

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

**Approved Conservation Advice for**  
***Acacia carneorum* (Needle Wattle)**

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

**Description**

*Acacia carneorum*, Family Mimosaceae, also known as Needle Wattle, Dead Finish and Purple-wood Wattle, is a straggly, spreading prickly shrub or small tree to 5 m high and up to several metres in diameter (Orchard & Wilson, 2001). Plants grow together in clusters or colonies (Orchard & Wilson, 2001). The heartwood is a striking deep purple colour (Cunningham et al., 1992). The Needle Wattle rarely sets seed but regenerates by suckering during autumn or spring, each one or two years, possibly in response to average or above average rainfall (NSW NPWS, 1999).

This species was originally described as *Acacia carnei*. Hall & Johnson (1993) suggested the change to *A. carneorum* and this has been adopted in the Flora of Australia (Orchard & Wilson, 2001) and is the accepted name in the Australian Plant Census (CHAH, 2005).

**Conservation Status**

Needle Wattle 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) under the name *Acacia carnei*. Needle Wattle is also listed as vulnerable under Schedule 2 of the *Threatened Species Conservation Act 1995* (NSW) and under Schedule 8 of the *National Parks and Wildlife Act 1992* (South Australia).

**Distribution and Habitat**

Needle Wattle is known from the far south-east of Central Australia (Jessop, 1981). It has a scattered distribution from south-west of Lake Frome and near Peterborough, in eastern South Australia, to near Tibooburra, Menindee Lakes and Wanaaring in western NSW (Orchard & Wilson, 2001; Harden, 2002). Needle Wattle is protected in Kinchega National Park (NSW) with fewer than 1000 individuals, and there is reported to be a further 60 populations (Auld, 1993; Davies, 1995; Briggs & Leigh, 1996). This species occurs within the Western and Lower Murray Darling (NSW) and South Australian Arid Lands Natural Resource Management Regions.

Needle Wattle occurs on sand ridges or sandy flats or in alluvium along watercourses (Cunningham et al., 1992; Orchard & Wilson, 2001). It grows in clumps and is often the dominant vegetation form, sometimes in almost pure stands of 20–30 shrubs or small trees (Whibley, 1979) or in clonal colonies of 20–60 plants (Whibley & Symon, 1992). It occurs in Mulga (*Acacia aneura*) communities, White Cypress Pine (*Callitris glaucophylla*) woodland, Red Mallee (*Eucalyptus socialis*) woodland, grassland and chenopod low shrubland (Cunningham et al., 1992; Davies 1995; Orchard & Wilson, 2001; Harden, 2002). Commonly associated species include Belah (*Casuarina cristata*), Black Oak (*C. pauper*), Western Rosewood (*Alectryon oleifolius*), Bladder Saltbush (*Atriplex vesicaria*), Spiny Saltbush (*Rhagodia spinescens*) and *Maireana* spp. (Auld, 1993; Davies, 1995; Ayers, Nash & Baggett, 1996).

Seed production is rare in most populations, and even in populations where flowering occurs, mature seed is often not produced (Auld & Denham, 2001). The species appears to rely on vegetative regeneration, but vegetative recruitment has been rare during the 20th century, although has been reported where localised rabbit (*Oryctolagus cuniculus*) exclusion has occurred (Auld 1993; Denham & Auld, 2004).

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

- Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions, and
- The community of native species dependent on natural discharge of groundwater from the Great Artesian Basin.

### **Threats**

The main identified threats to Needle Wattle are lack of regeneration; browsing by kangaroos, goats (*Capra hircus*) and rabbits; destabilisation of stands by rabbits; and low seed viability (Auld, 1993; Davies, 1995; Ayers, Nash & Baggett, 1996; DECC, 2005). Vegetative suckers are readily eliminated by rabbits (Auld & Denham, 2001). The key to long-term regeneration of the species is to keep rabbit numbers sufficiently low to prevent ringbarking and death of a significant proportion of new vegetative growth (Auld & Denham, 2001).

The main potential threats to Needle Wattle include soil and tree disturbance by stock (Davies, 1995; Ayers, Nash & Baggett, 1996).

### **Research Priorities**

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

- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Design and implement a monitoring program.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment, including fire regimes for establishment in the wild.

### **Regional Priority Actions**

The following regional priority recovery and threat abatement actions can be done to support the recovery of Needle Wattle.

#### **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.
- Manage threats to areas of vegetation that contain populations/occurrences/remnants of Needle Wattle.
- Investigate formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.

#### **Trampling, Browsing or Grazing**

- Develop and implement a stock management plan for roadside verges and travelling stock routes.
- Implement a management plan for the control and eradication of rabbits and goats in the local region (EA, 1999a; EA, 1999b).

### Fire

- Develop and implement a suitable fire management strategy for Needle Wattle (fire interval of greater than 10 years) (DECC, 2005).
- 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 Needle Wattle within the local community.

### Enable Recovery of Additional Sites and/or Populations

- Protect known seed sources (successful seed production is limited to very few populations) and manage these sites (DECC, 2005).
- 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 Needle Wattle.

#### Habitat Loss, Disturbance and Modification

- 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.
- Protect populations of the listed species through the development of conservation agreements and/or covenants.

#### Trampling, Browsing or Grazing

- Fence off populations from grazing or other impacts by rabbits, stock, goats and kangaroos (DECC, 2005).

### Fire

- Implement an appropriate fire management regime for local populations.

This list does not necessarily encompass all actions that may be of benefit to Needle Wattle, 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

- Kinchega National Park Plan of Management (NSW NPWS, 1999),
- Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits (EA, 1999a), and
- Threat Abatement Plan for Competition and Land Degradation by Feral Goats (EA, 1999b).

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