

# Action Statement

Flora and Fauna Guarantee Act 1988

No. 147

## Fragrant Leek-orchid

*Prasophyllum* sp. aff. *suaveolens* (Western Basalt Plains)

### Distribution

The Fragrant Leek-orchid [*Prasophyllum suaveolens* D.L. Jones & R.J. Bates and *Prasophyllum* sp. aff. *suaveolens* (Western Basalt Plains)] is endemic to Victoria, occurring in the Victorian Volcanic Plain Bioregion (Derrinallum, Wingeel, Ballarat, Streatham areas). It was formerly recorded but now extinct west and southwest of Melbourne at Werribee, St Albans, Albion, Laverton, Lara, Tottenham and Merri Merri Creek, and from near Creswick. Fewer than 300 plants are known in the wild, in five populations. Its former abundance not known but assumed to be many thousands across its natural range. The Fragrant Leek-orchid is not reserved, occurring on sites managed by Shire of Moynes, Golden Plains Shire, Shire of Corangamite, Rural City of Ararat and the Australian Rail Track Corporation.

### Habitat

The Fragrant Leek-orchid occurs in open species rich native grassland dominated by *Themeda triandra* with perennial herbs and lilies on poorly drained red-brown soil derived from basalt. Critical habitat has not been determined but fire or other disturbance such as slashing is highly likely to promote flowering.

### Conservation status

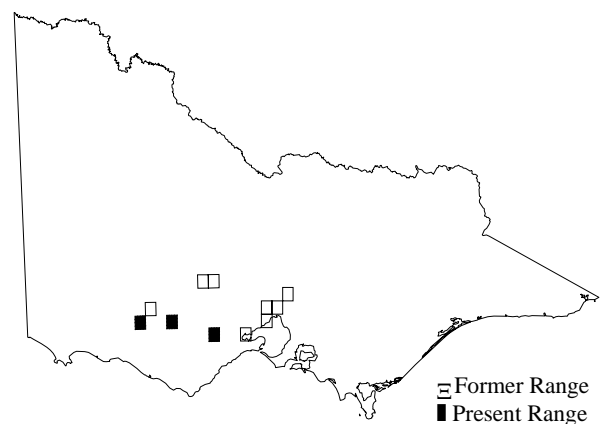
#### National conservation status

The Fragrant Leek-orchid has been listed as endangered under the Commonwealth **Environment Protection and Biodiversity Conservation Act 1999**.

An assessment using the IUCN Criteria has not been undertaken.



**Fragrant Leek-orchid** *Prasophyllum suaveolens*  
(Photo: John Eichler)



Distribution in Victoria (DSE 2004)

### Victorian conservation status

Fragrant Leek-orchid has been listed as threatened under the **Flora and Fauna Guarantee Act 1988**.

Fragrant Leek-orchid is considered endangered in Victoria (DSE 2003).

### Decline and threats

#### Current threats and estimated risk

##### Weed invasion

High - in particular *Phalaris aquatica*, *Romulea rosea*; and *Cuscuta dubia* invasion will occur without regular burning and/or spraying; will be exacerbated by soil disturbance.

##### Grazing

Low - Sites are not grazed at present and rabbits are scarce.

##### Inappropriate fire regimes

Low at present - sites require fire and are burnt annually.

##### Site disturbance

Extremely high - all sites are on roadsides or rail reserves adjacent to paddocks on private property and are subject to accidental damage from heavy machinery.

#### Potential threats and estimated risk

##### Illegal collection

Low - no evidence of collection in the past.

##### Ecology/biology

Moderate - conditions for maintenance of pollinator and fungal activity unknown; small population sizes.

#### Other issues

- Taxonomic clarification is urgently required for the *P. suaveolens* complex, which currently includes a number of populations in the Victorian Volcanic Plains Bioregion currently included under *P. suaveolens* but likely to consist of two morphologically distinct entities which are broadly sympatric on the Western Basalt Plains. Both are included in the recovery plan. Other closely related taxa occur elsewhere in central and western Victoria (D. Rouse, Centre for Plant Biodiversity Research, pers. comm.).
- *P. suaveolens* and *P. sp. aff. suaveolens* populations are vulnerable to damage from heavy machinery. Public Authority Management Agreements (PAMAs) under the Victorian Flora and Fauna Guarantee Act 1988 (FFG) are urgently required for all roadside and rail reserve sites.

- The Western (Basalt) Plains Grassland habitat where *P. sp. aff. suaveolens* and *P. suaveolens* occur is highly significant and listed as threatened under the Victorian **Flora and Fauna Guarantee Act 1988**. Some sites are also National Estate listed. It is vital to continue the current fire regime of annual burning in order to preserve species diversity in vegetation where they occur, to maintain openness and suppress invasive exotic species such as *Phalaris aquatica*, *Romulea rosea* and *Cuscuta dubia*.
- La Trobe University have conducted applied research in site management since the 1980s at Derrinallum and Vite Vite and their continuing involvement should be encouraged. The contributions of local field naturalists should also be encouraged and supported in regard to site management at Yalla Y Poora.
- Yalla Y Poora land tenure is in need of resolution.

#### Existing conservation measures

- Grassland vegetation communities at Derrinallum and Vite Vite sites have been monitored since the late 1980s (School of Botany, La Trobe University).
- Fire ecology has been researched and is well understood for Western Basalt Plains Grassland (School of Botany, La Trobe University)
- Public Authority Management Agreements (PAMAs) are currently being negotiated with the Shire of Moyne and Golden Plains Shire which will include the sites near Woorndoo (DSE) and Wingeel.
- Ecological burns planned for Yalla Y Poora and volunteers will carry out weed control.
- Three sites are burnt annually (Derrinallum, Woorndoo, Wingeel).
- Ecological burning and weed control to recover *P. suaveolens* and *P. sp. aff. suaveolens* (see below) habitat have been carried out at Dowling Forest Cemetery.
- Plants have been monitored at Dowling Forest Cemetery and life histories determined.
- Management strategies have been negotiated at Dowling Forest Cemetery.
- All known populations were visited during recovery plan preparation.

#### Conservation objectives

##### Long term objective

To ensure that the Fragrant Leek-orchid can survive, flourish and retain its potential for evolutionary development in the wild.

### Objectives of this Action Statement

1. Improve knowledge of population sizes, trends and habitat requirements.
2. Protect sites and manage habitat.
3. Maintain and/or increase existing population sizes

### Overall approach

Broadscale risk management will include negotiated PAMAs with Local Government and rail reserve managers to undertake annual burning, weed management and protection of sites from damage caused by heavy machinery. Searches will be conducted at similar sites in the region in the spring following annual fuel reduction burning. Populations will be mapped and annual censusing carried out to determine their response to current management. Recovery will be jointly managed by NRE with involvement from La Trobe University School of Botany and local field naturalists.

### Intended management actions

The intended management actions listed below are further elaborated in DSE's Actions for Biodiversity Conservation database. Detailed information about the actions and locations, including priorities, is held in this system and will be provided annually to land managers and other authorities.

1. Determine current conservation status, including clarifying taxonomy and acquiring baseline population data.

*Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region), Centre for Plant Biodiversity Research*

2. Measure population trends and responses against recovery actions. Conduct annual censusing of populations, collate, analyse and report on census data and re-prioritise and adjust recovery actions and/or threat management

*Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region)*

3. Determine habitat requirements of key populations. Conduct surveys, identify ecological correlates of populations and prepare habitat descriptions.

*Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region)*

4. Provide information and advice, including maps, regarding the location and management of Fragrant Leek-orchid sites to landholders, land managers and other authorities, especially Catchment Management Authorities and local government authorities.

*Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region)*

5. Incorporate actions to protect, enhance and restore Fragrant Leek-orchid habitat into the Corangamite and Glenelg Hopkins Regional Catchment Strategies or their subordinate strategies via Biodiversity Action Plans. Implement these actions, according to priority, as resources become available, in conjunction with other agencies, community groups and landholders.

*Responsibility: Corangamite and Glenelg Hopkins Catchment Management Authorities*

6. Incorporate information regarding the location and management of Fragrant Leek-orchid sites into local planning schemes, including environmental significance overlays, and apply the Victorian Planning Provisions so as to protect these sites.

*Responsibility: Shire of Moyne, Golden Plains Shire, Shire of Corangamite, Rural City of Ararat*

7. Manage risks to populations. Identify and implement strategies to control threats and identify disturbance regimes to promote regeneration and recruitment for key populations and their habitat.

*Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region), land managers, landholders*

8. Undertake or encourage and support research, including the description of life history and evaluation of natural pollination levels and causes of pollinator limitation.

*Responsibility: DSE (Biodiversity & Natural Resources Division)*

9. Increase populations ex-situ. For the Vite Vite and Dowling Forest Cemetery sites only, hand pollinate plants, collect and store seed and determine seed viability. Collect and store mycorrhizal fungi. Establish and maintain cultivated populations and record such collections in a database of threatened orchid taxa in cultivation.

*Responsibility: DSE (Biodiversity & Natural Resources Division), Royal Botanic Gardens*

10. Develop and implement materials for land manager, landholder and community information, including technical information on *in-situ* recovery techniques.

*Responsibility: DSE (Biodiversity & Natural Resources Division)*

11. Involve community groups in recovery actions where appropriate and provide support under the Botanic Guardians scheme.

*Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region)*

#### **References**

- DSE (2003) *Advisory List of Rare or Threatened Plants in Victoria - 2003*. Department of Sustainability and Environment: East Melbourne. (available on the DSE web site)
- DSE (2004) *Flora Information System* (electronic flora database). Department of Sustainability and Environment: Melbourne.

Compiled by Dr Fiona Coates,, Arthur Rylah Institute, Department of Sustainability and Environment.

Further information can be obtained from Department of Sustainability and Environment Customer Service Centre on 136 186.

Flora and Fauna Guarantee Action Statements are available from the Department of Sustainability and Environment website: <http://www.dse.vic.gov.au>

This Action Statement has been prepared under section 19 of the Flora and Fauna Guarantee Act 1988 under delegation from Professor Lyndsay Neilson, Secretary, Department of Sustainability and Environment, September 2003.

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