

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

Approved Conservation Advice for
Acacia unguicula

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

Description

Acacia unguicula, Family Mimosaceae, is an erect shrub with smooth grey bark, growing to 3 m. Stipules are somewhat recurved and 0.7–1.2 mm long; phyllodes are rigid, erect, narrowly oblong to oblanceolate, pungent, to 40 mm long and 4 mm wide, with 14–16 prominent nerves. Phyllodes are olive green and clustered towards the ends of the branches, with the persistent stipules remaining on the bare branchlets. Flower heads are deep golden, globular, 5–6 mm in diameter, in clusters of 24–34 flowers on stalks 7–11 mm long. The reddish-brown pods are linear, becoming coiled, to 60 mm long and 2 mm wide (Cowan & Maslin, 1990; Maslin, 2001).

Conservation Status

Acacia unguicula is listed as **critically endangered**. This species is eligible for listing as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, in 2006, the Minister considered the Threatened Species Scientific Committee's (TSSC) advice under section 189 of the EPBC Act and amended the list under section 184 to include *Acacia unguicula*. The TSSC determined that this species met Criteria 1, 2, 3, 4 and 5 of their eligibility criteria (TSSC, 2006). The species is also listed as rare under the *Wildlife Conservation Act 1950* (Western Australia).

Distribution and Habitat

Acacia unguicula is endemic to Western Australia and known from three populations on a pastoral lease at Mt Singleton, approximately 280 km south-east of Geraldton (Maslin, 2001; CALM, 2005; WA Herbarium, 2005). The extent of occurrence for *Acacia unguicula* is estimated to be 1 km². The population is estimated at 43 mature individuals (CALM, 2005). The species has undergone a reduction in population size as a result of grazing pressure, although there is no evidence to suggest a decline in extent of occurrence (CALM, 2005).

Acacia unguicula grows on the upper slopes and summit of Mt Singleton among open scrub, in rocky clay, brown clayey sand or brown loam with dolerite (Maslin, 2001; CALM, 2005; WA Herbarium, 2005). The critically endangered species *Acacia imitans* and *Hybanthus cymulosus* are recorded as growing in the vicinity of *Acacia unguicula* at all three population sites. Four priority species are also known to occur at Mt. Singleton: *Allocasuarina tessellata*, *Micromyrtus racemosa* var. *mucronata*, *Grevillea subtiliflora* and *Grevillea scabrida* (CALM, 2005).

None of the three populations of *Acacia unguicula* are located within reserves or are managed specifically for conservation. All of the populations occur on land which is under pastoral lease. The leaseholders of the land parcels are aware of the conservation status of *Acacia unguicula* (CALM, 2005). The species occurs within the Rangelands (Western Australia) Natural Resource Management Region.

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

Threats

The major identified threat to the species is grazing by feral goats (*Capra hircus*), which is impacting all three populations (CALM, 2005). The area between the three small populations is still vegetated so the populations are not considered to be fragmented (CALM, 2005).

The main potential threats to *A. unguicula* are fire and drought on the already grazed populations. Climate change may exacerbate the impacts of fire and drought (CALM, 2005).

Research Priorities

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

- Design and implement a monitoring program.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.

Regional and Local Priority Actions

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

Habitat Loss, Disturbance and Modification

- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Manage threats to areas of vegetation that contain populations/occurrences/remnants of *A. unguicula*.
- Manage any changes to hydrology that may result in changes to the water table levels, increased run-off, sedimentation or pollution.
- Investigate formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.

Trampling, Browsing or Grazing

- Continue to manage threats at known sites to control and eradicate feral goats (EA, 1999).
- Fence known sites to protect from grazing.

Fire

- Develop and implement a suitable fire management strategy for *A. unguicula*.
- 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. unguicula* within the local community, particularly among pastoralists.

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 *A. unguicula*, but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

This conservation advice was approved by the Minister / Delegate of the Minister on 3 July 2008

Existing Plans/Management Prescriptions that are Relevant to the Species

- Declared Rare and Poorly Known Flora in the Geraldton District, Wildlife Management Program No 26 (Patrick, 2001), and
- Threat Abatement Plan for Competition and Land Degradation by Feral Goats (EA, 1999).

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

Information Sources:

CALM 2005, Records held in CALM's Declared Rare Flora Database and Rare Flora File, West Australian Department of Conservation and Land Management.

Cowan, RS & Maslin BR 1990, 'Acacia miscellany 1. Some oligoneurous species of *Acacia* (Leguminosae: Mimosoideae: Section *Plurinerves*) from Western Australia', *Nuytsia*, vol 7, pp. 183–199.

Environment Australia (EA) 1999, *Threat Abatement Plan for Competition and Land Degradation by Feral Goats*, Biodiversity Group, Environment Australia, viewed 10 April 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/goats/index.html>>

Maslin, BR 2001, *Wattle: Acacias of Australia*, Interactive Identification CD, ABRS and Department of Conservation and Land Management, Collingwood.

Patrick, S 2001, *Declared Rare and Poorly Known Flora in the Geraldton District*, Wildlife Management Program No 26, West Australian Department of Conservation and Land Management, Western Australia, Perth.

Threatened Species Scientific Committee (TSSC) 2006, *Commonwealth Listing Advice on Acacia unguicula*, Department of Environment, Water, Heritage and the Arts, viewed 10 April 08, <<http://www.environment.gov.au/biodiversity/threatened/species/pubs/acacia-unguicula-listing.pdf>>

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia - Second Edition*, Australian Network for Plant Conservation, Canberra.

Western Australian (WA) Herbarium 2005, *FloraBase*, The Western Australian Flora, Department of Conservation and Land Management, viewed 10 April 2008, <<http://florabase.calm.wa.gov.au/>>