

Action Statement

Flora and Fauna Guarantee Act 1988

No. 145

Fitzgerald's Leek-orchid *Prasophyllum fitzgeraldii*

Description and distribution

The Fitzgerald's Leek-orchid *Prasophyllum fitzgeraldii* Nicholls occurs in Victoria in the Goldfields Bioregion. It is restricted to east and northeast of the Grampians (Halls Gap, Stawell and Rheola areas), with unconfirmed records from near Portland, Ballarat and Balmoral. Victorian populations of *P. fitzgeraldii* may be an undescribed species. In South Australia, this species is currently understood to be reasonably widespread from the Eyre Peninsula to the Victorian border. Fewer than 250 plants are known in the wild in Victoria, from three key populations. Thousands of plants occur in South Australia. Fitzgerald's Leek-orchid is at the edge of its range in Victoria but likely to have been more common prior to landscape scale disturbance from clearing, gold exploration and mining. Fitzgerald's Leek-orchid is reserved at Deep Lead Nature Conservation Reserve, Three Jacks Flora Reserve and Arnold West Flora and Fauna Reserve in Victoria, and at Padthaway Conservation Park and Gyp Gyp CP in South Australia. All three Victorian populations occur on land managed by Parks Victoria.

Habitat

The Fitzgerald's Leek-orchid occurs in woodland dominated by *Eucalyptus leucoxylon sens. lat.* with an open heathy understorey or in *Eucalyptus baxteri* open forest on well drained sandy loam.

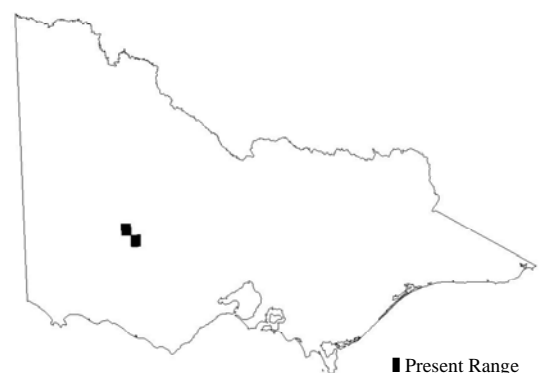
Conservation status

National conservation status

Fitzgerald's Leek-orchid has been not been listed under the Commonwealth **Environment Protection and Biodiversity Conservation Act 1999**.



Fitzgerald's Leek-orchid *Prasophyllum fitzgeraldii*
(Photo: John Eichler)



Distribution in Victoria (DSE 2004)

An assessment undertaken using the IUCN criteria and including all Australian populations has determined Fitzgerald's Leek-orchid to be Vulnerable.

Victorian conservation status

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

Fitzgerald's Leek-orchid is considered endangered in Victoria (DSE 2003).

Decline and threats

Current threats and estimated risk

Weed invasion

Low - weeds are scarce at sites.

Grazing

High - macropods and rabbits are common at all sites.

Inappropriate fire regimes

Low at present - sites are long unburnt and fire risk is low.

Site disturbance

Low at Deep Lead- sites are subject to disturbance by illegal gold prospecting.

Potential threats and estimated risk

Illegal collection

Low - no evidence of collection in the past.

Ecology/biology

Moderate - conditions for seed recruitment and maintenance of pollinator and fungal activity unknown; increased extinction risk due to small population sizes; response to fire unknown.

Other issues

- P. fitzgeraldii populations are vulnerable to damage from trampling in Victoria and site confidentiality is vital. Involvement from non government organisations and individuals will be limited to a small number of individuals with a proven track record in its conservation (ANOS conservation group, Stawell Field Naturalists Club).
- One population at Deep Lead FFR is close to tracks and vulnerable to damage from recreational vehicles.
- Kangaroo numbers at all reserves require assessment particularly in relation to loss of ground flora and soil disturbance. Further searches may prove more fruitful after protective measures have been implemented.
- There is some doubt as to whether Victorian plants are P. fitzgeraldii sens. strict. Or an undescribed species with affinities to P. fitzgeraldii and P. lindleyanum.

- Key populations for recovery actions all occur in Victoria.

Existing conservation measures

- Monitoring at two sites by Stawell Field Naturalists.
- Searches conducted annually by Stawell Field Naturalists, and by Centre for Plant Conservation Biology, Canberra in 2001.
- All Victorian sites were visited during recovery plan preparation.

Conservation objectives

Long term objective

To enable Fitzgerald's Leek-orchid to 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

Known populations will be monitored. Risk management in the short term will include protection of populations from grazing and gold prospecting, and maintenance of site confidentiality. Populations will be managed to promote seedling recruitment, using fine-scale habitat management techniques and re-stocked using seed from cultivated plants. Recovery will be jointly managed by DSE and PV. Involvement from ANOS conservation group and Stawell Field Naturalists will continue.

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: Parks Victoria, 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: Parks Victoria, 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: Parks Victoria, DSE (Biodiversity & Natural Resources Division, SW Region)

4. Incorporate actions to protect, enhance and restore Fitzgerald's Leek-orchid habitat into relevant 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: Wimmera and North Central Catchment Management Authorities

5. 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 on public and private land.

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

6. Promote in-situ recruitment by preparing habitat for seedling recruitment and restocking populations with seed.

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

7. Undertake or encourage and support research, including the following:
 - Describe life history
 - Evaluate natural pollination levels and causes of pollinator limitation
 - Determine the effects of artificial pollination on growth survival and reproduction
 - Determine spatial distribution of mycorrhizal fungi
 - Determine optimal conditions for growth of mycorrhizal fungi in-situ

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

8. Increase populations ex-situ. Using the Three Jacks population 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

9. 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)

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

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

References

- Coates, F., Jeanes, J. & Pritchard, A. (2002) Recovery Plan for Twenty-five Threatened Orchids of Victoria, South Australia and New South Wales 2003 - 2007. Department of Natural Resources and Environment, Melbourne.
- 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.

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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 was prepared under section 19 of the Flora and Fauna Guarantee Act 1988 under delegation from Chloe Munro, Secretary, Department of Natural Resources and Environment, November 2002.

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