

# National Recovery Plan for the Dense Leek-orchid *Prasophyllum spicatum*

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Published by the Victorian Government Department of Sustainability and Environment (DSE) Melbourne, July 2010.

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Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

ISBN 978-1-74208-960-7

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Citation: Duncan, M. 2010. National Recovery Plan for the Dense Leek Orchid *Prasophyllum spicatum*. Department of Sustainability and Environment, Melbourne.

**Cover photographs:** Dense Leek Orchid *Prasophyllum spicatum* Crib Point, Victoria © Gary Backhouse

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## Summary

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The Dense Leek-orchid *Prasophyllum spicatum* is a tall, slender, deciduous terrestrial orchid endemic to south-eastern Australia. It is distributed from the south Gippsland region of Victoria to the far south-east of South Australia, and grows in coastal and hinterland heath and heathy woodland. The species has suffered a major decline in abundance. Only about eight populations containing about 80 plants remain, and these are under threat from a range of factors including disturbance to and destruction of habitat, weed invasion and predation. The Dense Leek-orchid is listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999, as Threatened under the Victorian *Flora and Fauna Guarantee Act* 1988, and Endangered under the South Australian *National Parks and Wildlife Act* 1972. This national Recovery Plan for the Dense Leek-orchid details its distribution, habitat, threats and recovery objectives and actions necessary to ensure its long-term survival.

## Species Information

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The Dense Leek-orchid *Prasophyllum spicatum* R.J. Bates & D.L. Jones is a deciduous, perennial, terrestrial orchid emerging annually from an underground tuber. It has a single, terete, erect, slender, dark green leaf to 60 cm long, with a reddish-purple base. A slender greenish stem to 80 cm tall, bears up to 50 small (to 10 mm across) brownish green and white, fragrant flowers in a densely crowded, narrowly cylindrical spike (up to 20 cm long). The dorsal sepal is linear-ovate, subacute, held horizontally or incurved, and thick textured, while the lateral sepals are linear-oblong, suberect, free, divergent, and the margins incurved. The white lateral petals are spatulate with crisped margins. The labellum is ovate to broadly elliptical (with intensely folded and crisped margins), crystalline white, recurved at less than right angles near the centre, and the tip is erect but not protruding beyond the lateral sepals. The callus is thin-textured, channelled, with a pyramidal basal swelling, and extends just beyond the bend in the labellum (description from Jones 1991; Backhouse & Jeanes 1995; Bishop 1996). The Dense Leek-orchid is illustrated in Backhouse and Jeanes (1995, p. 250), Bishop (1996, plate 117), Jeanes and Backhouse (2006, p. 256) and Jones (2006, p. 201).

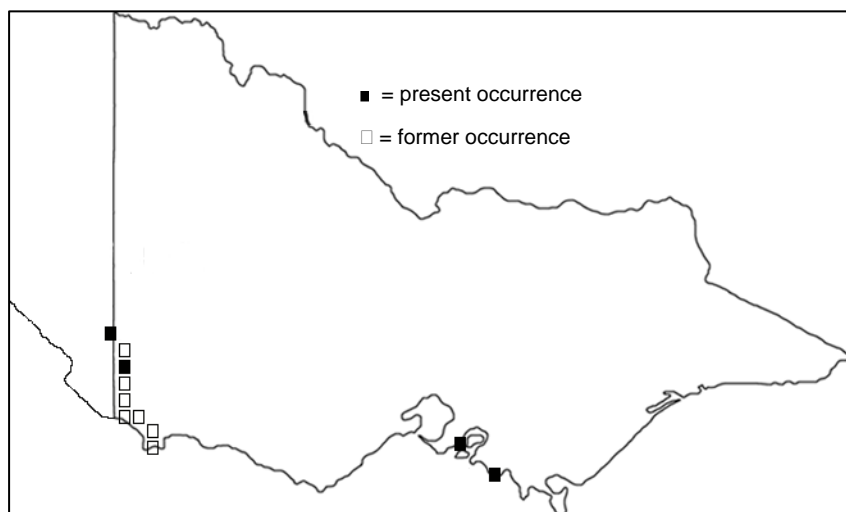
### Biology and Ecology

Very little is known of the biology and ecology of the Dense Leek-orchid. The single leaf emerges in late autumn, following the onset of seasonal rains. Flowering commences in early October and is usually completed by early November. About four weeks after flowering finishes, the leaf has shrivelled, and if pollination has occurred, the seed capsule is ripening. The species survives the dry summer and early autumn as a dormant tuber that is replaced annually.

The pollinator of *P. spicatum* flowers is unknown, but many *Prasophyllum* species are visited by a range of insects such as bees, wasps, beetles and ants, that are attracted to the flowers by strong perfumes and/or rewards of nectar (Backhouse & Jeanes 1995), so the species may not have a specific insect pollinator. A few *Prasophyllum* species appear to be primarily self-pollinating (Backhouse & Jeanes 1995). The Dense Leek-orchid usually flowers well in the absence of fire, but at some dense heathy woodland sites, occasional hot summer fires promote flowering of dormant plants, and are probably necessary to prevent the understorey becoming too thick, which can inhibit orchid flowering.

### Distribution

The Dense Leek-orchid is endemic to south-eastern Australia, where it is distributed from the South Gippsland region of Victoria to the far south-east of South Australia, in the Naracoorte Coastal Plain and South East Coastal Plain IBRA bioregions (*sensu* DEH 2000) (Figure 1). The current range extends from Wonthaggi in southern Victoria to near Penola in South Australia, although there is apparently a wide disjunction between south Gippsland and south-west Victorian populations. The species appears to be absent from the Otway coast. Maps showing the distribution of *P. spicatum* are available from the Department of Sustainability and Environment (for Victoria), and the Department for Environment and Heritage (for South Australia).



**Figure 1.** Distribution of *Prasophyllum spicatum*

## Population Information

The Dense Leek-orchid is currently known from only eight populations containing about 80 plants (Table 1). However, as flowering at some dense heathland sites is enhanced by hot summer fires, in the absence of fire or mowing to stimulate flowering, it is difficult to accurately estimate the population size. Therefore, recorded population sizes may be an underestimate of the actual number of plants at some sites. All populations are considered important to survival of the species.

**Table 1.** Population information for *Prasophyllum spicatum*

Location	Pop. size	Extent	Land Mgr	Comments
<i>South Australia</i>				
Comaum	~10 plants	<2 ha	?	land tenure not determined (recorded in 1989)
<i>Victoria</i>				
Wonthaggi Heathlands Nature Conservation Reserve	~20 plants (2008)	10 ha	Parks Victoria	only reserved population; few small scattered sub-populations
Stony Point rail reserve	~20 plants (2008)	<2 ha	V-Line	
Lindsay South (private property)	~20 plants (2006)	10 ha	Private	few small, scattered sub-populations
Cape Paterson (private property)	~5 plants (2005)	<1 ha	private	few plants on house blocks that retain native vegetation
Wonthaggi (private property)	2 plants (2005)	<1 ha	private	land being subdivided for housing
Crib Point (1)	2 plants (2005)	<1 ha	Dept. Treasury & Finance	unreserved crown land
Crib Point (2)	2 plants (2006)	<1 ha	Bittern Bushland Group	reserved crown land

## Habitat

The Dense Leek-orchid occurs in coastal and near-coastal heathland and heathy woodland commonly containing Manna Gum *Eucalyptus viminalis* subsp. *pryoriana*, Narrow-leaved Peppermint *Eucalyptus radiata*, Brown Stringybark *Eucalyptus baxteri*, Heath Tea-tree *Leptospermum myrsinoides*, Scrub Sheoak *Allocasuarina paludosa*, Spreading Guinea-flower *Hibbertia procumbens*, Hairy Bursaria *Bursaria spinosa*, Common Rice-flower *Pimelea humilis*, Milkmaids *Burchardia umbellata*, Common Fringe-lily *Thysanotus tuberosus*, Blue Stars *Chamaescilla corymbosa*, Common Flat-pea *Platylobium obtusangulum*, Grass Trigger-plant *Stylidium graminifolium* and Austral Bracken *Pteridium esculentum*, as well as grasses (*Austrodanthonia* sp., *Stipa* sp. and *Poa* sp.) and sedges

(*Lepidosperma* sp.). Soils are generally sandy, with some sites seasonally waterlogged. Little is known of specific habitat requirements, and some sites have been disturbed by periodic fire or mowing. A proposed action in this Recovery Plan is to more precisely determine habitat that is critical to survival of the Dense Leek-orchid.

## Decline and Threats

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The Dense Leek-orchid has suffered a substantial reduction in abundance, especially in south-western Victoria. There are records from the Lower Glenelg River, Blacknose Point (Portland), Cashmore, Dartmoor, Gorae West, Kentbruck, and southwest of Dergholm, although the species is now extinct at all of these sites. Records previously attributed to *P. spicatum* from Anglesea, Lara and East Gippsland are now considered to be three separate, un-named taxa related to *Prasophyllum odoratum* (Rouse 2002). The Dense Leek-orchid has not been seen at the Crib Point (1) site for the last seven years, and may be extinct there. It has also not been reported at the Comaum site for more than 10 years, although suitable habitat still occurs at the site. This species has been reported to require disturbance (e.g. burning or mowing) to stimulate flowering (Jones 1991; Rouse 2002), and plants may possibly reappear following a suitable burn at this site.

Habitat destruction and disturbance, principally for agricultural and more recently urban development, have been the cause of the decline of the Dense Leek-orchid. Its heathland and heathy woodland habitat has especially been substantially cleared in south Gippsland and south-western Victoria. Remaining patches are generally small and isolated. The Wonthaggi Heathlands site is the only reserved population. Given the extensive habitat destruction and disturbance that has occurred across the range of *P. spicatum*, and that remaining populations are small and isolated, it is likely that the conditions for maintenance of the pollinator and fungal activity have been adversely affected at most sites. The small size and highly fragmented distribution of remaining populations renders them at a very high risk of extinction due to stochastic events.

Remaining populations of *P. spicatum* are at risk from a variety of threats, including:

### Disturbance/destruction

Soil disturbance caused by vehicle and machinery movement is a threat at some sites where plants grow close to roads and tracks. There is also the potential for accidental trampling by people. The Crib Point, Stony Point and Wonthaggi Heathlands sites are all close to or surrounded by urban areas, and there continues to be substantial disturbance to all sites. They are all utilised for recreational activities and plants and habitat are at risk from damage by walkers, horse riders, bicycles and motorbikes. Rubbish dumping, including of old cars, is an ongoing problem. There is a potential for track maintenance activities (particularly slashing at inappropriate times) to accidentally damage trackside plants at the Wonthaggi Heathlands NCR site. There is the potential for spray drift resulting from weed control activities in the adjacent pine plantations to impact on the *P. spicatum* population at the Lindsay South site.

### Weed invasion

A variety of weed species including Large Quaking Grass *Briza maxima*, Silver Grass *Vulpia bromoides*, Watsonia *Watsonia meriana* var. *bulbillifera*, Bridal Creeper *Asparagaus asparagoides*, Blackberries *Rubus fruticosus*, Radiata Pine *Pinus radiata*, Maritime Pine *Pinus pinaster* and Coast Wattle *Acacia longifolia* subsp. *sophorae* are a serious problem at one or more sites. Radiata Pine is invading the Lindsay South site from nearby plantations. The South African weed orchid *Disa bracteata* has infested the tracksides surrounding the Lindsay South site, and was found on private property at Wonthaggi in 2004. Horses, motorbikes and 4WD vehicles have the potential to introduce new weeds to populations.

### Grazing/predation

Grazing by native herbivores such as kangaroos and/or introduced herbivores such as rabbits, hares and sheep is an existing or potential threat at most sites. Flowers and seed capsules are frequently removed, possibly by invertebrate grazers such as caterpillars or grasshoppers.

### Altered fire regimes

Periodic fire (outside the growing/flowering/seed production time) is probably beneficial to some *P. spicatum* populations by reducing the amount of competing vegetation biomass, and promoting growth and flowering. There is anecdotal evidence that this species responds positively to frequent (3–4 year cycle) biomass reduction. In the absence of periodic fire (or mowing), regrowth of the heathy understorey can completely smother populations and inhibit growth and flowering.

## Recovery Information

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### Existing Conservation Measures

A number of initiatives are already in place to conserve the Dense Leek-orchid, including:

- Ecological burning at the Wonthaggi Heathlands site to reduce competition and promote flowering of *P. spicatum* and other threatened orchids that occur there.
- Some of the *P. spicatum* plants at the Wonthaggi Heathlands NCR site occur along tracks that are regularly slashed. Slashing is timed so as not to adversely affect their flowering/seed set.
- The invasive *Pinus pinaster* was established at the Wonthaggi Heathlands site, but is now well under control and has almost been eliminated from the reserve.
- Caging of some plants at the Wonthaggi Heathlands site to collect seed and protect developing seed pods from grazing.
- Ongoing liaison with the landholder/land manager(s) at the Crib Point (1 & 2), Stony Point and Lindsay South sites to cooperatively manage each site.
- Timing of mowing of the Crib Point (1) site for fire protection to avoid the growing/flowering/seeding period of *P. spicatum* (June and December).
- DSE is liaising with the Department of Treasury and Finance about the possible transfer of the Crib Point (1) site to DSE management.
- Fencing of the Crib Point site to reduce the risk of site disturbance and soil compaction caused by regular vehicle movement, accidental trampling of plants, and rubbish dumping, on the site.
- Involvement of local residents and members of the Australasian Native Orchid Society (Victorian group) in protection and management of the Crib Point and Stony Point sites, including monitoring and weed control.

### Recovery Objectives

The Overall Objective of recovery is to minimise the probability of extinction of the Dense Leek-orchid in the wild and to increase the probability of populations becoming self-sustaining in the long term. Within the duration of this Recovery Plan (five years), the Specific Objectives for the recovery of the Dense Leek-orchid are to:

1. Determine distribution, abundance and population structure
2. Determine habitat requirements
3. Ensure that all populations and their habitat are protected and managed
4. Manage threats to populations
5. Identify key biological functions
6. Determine life history and viability of populations
7. Establish an *ex situ* collection
8. Build community support for its conservation

### Implementation and Evaluation

This Recovery Plan guides recovery actions for the Dense Leek-orchid and will be implemented and managed by the Department of Sustainability and Environment (for Victoria) and the Department for Environment and Heritage (for South Australia), supported by other agencies, educational institutions, regional natural resource management authorities and community groups as appropriate. Technical, scientific, habitat management or education components of the Recovery Plan will be referred to specialist groups on research, *in situ* management, community education and cultivation as required. Contact will be maintained between the State agencies on recovery issues concerning conservation of the Dense Leek-orchid. The Recovery Plan will run for five years from the date of its adoption under the EPBC Act, and will be reviewed and revised within five years of the date of its adoption.

## Recovery Actions and Performance Criteria

Action	Description	Performance Criteria
<b>Specific Objective 1: Determine distribution, abundance and population structure</b>		
1.1	Undertake surveys to determine the area and extent of populations, the number, size and structure of populations, and inference or estimation of population change. <b>Responsibility: DSE, PV, DEH</b>	<ul style="list-style-type: none"> <li>All current population sites searched during flowering season.</li> <li>All sites mapped for population size, condition and habitat.</li> </ul>
1.2	Clarify taxonomy of inland and coastal populations, including genetic research to determine genetic diversity of species and populations. <b>Responsibility: DSE, RBG</b>	<ul style="list-style-type: none"> <li>Taxonomic status of all populations determined.</li> </ul>
<b>Specific Objective 2: Determine habitat requirements</b>		
2.1	Survey known habitat and collect floristic and environmental information relevant to community ecology and condition. <b>Responsibility: DSE, PV, DEH</b>	<ul style="list-style-type: none"> <li>Species/habitat specific survey design prepared.</li> <li>Habitat critical to survival mapped for any extant populations.</li> </ul>
2.2	Identify and survey potential habitat, using ecological and bioclimatic information that may indicate habitat preference. <b>Responsibility: DSE, DEH</b>	<ul style="list-style-type: none"> <li>Potential habitat surveyed at five sites.</li> <li>Predictive model for potential habitat developed &amp; tested at five sites.</li> </ul>
<b>Specific Objective 3: Ensure that all populations and their habitat are protected and managed</b>		
3.1	Protect unreserved populations on public land. <b>Responsibility: DSE</b>	<ul style="list-style-type: none"> <li>Public Authority Management Agreements (or equivalent) under the <i>FFG Act 1988</i> initiated for the Crib Point and Stony Point sites.</li> <li>Actions to protect species incorporated in relevant management plans.</li> </ul>
3.2	Protect populations on private land. <b>Responsibility: DSE,</b>	<ul style="list-style-type: none"> <li>Voluntary agreements in place to protect plants on private land at Lindsay South.</li> </ul>
<b>Specific Objective 4: Manage threats to populations</b>		
4.1	Control threats from pest plants. <b>Responsibility: DSE, PV, DEH</b>	<ul style="list-style-type: none"> <li>Reduction in cover of weeds at and near all sites.</li> </ul>
4.2	Control grazing threats from pest animals. <b>Responsibility: DSE, PV, DEH</b>	<ul style="list-style-type: none"> <li>Reduction in damage by grazing at and near all sites.</li> </ul>
4.3	Control the threat of direct damage by human activities. <b>Responsibility: DSE, PV, DEH</b>	<ul style="list-style-type: none"> <li>Impact of vehicle movement, visitor activity and other disturbance monitored.</li> <li>Protection/restoration works implemented to prevent and repair damage, especially at the Wonthaggi site.</li> </ul>
4.4	Manage microhabitat for seedling recruitment, collect seed and restock populations with seed. <b>Responsibility: DSE, PV, DEH</b>	<ul style="list-style-type: none"> <li>Measurable increase in recruitment at three treated sites.</li> </ul>
<b>Specific Objective 5: Identify key biological characteristics</b>		
5.1	Evaluate current reproductive status, seed bank status, longevity, fecundity and recruitment levels. <b>Responsibility: DSE, DEH</b>	<ul style="list-style-type: none"> <li>Reproductive ecology and regenerative potential quantified for four representative sites.</li> <li>Seed bank potential quantified for five representative sites.</li> </ul>
5.2	Identify key stimuli for seed germination requirements. <b>Responsibility: DSE, DEH</b>	<ul style="list-style-type: none"> <li>Stimuli for recruitment identified.</li> </ul>
5.3	Identify optimal fire/disturbance regimes to maintain habitat. <b>Responsibility: DSE, DEH</b>	<ul style="list-style-type: none"> <li>Management prescriptions prepared and implemented for ecological burning (or management grazing or mowing) at five sites to reduce plant biomass accumulation.</li> </ul>



<b>Specific Objective 6: Determine life history, demography and viability of populations</b>		
<b>6.1</b>	Measure population trends and responses against recovery actions by collecting demographic information including recruitment and mortality, timing of life history stages and morphological data. <b>Responsibility: DSE, PV, DEH</b>	<ul style="list-style-type: none"> <li>• Techniques for monitoring developed and implemented.</li> <li>• Population growth rates determined and Population Viability Analysis completed for all populations.</li> </ul>
<b>Specific Objective 7: Establish an <i>ex situ</i> collection</b>		
<b>7.1</b>	Develop techniques for <i>ex situ</i> cultivation and maintenance of <i>Prasophyllum</i> species and establish plants in cultivation to provide a research population and to guard against loss of plants from the wild. <b>Responsibility: RBG, NOGN, DSE</b>	<ul style="list-style-type: none"> <li>• Effective propagation and cultivation techniques developed.</li> <li>• Mycorrhizal fungus isolated and in culture.</li> <li>• At least 200 healthy, genetically diverse, mature plants in cultivation.</li> </ul>
<b>7.2</b>	Establish a seed bank and determine seed viability. <b>Responsibility: RBG</b>	<ul style="list-style-type: none"> <li>• Seed from all extant populations in storage.</li> </ul>
<b>Specific Objective 8: Build community support for conservation</b>		
<b>8.1</b>	Identify opportunities for community involvement in the conservation of the Dense Leek-orchid and implement them. <b>Responsibility: DSE, PV, DEH</b>	Community nature conservation and Landcare groups aware of the species and support its conservation.

**Abbreviations:** DEH – Department for Environment and Heritage (SA); DSE – Department of Sustainability and Environment (Victoria); NOGN – Native Orchid Growers Network; PV – Parks Victoria; RBG – Royal Botanic Gardens, Melbourne

## Management Practices

The philosophy of the strategy for recovery is habitat conservation, restoration and management combined with an understanding of the ecological and biological requirements of *P. spicatum* necessary for specific population management. The emphasis is on using knowledge to better implement *in situ* management techniques that protect populations and promote regeneration and recruitment. To achieve this, recovery actions are structured to acquire baseline data, assess habitat condition, including ecological and biological function, and maintain or improve population growth through protection and management. On-ground site management will aim to mitigate threatening processes and thereby insure against extinction. Major threats requiring management include accidental destruction, competition from pest plants, inappropriate fire regimes and grazing by pest animals. A range of strategies will be necessary to mitigate these threats including weed control, caging / fencing, control of pest animals, and fire management.

Broadscale protection measures applicable to all populations include legal protection of sites, habitat retention and liaison with land managers and private landholders. In addition, searches of known and potential habitat should continue to better define the distributions and size of populations. The recovery plan also advocates strategies to fill some of the major gaps in our knowledge to date. These include an understanding of seed bank dynamics and recruitment. Successful *in situ* population management will be founded on understanding the obligate relationships between *P. spicatum* and associated flora, as well as its response to environmental processes. These are directly linked to seed production, recruitment and regeneration and are thus vital to recovery. Demographic censusing will be necessary to gather life history information and to monitor the success of particular management actions. In addition to the above, *ex situ* conservation measures will be required and will include seed storage and plant cultivation (following the development of successful cultivation methodology for *Prasophyllum*). Cultivating *ex situ* collections will also aim to increase the amount of seed available for reintroduction to sites. Community participation in recovery actions will be sought, particularly in regard to recovery team membership and implementation of on-ground works.

## Affected Interests

The Dense Leek-orchid occurs in a nature conservation reserve, crown land, and private property. Consequently, their management is variously the responsibility of the Department of Sustainability and Environment (Vic), Parks Victoria, Department of Treasury and Finance (Vic) and the Department for Environment and Heritage (SA), and the private landholder. The recovery plan has the support of government agencies, statutory authorities and community groups involved in orchid conservation in Victoria and South Australia, who will assist in the management and monitoring of this species.

## Role and Interests of Indigenous People

Indigenous communities on whose traditional lands the Dense Leek-orchid occurs are being advised, through the relevant regional Indigenous facilitator, of the preparation of this Recovery Plan and will be invited to provide comments and be involved in the implementation of the plan.

## Biodiversity Benefits

The recovery plan includes a number of potential biodiversity benefits for other species and vegetation communities in Victoria and South Australia. Principally, this will be through the protection and management of habitat. The adoption of broad-scale management techniques and collection of baseline data could also benefit a number of other plant species growing in association with *P. spicatum*, particularly those species with similar life forms and/or flowering responses. The recovery plan will also provide an important public education role as orchids have the potential to act as 'flagship species' for highlighting broader nature conservation and biodiversity issues such as land clearing, grazing, weed invasion and habitat degradation. Germination and cultivation techniques developed during the recovery phase will be of use for other threatened orchids elsewhere in southeast Australia while the requirement to recover species across state boundaries will better develop working relationships between state departments on a broader range of biodiversity conservation issues. *Prasophyllum spicatum* grows with *Caladenia fragrantissima* subsp. *orientalis* and *Caladenia tessellata* at the Wonthaggi Heathlands NCR site, both of which are the subject of current national Recovery Plans (Todd 2000; Duncan *in prep.*).

## Social and Economic Impacts

The implementation of this recovery plan is unlikely to cause significant adverse social and economic impacts. Most populations occur on public land, either crown land reserved for various public purposes, or on road reserves, managed by a variety of local and State government agencies. Any protection measures required at these sites (eg. fencing, signage, track closures) will have negligible impact on current recreational and commercial activities. Protection of these populations has been negotiated with the relevant land manager. Protection of populations on private land will be achieved through voluntary agreements with landowners.

## Acknowledgments

The following people are thanked for providing information, critical comment or assistance with field work during the preparation of this recovery plan: Terri Allen (Naturalist, Wonthaggi), Bob Bates (State Herbarium, Adelaide), Doug Bickerton (DEH Adelaide), Jeff Blackman (Naturalist, Portland), Sandy Brown (PV, Wonthaggi), Fiona Coates (DSE, Heidelberg), Andrew Dilley (ANOS, Victoria), Geoff Glare (Naturalist, Cape Paterson), Merrill Halley (DSE, Box Hill), Jeff Jeanes (NHV, Melbourne), Karen Lester (DSE, Box Hill), David Jones (CPBR, Canberra), Lorraine Marshall (DSE, Melbourne), Adrian Moorrees (DSE, Melbourne), Anna Murphy (DEH (SA), Mt. Gambier), Andrew Pritchard (DSE, Warrnambool), Dean Rouse (ANU, Canberra).

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## Priority, Feasibility and Estimated Costs of Recovery Actions

Action	Description	Priority	Feasibility	Responsibility	Cost estimate					
					Year 1	Year 2	Year 3	Year 4	Year 5	Total
<b>1</b>	<b>Distribution, abundance</b>									
1.1	Surveys	1	90%	DSE, PV, DEH	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
1.2	Taxonomy	2	100%	DSE, RBG	\$5,000	\$3,000	\$0	\$0	\$0	\$8,000
<b>2</b>	<b>Habitat requirements</b>									
2.1	Known habitat	1	100%	DSE, PV, DEH	\$15,000	\$15,000	\$0	\$0	\$0	\$30,000
2.2	Potential habitat	2	90%	DSE, PV, DEH	\$0	\$0	\$15,000	\$15,000	\$0	\$30,000
<b>3</b>	<b>Habitat protection</b>									
3.1	Public land	1	100%	DSE, PV, DEH	\$5,000	\$5,000	\$0	\$0	\$0	\$10,000
3.2	Private land	1	75%	DSE, PV, DEH	\$5,000	\$5,000	\$0	\$0	\$0	\$10,000
<b>4</b>	<b>Threat management</b>									
4.1	Pest plants	1	75%	DSE, PV, DEH	\$17,000	\$17,000	\$12,000	\$12,000	\$12,000	\$70,000
4.2	Pest animals	1	75%	DSE, PV, DEH	\$13,000	\$13,000	\$11,000	\$8,000	\$8,000	\$53,000
4.3	Human damage	1	75%	DSE, PV, DEH	\$15,000	\$10,000	\$10,000	\$5,000	\$5,000	\$45,000
4.4	Seedling recruitment	2	75%	DSE, PV, DEH	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
<b>5</b>	<b>Biological characteristics</b>									
5.1	Reproductive status	2	100%	DSE, PV, DEH	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
5.2	Seed germination	2	75%	DSE, PV, DEH	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
5.3	Disturbance regimes	1	50%	DSE, PV, DEH	\$5,000	\$15,000	\$15,000	\$10,000	\$10,000	\$55,000
<b>6</b>	<b>Population viability</b>									
6.1	Censusing	1	90%	DSE, PV, DEH	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
<b>7</b>	<b>Ex situ Cultivation</b>									
7.1	Cultivated plants	2	50%	DSE, PV, DEH	\$10,000	\$10,000	\$5,000	\$5,000	\$5,000	\$35,000
7.2	Seed bank	2	90%	DSE, PV, DEH	\$5,000	\$5,000	\$5,000	\$2,000	\$2,000	\$19,000
<b>8</b>	<b>Community support</b>									
8.1	Community extension	3	75%	DSE, PV, DEH	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
<b>TOTALS</b>					<b>\$135,000</b>	<b>\$138,000</b>	<b>\$113,000</b>	<b>\$97,000</b>	<b>\$82,000</b>	<b>\$565,000</b>