Department of Sustainability and Environment

Action Statement

Flora and Fauna Guarantee Act 1988 No. 135

Winter Sun-orchid

Thelymitra hiemalis

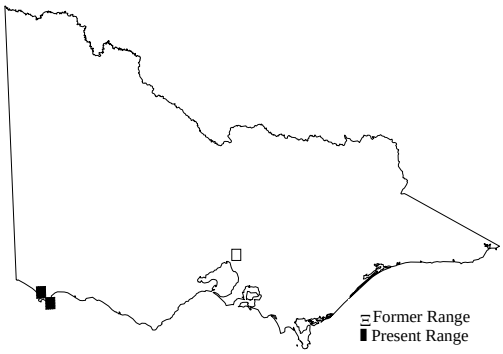
Distribution

The Winter Sun-orchid *Thelymitra hiemalis* D.L. Jones & M.A. Clem. is endemic to Victoria, occurring in the Glenelg Plain Bioregion (Portland - Nelson area). It possibly also occurs in South Australia but no populations have been recorded to date. One record exists from Blackburn, east of Melbourne. Fewer than 10 plants are known in the wild, in five populations. The Winter Sun-orchid is reserved at Mt Richmond National Park and Lower Glenelg National Park. These sites are managed by Parks Victoria (West Victoria Region, Portland, Nelson). It also occurs on private property in this area.

Winter Sun-orchid *Thelymitra hiemalis*
(Photo: Jeff Jeanes)

Habitat

The Winter Sun-orchid occurs in *Eucalyptus baxteri* or *Eucalyptus willisii* woodland with an understorey typically dominated by heath species such as *Xanthorrhoea australis*, *Leptospermum myrsinoides*, *Leptospermum continentale*, *Acacia oxycedrus*, *Banksia marginata* or *Pteridium esculentum* on well-drained, dark grey loamy sand. Critical habitat has not been determined but fire or other disturbance such as slashing is highly likely to promote flowering in *T. hiemalis*.



Distribution in Victoria (DSE 2004)

Conservation status

National conservation status

The Winter Sun-orchid has not been listed under the Commonwealth **Environment Protection and Biodiversity Conservation Act 1999** .

An assessment under the IUCN Red List criteria (2000) undertaken by Coates *et al.* (2002) determined Winter Sun-orchid to be 'Critically Endangered'.

Victorian conservation status

The Winter Sun-orchid has been listed as threatened under the **Flora and Fauna Guarantee Act 1988**.

The Winter Sun-orchid is considered endangered in Victoria (DSE 2003).

Decline and threats

Current threats and Estimated Risk

Weed invasion

Low – *Pinus* wildings and Coast wattle invasion will occur without management; weeds are absent from other sites.

Grazing

Low in parks at present, although individual plants would benefit from protection; High – private property.

Inappropriate fire regimes

High at present – sites are long unburnt (species is known to flower after fire).

Site disturbance

Moderate – one site is on private property and one other occurs adjacent to a fire break.

Potential threats and Estimated Risk

Illegal collection

Moderate – no evidence of collection in the past; but may be sought by collectors.

Ecology/biology

High - conditions for maintenance of pollinator and fungal activity unknown; increased extinction risk due to small population sizes.

Other issues

- *T. hiemalis* populations are vulnerable to damage from trampling 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 (Australian Native Orchid Society conservation group, Portland Field Naturalists Club).
- Disturbance is likely to be critical to survival. Preparation of ecological burn plans and their implementation at all Parks Victoria sites are urgently needed.
- Regular communication with the owner of the Portland site is essential for recovery.

Existing conservation measures

- Searches within similar vegetation at a range of sites since 1999 (DSE, Portland Field Naturalists Club).
- Monitoring of 3 populations in 2001 (DSE, PV).
- Liaison with PV and landowner.
- Biomass reduction at one site by slashing.
- Fire planning at Lower Glenelg National Park underway.
- All sites were visited during preparation of the recovery plan.
- Conservation objectives

Long term objective

That the Winter Sun-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

Known populations will be monitored and searches will be conducted at similar sites in the region. Risk management in the short term will include reduction of biomass by slashing, protection of individual plants from grazing, and maintenance of site confidentiality. Ecological burn plans for existing and potential vegetation communities where *T. hiemalis* occurs on public land should be prepared and implemented, and post-fire searches conducted. The population will be managed to promote seedling recruitment, using fine-scale habitat management techniques. Populations will be re-stocked using seed from cultivated plants. Recovery will be jointly managed by NRE and PV. Involvement from ANOS conservation group and Portland 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. 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)

2. 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)

3. Provide information and advice, including maps, regarding the location and management of Winter Sun-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)

4. Incorporate actions to protect, enhance and restore Winter Sun-orchid habitat into the Glenelg Hopkins Regional Catchment Strategy or its 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: Glenelg Hopkins Catchment Management Authority

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

Responsibility: local government authorities

6. 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: DSE (Biodiversity & Natural Resources Division, SW Region), land managers, landholders

7. Promote in-situ recruitment by preparing habitat for seedling recruitment and re-stocking populations with seed.

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

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. Using the Mt Richmond and Lower Glenelg populations, 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

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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