

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

Approved Conservation Advice for
***Eucalyptus burdettiana* (Burdett Gum)**

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 burdettiana, Family Myrtaceae, also known as Burdett Gum and Burdett's Mallee, is a multi-stemmed mallee or shrub to 4 m high with smooth dark grey over dark orange bark. Adult leaves are glossy green to blue-green, 6–9 cm long and 1–1.7 cm wide, with a dense fine vein network and numerous small oil glands. Buds are 4–5 cm long and 0.7–1 cm wide. Stamens are erect inside the bud. Valves in the fruit are often united at the tip. Seeds are black, irregular or ovoid, sometimes flattish or flanged. There are usually sessile clusters of 7–11 flowers on a flattened peduncle (stalk of an inflorescence), unfused hypanthia and very long horn-shaped opercula. Flowers are cream to yellow and the flowering period is intermittent throughout the year, often in January to March and July and August (DEC, 2008).

Burdett Gum can be distinguished from the closely related Beaufort Inlet Mallee (*Eucalyptus newbeyi*) as it has slightly warty, horn-shaped bud caps, whereas those of the related mallee are smooth. It can also be distinguished from Warted Yate (*Eucalyptus megacornuta*) which has grossly warted bud caps and fruit that are more bell shaped (Robinson & Coates, 1995; Brown et al., 1998; DEC, 2008).

Conservation Status

Burdett Gum is listed as **endangered**. This species is eligible for listing as endangered 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 endangered under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). Burdett Gum is also listed as declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia).

Distribution and Habitat

Burdett Gum is endemic to Western Australia's south coast region where it is known from only one population in Fitzgerald River National Park (NP), north-east of Albany. This population is split into five subpopulations and occurs on the slopes and ridges of a mountain, with one subpopulation occurring on a road verge. This species was once thought to be more widely distributed, but the other populations are now known to be the closely related Beaufort Inlet Mallee.

Burdett Gum has an estimated population of 140 plants. A fire burnt four of the five subpopulations in 2006, but this species is known to resprout from lignotubers after disturbance. No recounts of the subpopulations have been conducted for the affected subpopulations and therefore true plant numbers for the subpopulations are unknown (DEC, 2008). All populations are either declining in number or have not been recently surveyed. Overall habitat health at the four subpopulations affected by the 2006 fire is considered to be in decline due to the fire, while the habitat at the other site has remained unchanged. Due to insufficient data, the area of occupancy cannot currently be determined.

Burdett Gum grows in shallow sandy soils over quartzite in association with other mallees and scrub (Robinson & Coates, 1995; Brown et al., 1998). This species occurs within the South Coast (Western Australia) Natural Resource Management Region.

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

Threats

The main identified threat to Burdett Gum is fire, in particular, inappropriate prescribed burning. In 1989, a canopy fire led to a population decline in one subpopulation. A prescribed burn in 2006 was followed by drying conditions that led to wildfire a few days later, which burnt four out of the five subpopulations (see above).

The main potential threat to Burdett Gum is road works, as one subpopulation occurs on a road verge within the Fitzgerald River NP; roadside markers are in place (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 survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants. This includes similar habitat that occurs in the nearby Eyre Range and Whoogarup Range (Robinson & Coates, 1995).
- Undertake seed germination trials to determine the requirements for successful establishment.

Regional Priority Actions

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

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 Burdett Gum occurs do not adversely impact on known populations.
- Control access routes to suitably constrain public access to known sites on public land.
- Manage any other known, potential or emerging threats.

Fire

- Develop and implement a suitable fire management strategy for Burdett Gum.
- 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 Burdett Gum within the local community.

Enable Recovery of Additional Sites and/or Populations

- 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.

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This list does not necessarily encompass all actions that may be of benefit to Burdett Gum, 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 Albany District (Robinson & Coates, 1995).

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*, WA Department of Environment and Conservation (DEC).

Robinson, C & Coates, D, 1995, *Declared Rare and Poorly Known Flora in the Albany District, Wildlife Management Program No 20*, Department of Conservation and Land Management, Western Australia.

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.