



THREATENED SPECIES LISTING STATEMENT

ORCHID

Swamp Diuris
Diuris palustris Lindl. 1840

Status

Tasmanian *Threatened Species Protection Act 1995*

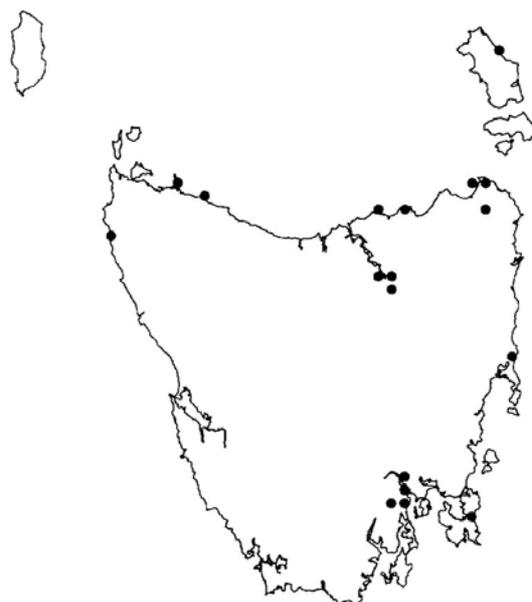
.....endangered

Commonwealth *Environment Protection and Biodiversity*

Conservation Act 1999..... Not listed



Les Rubenach



Description

Swamp diuris is an orchid belonging to a group commonly known as double tails (referring to the paired lateral sepals that point downwards). They are also known as donkey orchids because the two erect petals of some species resemble the ears of a donkey. *Diuris* species are terrestrial orchids that die back to fleshy tubers after flowering. Swamp diuris has 8 to 10 very narrow leaves that are 2 to 8 cm long, crimson at the base and are spirally twisted in a loose erect tuft. The leaves are fully developed by flowering time. Swamp diuris flowers from September to November. In flower, the plants are 5 to 15 cm tall. They have 1 to 4 yellow fragrant flowers that are spotted and heavily blotched with red-brown, especially on the outer surface. The flowers, often nodding, are about 20 mm across,

with rounded, stalked 'donkey ears' and greenish brown 'double tails' that hang down in parallel.

Swamp diuris is easily distinguished from other *Diuris* species by its distinctive flower shape and preference for poorly to moderately drained habitats.

Distribution and Habitat

Swamp diuris is rare and localised in coastal areas, mostly in the north of the State, but also in the south-east. It also occurs in Victoria and South Australia. It is found in grassy open eucalypt forest, sedgy grassland and heathland with tea-tree and paperbark on poorly to moderately drained sandy peat and loams, usually in sites that are wet in winter, hence its common name. In total it occupies between 1 and 10 hectares, with no population occupying an area greater than one hectare.

Important Locations

Locality	1:25,000 mapsheet	Year last seen	Area	Number
Near Foochow Inlet, Flinders Island	Wingaroo	1992		
Cape Portland Cape Portland Conservation Area	Lyme Regis	1984	0.5	few
Petal Point Coastal Reserve	Lyme Regis	1998	0.5	few
Tiger Creek Arthur-Pieman Conservation Area	Sundown	1999	0.0015	10
Lulworth Tip	Tam O'Shanter	1982	small	few
Apsley Marshes-Coles Bay Road Moulting Lagoon Game Reserve	Friendly/Lodi	1984		
Mt Cameron, south side	Gladstone	1970		
Near Bridport	Bridport	1964		
Rocky Cape Rocky Cape National Park	Rocky Cape	1973		few
<i>Various sites near Hobart</i>	Richmond, Hobart, Taroon, Longley	1977	possibly extinct	
<i>Various sites near Launceston</i>	Launceston, Prospect	1946	possibly extinct	
<i>Tasman Peninsula</i>	Taranna	1922	possibly extinct	
<i>Circular Head</i>	Stanley	1893	extinct	0

Threats, Limiting Factors and Management Issues

Swamp diuris is at risk from habitat alteration or loss, grazing and trampling, changes to drainage patterns, incorrect fire regime and stochastic risks because populations are extremely small in number and extent. Many records are old, some from the 19th century, and it is very likely that many sites near Hobart and Launceston have been lost due to urbanisation. The Circular Head population has been lost, probably due to agricultural activities. The Tiger Creek site has been known for about 10 years, and comprises a maximum of 10 plants along 15 m of drain edge along Temma Road, where trampling by cattle, alteration to drainage and roadworks are identifiable threats, as well as stochastic risks to such a vulnerable population, including very localised events such as over-fertilisation of a plant by a cow. The site is 30 m from a cattle yard. The Cape Portland and Petal Point sites are on a sea-facing bank with coastal scrub, where grazing or accidental damage by uncontrolled camping and visitation are a threat. The Lulworth tip site has very little habitat with the required poor drainage, and threats to plants at this site include weeds, enrichment, damage by machinery and over-burning. Summer fires are beneficial to swamp diuris as flowering is

dramatically promoted and summer fires help to maintain an open habitat. However, over-burning will weaken plants and may alter the habitat adversely.

Conservation Assessment

Population Estimate

Estimating the size of populations of terrestrial orchids is often difficult unless conditions are favourable for flowering. The total population of swamp diuris has been estimated to consist of between 50 and 250 mature individuals. Observations suggest that populations of swamp diuris are characteristically small, even following summer fires, which dramatically promote flowering. The Tiger Creek population, possibly the largest, comprises a maximum of 10 plants along 15 m of road edge. The Lulworth Tip population is small due to the few suitable spots with the required poor drainage.

Reservation Status

Swamp diuris is securely reserved in the Rocky Cape National Park though they have not been seen at this site since 1973. Occurrences in the Arthur-Pieman Conservation Area, the Coastal Reserve at Petal Point, the Cape Portland Wildlife Sanctuary and the Moulting Lagoon Game Reserve afford

some protection though, in all, the species is poorly reserved.

Assessment Criteria

Swamp diuris 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

Recovery Program

Objectives

- prevent the loss or degradation of known populations
- increase the number of known populations through verification of old records and further survey

Existing Management

One population of swamp diuris occurs in the Arthur-Pieman Conservation Area. A draft management plan has been prepared for this area.

Actions Needed

- pursue management options with landowners/managers particularly with respect to alleviating stochastic risk to individuals and protection against possible changes in land use that would be detrimental to the species
- monitor populations to determine population size and extent, threats and declines
- establish a mechanism to ensure management intervention when required
- further survey and verification of older records

Information Needed

- determine appropriate grazing and fire regimes for swamp diuris
- determine whether populations not seen in recent years are still in existence
- determine whether there are any more populations in existence

Management Advice

For the land owner/land manager

- prevent accidental damage to plants by fencing or restricting access especially between September and December to allow plants to set seed
- as flowering is stimulated by fire, consider burning sites if they are becoming overgrown

- if you own land on which swamp diuris grows, consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

For everyone

- search for old and new populations in September to November when the plants are in flower
- help us to monitor known populations, particularly at flowering time

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 Wapstra, Vegetation Section, Department of Primary Industries, Water and Environment

Source Material

References

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

Jones, D.L. 1998. Contributions to Tasmanian Orchidology –4: A Taxonomic Review of *Diuris* Smith in Tasmania, *Australian Orchid Research* 3: 72-85.

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Prepared by: Wendy Potts and Hans Wapstra

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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.