

This Conservation Advice was approved by the Minister / Delegate of the Minister on: 3/07/2008.

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

**Approved Conservation Advice for**  
***Allocasuarina fibrosa* (Woolly Sheoak)**

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

**Description**

*Allocasuarina fibrosa*, Family Casuarinaceae, also known as Woolly Sheoak, is a small, erect, densely branched shrub growing to 1.8 m high. Flowers are red-brown and appear from July to August (WA Herbarium, 1998).

**Conservation Status**

Woolly Sheoak 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 rare under the *Wildlife Conservation Act* (Western Australia).

**Distribution and Habitat**

Woolly Sheoak is restricted to a small area in the Western Australian wheatbelt, east of Perth. Two of the four known populations are within Charles Gardner Flora Reserve to the south of Tammin (Briggs & Leigh, 1996). This species occurs within the Avon (Western Australia) Natural Resource Management Region.

Plants at the type locality, south-west of Tammin, and a nearby population, west-south-west of Tammin, are now extinct. Mollemans, Brown, and Coates (1993) recorded two populations remaining near Tammin and two additional populations, east of Quairading, which were discovered in 1989. The Quairading plants are significantly taller than those in the Tammin area. There are indications that both Tammin populations are in decline because the total number of individuals has decreased from over 550 in 1982 to 280 in 1990 (Mollemans et al., 1993).

This species occurs on low ridges (Wilson & Johnson, 1989; Mollemans et al., 1993), on white sand over laterite (Brown et al., 1998). Ironstone is exposed in some areas (Coates, 1990). The region experiences dry, warm summers and cool winters and has an average annual rainfall of 340 mm (Weaving, 1994).

The species grows in tall open heath with associated species *Acacia campestris*, Round-fruited Banksia (*Banksia sphaerocarpa*), *Hakea* aff. *falcata*, *H. strumose*, and Tea Tree (*Leptospermum erubescens*). The understorey consists of dense shrubs to 0.5 m high, characterised by *Melaleuca holosericea*, *Acacia phaeocalyx*, *Beaufortia interstans*, Showy Banksia (*Dryandra speciosa*), Summer Dryandra (*D. vestita*), *D. aff. cirsioides*, *Daviesia rhombifolia*, Spiny Tea Tree (*Leptospermum spinescens*), *Lysinema ciliatum*, *Leucopogon dielsiana*, *Petrophile circinata*, *P. brevifolia*, *Verticordia brachypoda*, Yellow Featherflower (*V. chrysantha*), Painted Featherflower (*V. picta*), and *Hemigena viridis* (Coates, 1990).

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

### **Threats**

The main identified threats to Woolly Sheoak are land degradation issues affecting the habitat, such as salinity, and wind and water erosion, attributable to extensive clearing by early settlers (Weaving, 1994).

The main potential threats to Woolly Sheoak are the close proximity of populations to areas frequently burnt to reduce fuel levels. These controlled burns are designed to minimise the risk of wildfires in adjoining wheat fields. The frequency of burning is such that plants may not reach seed-bearing age between fires (Leigh et al., 1984). There is also the possibility of damage due to herbicide drift during weed control on adjacent land (Leigh et al., 1984). The response of the species to grazing, weed invasion, and soil disturbance is unknown (Mollemans et al., 1993), but populations in the Narrogin District are protected from the potential threat of grazing (Durell & Buehrig, 2001). The species is susceptible to dieback caused by *Phytophthora cinnamomi* (Cochrane & Coates, 1997).

### **Research Priorities**

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

- Design and implement a monitoring program.
- 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.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.
- Determine the effects of fire on regeneration and adult plant survival from lignotuberous shoots (Durell & Buehrig, 2001).
- Research possible management strategies for salinity.

### **Regional and Local Priority Actions**

The following priority recovery and threat abatement actions can be done to support the recovery of Woolly Sheoak.

#### **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 chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Woolly Sheoak.
- 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.
- Investigate further 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.
- Check security fencing annually at populations in Narrogin District to ensure no accidental grazing by stock occurs (Durell & Buehrig, 2001).

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### Fire

- Develop and implement a suitable fire management strategy for Woolly Sheoak.
- Identify appropriate intensity and interval of fire to promote seed germination and vegetation regeneration.
- 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.

### Diseases, Fungi and Parasites

- Implement suitable hygiene protocols to protect known sites from outbreaks of dieback caused by *Phytophthora cinnamomi* (Dieback Working Group, 2000; Environment Australia, 2001, CALM, 2003; CALM, 2004a; CALM, 2004b).

### Conservation Information

- Raise awareness of Woolly Sheoak 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 Woolly Sheoak, 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**

- There are several management and threat abatement plans addressing the problem of *Phytophthora cinnamomi* in Western Australia (Dieback Working Group, 2000; CALM, 2003),
- Declared Rare and Poorly Known Flora in the Narrogin District Management Plan (Durell & Buehrig, 2001), and
- Threat Abatement Plan for Dieback Caused by the Root-Rot Fungus *Phytophthora cinnamomii* (Environment Australia, 2001).

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

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