

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

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

Approved Conservation Advice for
Boronia capitata* subsp. *capitata

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

Boronia capitata subsp. *capitata*, Family Rutaceae, also known as Tutanning Boronia, is a low shrub growing to 1.3 m high and 80 cm wide, with pinkish-mauve to purple flowers. The flowering season is from August to February, and the flowers grow in compact terminal heads on short thick stalks. The leaves are 5–15 mm long, narrow, and semi-cylindrical shaped (Brown et al., 1998; Durell & Buehrig, 2001). This subspecies is distinguished by the long, soft, straight hairs on the branches and leaves, and its hairy sepals and petals (Brown et al., 1998).

Conservation Status

Boronia capitata subsp. *capitata* is listed as **endangered**. This subspecies is eligible for listing as endangered 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 endangered under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). The subspecies is also listed as Declared Rare Fauna – Endangered under the *Wildlife Conservation Act 1950* (Western Australia).

Distribution and Habitat

Boronia capitata subsp. *capitata* is known from the Tutanning area of the central wheatbelt region, south-west Western Australia. In 2001, only one population was known, located in Tutanning Nature Reserve and consisted of more than 65 plants (Brown et al., 1998; Durell & Buehrig, 2001); however, since then, this subspecies has been recorded from the Swan, Avon wheatbelt, and Mallee regions of the state (Western Australian Herbarium, 2008). This subspecies occurs within the Avon (Western Australia) Natural Resource Management Region.

Boronia capitata subsp. *capitata* grows below a lateritic breakaway in a white sandplain with scattered Wandoo (*Eucalyptus wandoo*), Parrotbush (*Dryandra sessilis*), Cone Bush (*Petrophile* sp.), Round-fruited Banksia (*Banksia sphaerocarpa*), *Allocasuarina* spp., *Melaleuca* spp., *Xanthorrhoea* spp., and *Hibbertia* spp. (Brown et al., 1998; Durell & Buehrig, 2001).

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

Threats

The main identified threats to *Boronia capitata* subsp. *capitata* include clearing and fragmentation of habitat (ANRA, 2007).

The main potential threats to the subspecies include changed hydrology; inappropriate fire regimes; exotic weeds; and increased grazing pressure (ANRA, 2007). This subspecies may also be vulnerable to grazing by feral rabbits (*Oryctolagus cuniculus*) (EA, 1999).

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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.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- Identify appropriate intensity and interval of fire to promote seed germination and/or vegetation regeneration.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.

Regional and Local Priority Actions

The following priority recovery and threat abatement actions can be done to support the recovery of *Boronia capitata* subsp. *capitata*.

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.
- Identify populations of high conservation priority.
- Ensure road widening and maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where *Boronia capitata* subsp. *capitata* occurs do not adversely impact on known populations.
- Manage any changes to hydrology that may result in changes to the water table levels, increased run-off, or salinity levels.
- Investigate further formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Minimise adverse impacts from land use at known sites.

Invasive Weeds

- Develop and implement a management plan for the control of invasive weeds in the local region.
- Identify and remove weeds in the local area, which could become a threat to *Boronia capitata* subsp. *capitata*, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to *Boronia capitata* subsp. *capitata*, using appropriate methods.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on the subspecies.

Trampling, Browsing or Grazing

- Develop and implement a stock management plan for roadside verges and travelling stock routes.
- Implement a management plan for feral rabbits for the local area.
- Manage known sites to ensure appropriate grazing regimes occur.
- Prevent grazing pressure at known sites through exclusion fencing or other barriers.

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Fire

- Develop and implement a suitable fire management strategy for *Boronia capitata* subsp. *capitata*.
- Provide maps of known occurrences to local and state Rural Fire Services and land managers and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

Conservation Information

- Raise awareness of *Boronia capitata* subsp. *capitata* within the local community.

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 list does not necessarily encompass all actions that may be of benefit to *Boronia capitata* subsp. *capitata*, 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

- Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits (EA, 1999).

This prescription was current at the time of publishing; please refer to the relevant agency's website for any updated versions.

Information Sources:

Australian National Resource Atlas (ANRA) 2007, *Avon Wheatbelt Biodiversity Assessment – Species at risk and their threatening processes*, Commonwealth of Australia, viewed 21 May 2008, <<http://www.anra.gov.au/topics/vegetation/assessment/wa/ibra-aw-species.html>>.

Brown, A, Thomson-Dans, C & Marchant, N (Eds) 1998, *Western Australia's Threatened Flora*, CALM, Como.

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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.

Western Australia Herbarium 2008, '*Boronia capitata* subsp. *capitata* – FloraBase', The Western Australian Flora, Department of Environment and Conservation (WA), viewed 21 May 2008, <<http://florabase.dec.wa.gov.au/browse/map/14212>>.