

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

**Approved Conservation Advice for**  
***Eucalyptus johnsoniana* (Johnson's Mallee)**

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**

*Eucalyptus johnsoniana*, Family Myrtaceae, also known as Johnson's Mallee, is a small spreading mallee growing to 2 m tall, forming dense clumps that may be several metres across. Their dense crowns of glossy, dark green to blue-green leaves often extend to the ground. The bark is smooth and grey-brown to cream above, but grey-brown and slightly rough and flaky at the base. Leaves are narrow, lanceolate, to 12 cm long and have numerous oil glands. There are seven flowers in each unbranched, axillary inflorescence. Club-like and pear-shaped buds have a hemispherical to slightly conical cap. Fruit are globular, approximately 1 cm in diameter, and have a small opening and a thick rim. The sunken disc has 3–4 valves, which may protrude slightly. Seeds are pyramid-shaped and brown. Flowering occurs from July to January (Brown, et al., 1998; Patrick & Brown, 2001; DEC, 2008).

**Conservation Status**

Johnson's Mallee is listed **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). Johnson's Mallee is also listed as declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia).

**Distribution and Habitat**

Johnson's Mallee is endemic to Western Australia where it is known from 34 populations between Eneabba and Badgingarra. Of these populations, 19 are on reserves, 14 are on road verges, four are on private land, six are on mining leases and four are on Crown land. The total population size is estimated to be 360 plants. The extent of occurrence is approximately 330 km<sup>2</sup>. There are insufficient data available to determine the area of occupancy. The majority of populations are in healthy condition and it is likely that these populations will increase in the future; however, fire and mining may cause a rapid decrease in the number of populations (DEC, 2008).

Small populations or isolated plants emerge from low, dense heath on undulating sandplains, lateritic mesas and uplands in white or grey sand over laterite. Johnson's Mallee grows in association with *Eucalyptus tottiana*, *E. tetragona*, *E. impesa*, *E. macrocarpa*, *E. drumondii*, *E. pendens*, *Dryandra armata*, *Lambertia multiflora*, *Hibbertia hypericoides*, *Hakea conchifolia*, *Allocasuarina humilis* and *Xanthorrhoea* species (Brown et al., 1998; Patrick & Brown, 2001; DEC, 2008). This species occurs within the Northern Agricultural (Western Australia) Natural Resource Management Region.

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

### **Threats**

The main potential threats to the species include fire, clearing, transmission line maintenance, human disturbance and mining (Patrick & Brown, 2001). Johnson's Mallee is presumed vulnerable to fire in the vegetative and flowering phase. Too frequent fire may deplete the soil seed bank. Clearing associated with firebreak, road and transmission line maintenance and agriculture may adversely affect this species. Populations occurring within mining leases may be at risk from mining associated development.

### **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.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- Design and implement a monitoring program or, if appropriate, support and enhance existing programs.
- Identify appropriate intensity and interval of fire to promote seed germination.
- Undertake seed germination 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 Johnson's Mallee.

#### **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.
- Ensure road widening and maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where Johnson's Mallee occurs do not adversely impact on known populations.
- Control access routes to suitably constrain public access to known sites.
- Minimise adverse impacts from land use at known sites.
- Investigate further formal conservation arrangements, management agreements and/or covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.

#### **Fire**

- Develop and implement a suitable fire management strategy for Johnson's Mallee.
- 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 Johnson's Mallee within the local community.
- Provide fact sheets to land owners and organise field days to increase this species' profile.
- Install threatened flora markers at roadside populations

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

- Undertake appropriate seed collection and storage.
- Investigate options for linking, enhancing or establishing additional populations.

This Conservation Advice was approved by the Minister / Delegate of the Minister on:  
16/12/2008

- 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 Johnson's Mallee, 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**

- Declared Rare and Poorly Known Flora in the Moora District (Patrick & Brown, 2001).

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

### **Information Sources:**

Brown, A, Thomson-Dans, C & Marchant, N (eds) 1998, *Western Australia's Threatened Flora*, Department of Conservation and Land Management, Western Australia.

Department of Environment and Conservation (DEC) 2008, Records held in DEC's Declared Rare Flora Database and rare flora files, Department of Environment and Conservation, Western Australia.

Patrick, SJ & Brown, AP 2001, *Declared Rare and Poorly Known Flora in the Moora District*, Wildlife Management Plan No 28, Department of Conservation and Land Management, WA.

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia* (2<sup>nd</sup> ed.), Australian Network for Plant Conservation, Canberra.