



## THREATENED SPECIES LISTING STATEMENT

ORCHID

Sky-blue sun orchid  
*Thelymitra jonesii* Jeans 2001

### Status

Tasmanian *Threatened Species Protection Act 1995*

.....endangered

Commonwealth *Environment Protection and Biodiversity*

*Conservation Act 1999*.....Critically Endangered



Hans & Annie Wapstra



### Description

The sky-blue sun orchid belongs to a group of orchids commonly known as sun orchids because the flowers of most species open only in warm to hot weather, particularly on bright, sunny days. *Thelymitra* species are terrestrial orchids that die back after flowering to fleshy subterranean tubers. They are all spring or summer flowering. Plants have a single narrow basal leaf and, unlike many orchids, the labellum (lip) of the flower is generally similar in shape and size to the petals. Features of the column in the centre of the flower are important in the identification of species. In all species the

column has two arm-like projections that flank the anther (pollen holding structure).

The leaf of the sky-blue sun orchid is channelled, fleshy, dark green with a reddish base, and is 6 to 21 cm long and 3 to 6 mm wide. The species flowers from October to early December. In flower, the plants are 8 to 40 cm tall with 1 to 6 flowers on a green or purplish stalk. The flowers open freely in warm weather and are light blue to azure blue with darker veins and 13 to 21 mm across. The flower segments end in a short sharp point and are 6 to 10 mm long and 2 to 8 mm wide. The column is blue

to purple and 3 to 5 mm long and 1.5 to 2.5 mm wide. The column arms are projected forward and end in a dense tuft of white hairs. The anther is hooded by a fleshy, yellow lobe with a blackish base and a toothed or warty crest and flanked by two lateral lobes of similar appearance.

*Thelymitra jonesii* is a newly described species that was previously included in *Thelymitra azurea*, previously known as *Thelymitra canaliculata* (*sensu* W.M. Curis 1979). Tasmanian specimens were split from *Thelymitra azurea* and described as

*Thelymitra jonesii*. *Thelymitra jonesii* is not easily confused with other Tasmanian sun orchids.

## Distribution and Habitat

The sky-blue sun orchid is endemic to Tasmania. It has been recorded from 4 widely distributed coastal localities including Rocky Cape, Cape Barren Island, Southport Bluff and the Tasman Peninsula. It is estimated to occupy less than one hectare in total. The species has been recorded growing in moist coastal heath on sandy to peaty soils and in *Eucalyptus obliqua* forest in deep loam soil over dolerite.

## Important Locations

	Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number of mature plants
1	<b>Doone Falls</b> Rocky Cape National Park	Rocky Cape	1974		
2	<b>Sisters Beach</b> Private land	Rocky Cape	1990	Presumed extinct	
3	<b>Southport Bluff</b> Southport Lagoon Conservation Area	Leprena	1976		
4	<b>Mason Point</b> Eaglehawk Bay State Reserve/Road Reserve	Taranna	2001	0.05	5 to 20
5	<b>Pirates Road</b> State Forest	Taranna	2001	0.26	32
6	<b>Eaglehawk Neck</b>	Taranna	1984		
7	<b>Petticoat Ridge, Cape Barren Island</b>	Anderson	1973		

## Threats, Limiting Factors and Management Issues

The sky-blue sun orchid has been recorded at 7 distinct sites from 4 widely distributed localities. However, only 2 populations have been observed in recent years despite dedicated searches. Both populations are small and are located on the Tasman Peninsula between Eaglehawk Neck and Taranna. The small size of the populations and their close proximity to one another puts the species at risk from local environmental catastrophe, fluctuations in environmental conditions and decline in genetic diversity.

The Pirates Road population is within State Forest. Forestry Tasmania has declared the site a Special Management Zone with guidelines that advise against construction of roads or firebreaks or the establishment of plantation on the site. Selective extraction of timber and burning when orchids are dormant are not considered major threats to the population.

The Mason Point population is located within the Eaglehawk Bay State Reserve between the road and

the water's edge. Roadside management activities and recreational use of the area potentially threaten this population.

The Sisters Beach population is presumed to be extinct because a house has been built on the site since it was seen last in 1990.

## Conservation Assessment

### Population Estimate

The sky-blue sun orchid is known from seven populations. Only two populations have been observed in recent years. Populations are characteristically small, the largest with about 32 plants. The Sisters Beach population, now destroyed by housing, previously had 3 or 4 plants only. The total number of mature individuals is estimated to be less than 60. In Tasmania, this species, previously known as *Thelymitra azurea*, has had a high profile amongst orchid enthusiasts. Extensive searches have been conducted in suitable habitat. Consequently, the known populations are considered a good representation of the true distribution.

### Reservation Status

The sky-blue sun orchid has been recorded in the Eaglehawk Bay State Reserve and the Rocky Cape National Park but it has not been seen at the latter site in recent years.

### Assessment Criteria

Mauve-tufted sun orchid meets the criteria for listing as endangered on the Tasmanian *Threatened Species Protection Act 1995* because

- there are less than 250 mature individuals in total
- there is a continuing decline

It meets the guidelines for listing as Critically Endangered on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* using the 2000 IUCN (World Conservation Union) Red List criteria.

### Recovery Program

#### Objectives

- prevent the loss or degradation of known populations
- increase the number of known populations through survey

#### Existing Management

The sky-blue sun orchid is included in a project to manage and recover threatened Tasmanian orchids. The project commenced in late 2001. The Pirates Road population has been included in a Special Management Zone for State Forest and the Mason Point population has been identified as a priority site for roadside management with the Department of Infrastructure Energy and Resources.

### Actions Needed

- pursue management options with landowners/managers to protect populations of the sky-blue sun orchid against possible changes in land use that would be detrimental to the species
- attempt to locate populations that have not been observed in recent years
- monitor Pirates Road and Mason Point populations to determine whether current management practices are causing further decline
- manage Pirates Road and Mason Point populations to ensure seed production and recruitment
- establish a mechanism to ensure management intervention when required
- further survey

### Information Needed

- determine whether there are any more populations in existence
- determine whether natural pollination and recruitment are taking place in known populations

### Management Advice

#### For the land owner/land manager

- avoid cultivation or using fertilisers or herbicides in the vicinity of populations
- consider temporary fencing or guarding to protect plants from being trampled
- if you own land on which the mauve-tufted sun orchid grows, consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

#### For everyone

- search for new populations from October to December, particularly on bright sunny days when the plants are in flower
- help the Threatened Species Unit to monitor known populations, particularly when plants are in flower

### Further Information

**Contact details:** Threatened Species Unit, Department of Primary Industries, Water and Environment, GPO Box 44 Hobart Tasmania Australia 7001. Ph (03) 6233 6556 fax (03) 6233 3477.

**Specialist Advice:** Hans and Annie Wapstra, Howden (contact via the Threatened Species Unit)

### Source Material

#### Bibliography

Jeanes, J.A. 2001. Resolution of the *Thelymitra canaliculata* R.Br. (Orchidaceae) complex in southern Australia. *Muelleria* 15:75-89.

Jones, D. Wapstra, H., Tonelli, P. and Harris, S. 1999. *The Orchids of Tasmania*. Melbourne University Press.

Jones, D.L. and Clements, M.A. 1998. Contributions to Tasmanian Orchidology –8: A Taxonomic Review of *Thelymitra* J.R. & G. Forst. in Tasmania, *Australian Orchid Research* 3: 178-203.

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**View:** <http://www.dpiwe.tas.gov.au>

& follow the links to Natural Environment, Threatened Species, then List of Threatened Species.

**Permit:** It is an offence to collect, possess or disturb this species unless under permit.