

Site 30. Sundew Reserve, Boronia

A small Council park which supports some remnant trees and some native ground flora. Melway ref. 64 K8.

Site Significance Level: *Local*

- There are small, fragmented patches of the endangered Valley Heathy Forest with native ground flora;
- There is a large population of the locally vulnerable Pale Sundew (*Drosera peltata* subsp. *peltata*).



Boundaries

The site is the whole of the reserve, augmented by the nature strip along Sundew Avenue. It measures 4,852 m². The boundary is shown above in red. The white outlines indicate areas with native ground flora.

Land use & tenure: Council park with a playground.

Site description

This park appears to have no official name. It has been known among the municipal park managers as Genista Reserve in recognition of one of the abutting street names, but the name Sundew Reserve is coined here because Sundew St abuts it and because the park is notable for the abundance of Pale Sundews, an uncommon but characteristic species of the reserve's pre-European, endangered vegetation type, Valley Heathy Forest.

The park is almost flat, at an elevation of just under 120 m. It is on the interface between the Lower Devonian sedimentary bedrock of the Humevale formation to the west and a more recent metamorphic stratum to the east. The soil is shallow, poorly draining, light grey loam over clay subsoil.

The areas within the white outlines on the aerial photograph support native ground flora with a surprising number of species, given that the whole reserve has a long history of mowing. Mowing has been relieved from some of these areas to allow regeneration of the ground flora.

A small number of the remnant trees occur in the park, both inside and outside the white outlines on the aerial photograph. There are also some large Monterey Pines.

Relationship to other land

This site is quite ecologically isolated, but the author's observations of native birds including Musk Lorikeets and Little Corellas indicate that such birds visit the park as they move around nearby treed neighbourhoods and the Belgrave Railway Line corridor (100m away).

Bioregion: Gippsland Plain

Habitat types

Valley Heathy Forest (EVC 127, **Endangered**): 1,200 m² with native ground flora plus several additional scattered trees. The 1,200 m² comprises 175m² in fair ecological condition (rating C) and 1,025 m² in poor ecological condition (rating D).

Dominant canopy trees: *Eucalyptus obliqua*, *E. cephalocarpa*.

Dominant lower trees: There are two *Acacia melanoxylon* (mown) and one *Allocasuarina littoralis*.

Shrubs: One each of *Epacris impressa* and *Pultenaea gunnii*.

Vines and Ferns: None found.

Ground flora: Grassy and with abundant herbs. Dominated by *Themeda triandra*, *Microlaena stipoides*, *Poa morrisii* and *Solenogyne dominii*. Species that are abundant but not dominant in foliage cover include *Acrotriche prostrata*, *Rytidosperma racemosum*, *Drosera peltata* subsp. *peltata*, *Gonocarpus tetragynus*, *Hypericum gramineum*, *Lomandra filiformis* (two subspecies) and *Poranthera microphylla*. Typical of Valley Heathy Forest, orchids are represented by *Microtis* and *Thelymitra*.

Plant species

The following plant species were observed by Dr Lorimer on the site in August 2002. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox with 'E'=Endangered and 'V'=Vulnerable. Additional wild indigenous species would no doubt be found in other seasons.

Risk	Indigenous Species	Risk	Indigenous Species
V	<i>Acacia melanoxylon</i>		<i>Lomandra filiformis</i> subsp. <i>filiformis</i>
V	<i>Acaena echinata</i>	V	<i>Luzula meridionalis</i>
V	<i>Acrotriche prostrata</i>		<i>Microlaena stipoides</i>
V	<i>Allocasuarina littoralis</i>		<i>Microtis parviflora</i>
	<i>Austrostipa pubinodis</i>	V	<i>Opercularia ovata</i>
	<i>Carex breviculmis</i>		<i>Oxalis exilis/perennans</i>
E	<i>Centella cordifolia</i>		<i>Poa morrisii</i>
E	<i>Drosera peltata</i> subsp. <i>peltata</i>		<i>Poranthera microphylla</i>
V	<i>Epacris impressa</i>	V	<i>Pultenaea gunnii</i>
	<i>Eragrostis brownii</i>		<i>Rytidosperma ?penicillatum</i>
V	<i>Eucalyptus cephalocarpa</i>		<i>Rytidosperma racemosum</i>
V	<i>Eucalyptus obliqua</i>		<i>Schoenus apogon</i>
V	<i>Euchiton collinus</i>	V	<i>Solenogyne dominii</i>
	<i>Gonocarpus tetragynus</i>	V	<i>Thelymitra ?peniculata</i>
E	<i>Hypericum gramineum</i>		<i>Themeda triandra</i>
	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>		
Introduced Species			
	<i>Anthoxanthum odoratum</i>		<i>Erica lusitanica</i>
	<i>Arctotheca calendula</i>		<i>Genista monspessulana</i>
	<i>Centaureum erythraea</i>		<i>Hypochoeris radicata</i>
	<i>Coprosma repens</i>		<i>Linum trigynum</i>
	<i>Cotoneaster pannosus</i>		<i>Paspalum dilatatum</i>
	<i>Crepis capillaris</i>		<i>Pennisetum clandestinum</i>
	<i>Ehrharta erecta</i>		<i>Pinus radiata</i>
	<i>Ehrharta longiflora</i>		<i>Pittosporum undulatum</i>
			<i>Plantago coronopus</i>
			<i>Plantago lanceolata</i>
			<i>Prunella vulgaris</i>
			<i>Romulea rosea</i>
			<i>Stenotaphrum secundatum</i>
			<i>Trifolium repens</i>
			<i>Vulpia bromoides</i>

Notes concerning some of the locally threatened plant species

Drosera peltata ssp. *peltata* (Pale Sundew) – many dozens along the Sundew Avenue side.

Luzula meridionalis (Common Woodrush) – only one seen, but others quite possibly undetected.

Fauna of special significance

None observed.

Fauna habitat features

The eucalypts provide food for the numerous Musk Lorikeets observed during the fieldwork, even though it was winter.

Significance ratings

The following is an assessment of the site's significance against the Department of Sustainability & Environment's standard criteria (Amos 2004).

Regionally Threatened Ecological Vegetation Class

According to 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), remnant patches of native vegetation belonging to an endangered EVC (including Valley Heathy Forest) have a conservation significance rating of either High or Very High, depending on their ecological condition. In either case, any site containing a remnant patch of such vegetation is of State significance under criterion 3.2.3 of Amos (2004).

The native vegetation at Sundew Reserve meets the Department of Sustainability & Environment's current definition of a remnant patch, but at the time Amos (2004) prepared the significance criteria, the unpublished convention was that native vegetation only qualified as a remnant patch if it occupied at least 2,500 m². Because this threshold is so much larger than the area of native vegetation at Sundew Reserve, the author has reduced the significance level of the site to **Local**.

Rare or Threatened Flora

Some of the locally threatened plant species listed above, and particularly the Pale Sundew (*Drosera peltata* subsp. *peltata*), have viable populations, thereby meeting criterion 3.1.5 for a site of **Local** significance.

Threats

- Mowing;
- Invasion by the environmental weeds listed below:
 - Serious: Brown-top Bent (*Agrostis capillaris*) and Ribwort (*Plantago lanceolata*);
 - Moderate: Sweet Vernal-grass (*Anthoxanthum odoratum*), Centaury (*Centaureum erythraea*), Cotoneasters (*Cotoneaster pannosus*), Panic Veldt-grass (*Ehrharta erecta*), Annual Veldt-grass (*Ehrharta longiflora*), Spanish Heath (*Erica lusitanica*), Montpellier Broom (*Genista monspessulana*), Cat's Ear (*Hypochoeris radicata*), Paspalum (*Paspalum dilatatum*), Kikuyu Grass (*Pennisetum clandestinum*), Common Onion-grass (*Romulea rosea*), Buffalo Grass (*Stenotaphrum secundatum*) and Squirrel-tail Fescue (*Vulpia bromoides*);
- Loss or decline of plant species that are present in dangerously small numbers, due to inbreeding, poor reproductive success or vulnerability to localised chance events.

Management issues

- It would be desirable to cease mowing any of the two main areas outlined in white on the aerial photograph. A small amount of weed control work would be necessary to compensate for the suppression of weeds that mowing has provided;
- If practicable, burning of the areas just referred to would assist weed control and stimulate germination of indigenous species;
- The Blackwood saplings at the northern end of the park should be staked to prevent them from being mowed again;
- The areas of native ground flora could become quite ecologically viable with very modest weed control and preferably with a small amount of planting to increase the wildflower display, the number of species and the security of existing species that are presently scarce.

Administration matters

- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of the endangered EVC and the sundews;
- The site is not protected under the existing schedules of the Vegetation Protection Overlay in the Knox Planning Scheme;
- The reserve is zoned Public Park and Recreation Zone (PPRZ). The nature strip is zoned Residential 1 zone (R1Z).

Information sources used in this assessment

- A site survey undertaken during this study by Dr Lorimer for 1 hour 25 minutes on 15th and 20th August 2002, using this study's standard procedures discussed in Section 2.4 of Volume 1. This included a description of the vegetation composition, compilation of a list of indigenous and introduced plant species, incidental fauna observations, and checks for fauna habitat, ecological threats and management issues;
- Aerial photography from February 2001 and April 2003;
- Satellite imagery of the district;
- The Department of Sustainability & Environment's BioMaps of the area;
- Maps of geology and topography produced by agencies of the Victorian government.