

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

Approved Conservation Advice for
***Thelymitra psammophila* (Sandplain Sun-orchid)**

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

Thelymitra psammophila, Family Orchidaceae, also known as Sandplain Sun-orchid, is a tuberous, perennial herb, growing to 25 cm high, with a narrow leaf, 4 mm wide by 7 cm long. It has 2–4 small, lemon-yellow flowers that grow to 18 mm wide, in a loose raceme. The lateral lobes of the column are triangular and brown with no tufts of hair or combings. Flowering occurs from September to October (Robinson & Coates, 1995; Brown et al., 1998; DEC, 2008).

Conservation Status

Sandplain Sun-orchid 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

Sandplain Sun-orchid is endemic to Western Australia and is known from 12 populations within the Shire of Plantagenet, Lake Grace, Gnowangerup and Jerramungup area. These populations occur on a mixture of land tenures, including road verges, national parks, private land, a gravel pit, an area of sanitation, conservation reserves and unallocated Crown land. The number of mature plants is estimated to be approximately 3800. The extent of occurrence is estimated to be approximately 10 000 km², but there are insufficient data available to determine the area of occupancy. Although most populations are recorded as being stable, previous trends indicate that at least three populations are declining. This may be due to roadworks and the infestation of weeds. Two population have declined to zero plants (one has had no plants recorded since 1986, the other since 1985), and one population has declined from 1000 plants in 1989 to 10 in 1999 (DEC, 2008).

Sandplain Sun-orchid typically grows amongst very open heath and sedges on seasonally wet sandy clay. Associated species include *Agonis spathulata*, *Allocasuarina humilis*, *Calytrix grandiflora*, *Banksia caleyi*, *Eucalyptus falcata*, *Kunzea affinis*, *Allocasuarina campestris*, *Melaleuca elliptica*, *Leptospermum erubescens* and *Neurachne aleopecuroidea* (Robinson & Coates, 1995; Brown et al., 1998; DEC, 2008). This species occurs within the South Coast and Avon (Western Australia) Natural Resource Management Regions.

The distribution of this species overlaps with the “Eastern Stirling Range Montane Heath and Thicket” EPBC Act-listed threatened ecological community.

Threats

The main identified threats to Sandplain Sun-orchid are weeds, a sanitary tip, grazing and periods of low rainfall. One population is affected through the operation of a sanitary tip; this population has not been relocated at the disturbed rubbish tip site. (DEC, 2008).

The main potential threats to Sandplain Sun-orchid include clearing, inappropriate fire regimes, roadwork and grazing. Clearing of land is a potential threat to three populations through clearing for firebreaks and mining. Roadworks affect the three populations located on road verges through road maintenance and road widening (DEC 2008).

Research Priorities

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

- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Design and implement a monitoring program or, if appropriate, support and enhance existing programs.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment, including mycorrhizal association trials.
- Undertake research into the fire ecology of this species.

Regional and Local Priority Actions

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of Sandplain Sun-orchid.

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.
- 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.
- Manage any disruptions to water flows.
- Ensure road widening and maintenance activities involving substrate or vegetation disturbance in areas where Sandplain Sun-orchid occurs do not adversely impact on known populations.
- 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 Sandplain Sun-orchid.
- Identify and remove weeds in the local area, which could become a threat to Sandplain Sun-orchid, 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

- Manage known sites to ensure appropriate grazing regimes occur.

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

- Manage total grazing pressure at important sites through exclusion fencing or other barriers.

Fire

- Develop and implement a suitable fire management strategy for Sandplain Sun-orchid.
- 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.

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed and mycorrhizal fungi 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 Sandplain Sun-orchid, 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 Rare Flora Database and rare flora files. Department of Environment and Conservation, Western Australia.

Robinson, CJ & Coates, DJ 1995, *Declared Rare and Poorly Known Flora in the Albany District*, Wildlife Management Plan No 20, 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* (2nd ed.), Australian Network for Plant Conservation, Canberra.