

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

**Approved Conservation Advice for**  
***Caladenia conferta* (Coast Spider-orchid)**

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

**Description**

*Caladenia conferta*, Family Orchidaceae, also known as Coast Spider-orchid, is a small terrestrial orchid with a single dull-green, hairy, ovate-lanceolate leaf, 5–9 cm long and 15–20 mm wide, at the base of the plant. Flowers are usually solitary, unscented and supported by a fine, wiry, hairy scape (stem), 12–25 cm tall. Flowers are generally about 3.5 cm across, mostly yellowish-green, with a red tinge and a red central stripe along each segment. The lateral (side) sepals and petals spread horizontally while the dorsal (upper) sepal is erect and curves forward. The petals are linear-lanceolate in shape and narrow to linear near the tip. The labellum (lower, central petal) is three-lobed, articulated on a short claw, and dark green to yellowish-green with a dark maroon centre and irregularly toothed edges. The dark maroon calli (hardened appendages on the labellum) are irregular in shape and occur in six regular rows occupying most of the upper surface of the labellum (Jones, 1991a & 1991b).

**Conservation Status**

Coast Spider-orchid 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, in 2006, the Minister considered the Threatened Species Scientific Committee's (TSSC) advice under section 189 of the EPBC Act and amended the list under section 184 to include the Coast Spider-orchid. The TSSC determined that this species met Criteria 1 and 2 of their eligibility criteria. The species is also listed as endangered under the *National Parks and Wildlife Act 1972* (South Australia).

**Distribution and Habitat**

Coast Spider-orchid is endemic to South Australia, where it occurs in Mallee woodlands or Broombush (*Melaleuca uncinata*) scrubs in terra-rosa soils over limestone, in sedgelands on sandy soils, or on fertile red-brown soils among granite outcrops (Jones, 1991a; RJ Bates, 2005, pers. comm.). Four populations are known at two disjunct locations: in Ngarkat Conservation Park and Mt Boothby; and the near Port Vincent and near Maitland.

Coast Spider-orchid's distribution is considered to be severely fragmented and the surviving subpopulations are separated by areas of unsuitable habitat (Bates & Weber, 1990). Its current extent of occurrence is estimated to be 1540 km<sup>2</sup> and its area of occupancy is estimated to be 0.07 km<sup>2</sup> (TSSC, 2006b). Former populations at Hincks Conservation Park, Corny Point, Port Julia and Mt Monster are likely to have disappeared since 2000 (RJ Bates, 2005, pers. comm.). The total extant population is estimated to number 500–700 mature plants (TSSC, 2006b). This species occurs within the Northern and Yorke, and South East (South Australia) Natural Resource Management Regions.

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

### **Threats**

The main identified threats to Coast Spider-orchid are habitat destruction through the clearing of native vegetation; grazing and weed invasion where populations occur on private land; and possibly limited pollination (TSSC, 2006a). The pollinator of Coast Spider-orchid has yet to be identified, but may be a thynnine wasp which has been observed on flowers in the upper south-east South Australia (TSSC, 2006b).

The main potential threats to Coast Spider-orchid include fire, trampling by visitors and disturbance from four-wheel drive vehicles at Rabbit Island Soak campsite within Ngarkat Conservation Park (SA DEH, 2004). Severe drought, changes to climate patterns and habitat fragmentation may affect the future viability of populations through reduced reproduction.

### **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, pollination vector dynamics, and the relative impacts of threatening processes (TSSC, 2006a).
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants (TSSC, 2006a).
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment, including mycorrhizal association trials.
- Assess the species' response to fire regimes, and identify a preferred fire management.

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

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

#### **Habitat Loss, Disturbance and Modification**

- Monitor known populations to identify key threats.
- Identify populations of high conservation priority.
- Manage threats to areas of vegetation that contain populations/remnants/occurrences of the Coast Spider-orchid (TSSC, 2006a).
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Ensure road maintenance, infrastructure or development activities in areas where Coast Spider-orchid occurs do not adversely impact on known populations.
- Investigate further formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure (TSSC, 2006a).
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

#### **Invasive Weeds**

- Develop and implement a management plan for the control of invasive weeds in the local region.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Coast Spider-orchid.
- Identify and remove weeds in the local area, which could become a threat to Coast Spider-orchid, using appropriate methods (TSSC, 2006a).

#### **Conservation Information**

- Raise awareness of Coast Spider-orchid within the local community.

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### Fire

- Develop and implement a suitable fire management strategy for Coast Spider-orchid.
- 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.

### 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.

### Trampling, Browsing or Grazing

- Manage known sites on private property to ensure appropriate grazing regimes are conducted outside the growing season, i.e. when plants are not fertile (TSSC, 2006a).

This list does not necessarily encompass all actions that may be of benefit to Coast Spider-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**

- *Ngarkat Complex of Conservation Parks Management Plan* (SA DEH, 2004) gives an overview of conservation priorities and prescriptions for Ngarkat Conservation Park.

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

### **Information Sources:**

Bates, RJ. Personal communication. 2005.

Bates, RJ & Weber, JZ 1990, *Orchids of South Australia*, Flora and Fauna of South Australia Handbooks Committee, South Australia.

Jones, DL 1991a, '*Caladenia conferta*', *Australian Orchid Research*, vol. 2, p. 21.

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South Australia Department for Environment and Heritage (SA DEH) 2004, *Ngarkat Complex of Conservation Parks Management Plan*, Department for Environment and Heritage, South Australia.

Threatened Species Scientific Committee (TSSC) 2006a, Commonwealth Conservation Advice on *Caladenia conferta*, Department of Environment, Water, Heritage, and the Arts, viewed 9 April 2008, <<http://www.environment.gov.au/biodiversity/threatened/species/pubs/caladenia-conferta-conservation.pdf>>

Threatened Species Scientific Committee (TSSC) 2006b, Commonwealth Listing Advice on *Caladenia conferta*. Report to the Department of the Environment and Heritage, Canberra, viewed 9 April 2008, <<http://www.environment.gov.au/biodiversity/threatened/species/pubs/caladenia-conferta-advice.pdf>>

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia - Second Edition*, Australian Network for Plant Conservation, Canberra.