

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

Approved Conservation Advice for
***Eucalyptus argutifolia* (Yanchep 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 argutifolia, Family Myrtaceae, also known as Yanchep Mallee or Wabbling Hill Mallee, is a mallee to 4 m tall, with smooth, grey to pale coppery bark. It has thick and glossy leaves. The buds are stalkless or on a short stalk, in groups of 7–11. Each bud is egg-shaped to cylindrical, up to 1.2 cm long and 0.6 cm wide, with a hemispherical cap. The fruit are ribbed, cup-shaped to cylindrical, and on stout stalks onto which the ribs often extend. The seeds are shiny and ruby red to reddish-brown. Flowering occurs from March to April. Yanchep Mallee differs from its close relative Dongara Mallee (*E. obtusiflora*) in its rounder juvenile leaves, broader glossy green adult leaves with fewer oil glands, and non-glaucous buds and fruit with shorter, stouter pedicels (Grayling & Brooker, 1992; Brown et al., 1998).

Conservation Status

Yanchep Mallee 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 declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia).

Distribution and Habitat

Yanchep Mallee is endemic to Western Australia, where it is found between Wanneroo and Guilderton in the Perth area, and at Lake Clifton near Mandurah. It is known from 18 populations, seven of which occur in State Forest, two in unallocated Crown land and nine on private property. The number of plants is estimated to be 730. Thirteen of the 18 populations had surveys undertaken in 2006 and of these, half of the populations showed a decline in plant numbers and the other half showed an increase in plant numbers. The extent of occurrence is 1940 km². Insufficient data are available to determine any trends in population or area of occupancy; however, given that the species occurs on a substrate that is commonly mined, it is likely that the area of occupancy will decline in the future (DEC, 2008).

Yanchep Mallee grows on slopes or gullies close to the summits of limestone ridges, where soils are shallow, well drained and grey with outcrops of limestone. Vegetation in association includes heath of Parrotbush (*Dryandra sessilis*) and Chenille Honey-myrtle (*Melaleuca huegelii*) (Grayling & Brooker, 1992; Brown et al., 1998; DEC, 2008). This species occurs within the Swan and South West (Western Australia) Natural Resource Management Regions.

The distribution of this species overlaps with the “Sedgeland in Holocene dune swales of the southern Swan Coastal Plain” EPBC Act-listed threatened ecological community

Threats

The main identified threats to Yanchep Mallee are mining activities, inappropriate fire regimes, grazing and weeds. Mining for limestone is a threat to 10 populations of Yanchep Mallee, which are located adjacent to or within existing limestone quarries. The species matures after five years and vegetative resprouting occurs following fire. Grazing by cattle

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and goats (*Capra hircus*) is a threat to three populations. Weeds have been recorded at three populations. Weeds have the potential to alter fire and grazing patterns and suppress early plant growth by competing for soil moisture, nutrients and light (DEC, 2008).

The main potential threats to Yanchep Mallee include land clearing, road and firebreak maintenance, and vehicle damage from recreational activities. Land clearing for mining and housing is a potential threat to the species. Four populations are threatened by road and firebreak maintenance activities including grading, chemical spraying, and the mowing of roadside and firebreak vegetation (DEC, 2008).

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 seed germination trials to determine the requirements for successful establishment.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.

Regional and Local Priority Actions

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of Yanchep 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 and firebreak widening and maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where Yanchep Mallee occurs do not adversely impact on known populations.
- 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 (such as mining) at known sites.
- Investigate formal conservation arrangements, management agreements and covenants on private land and for crown and private land investigate inclusion in reserve tenure if possible.

Invasive Weeds

- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Yanchep Mallee.
- Identify and remove weeds in the local area, which could become a threat to Yanchep Mallee, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to the species, using appropriate methods.

Trampling, Browsing or Grazing

- Implement the management plan for the control and eradication of feral goats.
- Where appropriate, manage total grazing pressure at important sites through exclusion fencing or other barriers.
- Manage known sites to ensure appropriate grazing regimes occur.

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Fire

- Develop and implement a suitable fire management strategy for Yanchep Mallee. It is known that the species coppices from root stock.
- Identify appropriate intensity and interval of fire to promote seed germination, seedling survival and/or 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.

Conservation Information

- Raise awareness of Yanchep Mallee within the local community. Fact sheets and field days may benefit this species.
- Maintain liaison with private landholders and land managers of land on which populations occur.

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 Yanchep 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

- Threat Abatement Plan for Competition and Land Degradation by Feral Goats (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:

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 Flora Database and rare flora files. Department of Environment and Conservation, Western Australia.

Environment Australia (EA) 1999, *Threat Abatement Plan for Competition and Land Degradation by Feral Goats*, Biodiversity Group, viewed 30 May 2008,

<http://www.environment.gov.au/biodiversity/threatened/publications/tap/goats/index.html>.

Grayling, P & Brooker, M 1992, 'Four new species of *Eucalyptus* (Myrtaceae) from Western Australia', *Nuytsia*, vol. 8, no. 2, pp. 209-218.

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.