and recruitment levels by conducting field based experimental trials.
- Determine seed germination requirements by conducting laboratory and field trials aimed to identify key stimuli. Determine vegetative propagation trials to determine the requirements for successful establishment and use in trial translocations. Implement an annual census to monitor emergence and re-sprouting success.
- Avoid any use of managed or fire research and other activities that impact upon the persistence of the population unless there is evidence to show the impact would be a positive and enduring effect on the species persistence.
- Where appropriate, use understanding and research on fire responses among related or functionally similar species to develop fire management strategies for conservation.
- Identify optimal fire regimes for regeneration (vegetative regrowth and/or seed germination), and response to other prevailing fire regimes.

### **References cited in the advice**

Carter, O. & Walsh, N. (2006). National Recovery Plan for the Snowy River Westringia *Westringia cremnophila*. Department of Sustainability and Environment, Melbourne.

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[http://www.depi.vic.gov.au/\\_\\_data/assets/pdf\\_file/0009/250479/Snowy\\_River\\_Westringia\\_Westringia\\_cremnophila.pdf](http://www.depi.vic.gov.au/__data/assets/pdf_file/0009/250479/Snowy_River_Westringia_Westringia_cremnophila.pdf)

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Wakefield, N.A. (1957). *Flora of Victoria: New Species and other Additions-12*. The Victorian Naturalist 73(11): 186.

Walsh, N.G. & Entwisle, T.J. (1999). *Flora of Victoria, Vol 4: Dicotyledons: Cornaceae to Asteraceae*. Inkata Press, Melbourne.

### **Other sources cited in the advice**

Henry, S. (2016). Personal communication via email, regarding Actions for Biodiversity Conservation database for the Snowy River *Westringia* *Westringia cremnophila*. Department of Environment, Land, Water and Planning, Victoria.