

Site 86. Pine Hill Reserve, Rowville

Part of a Council park with good remnant overstorey and some areas of indigenous ground flora. Melway ref. 82 E1.

Site Significance Level: *State*

- Contains a remnant of the regionally endangered Ecological Vegetation Class, Valley Heathy Forest, in fair to poor ecological condition;
- Provides good habitat for forest birds, including substantial populations of lorikeets;
- Is one of only six sites in Knox known to support the plant species, Trailing Speedwell (*Veronica plebeia*);
- May act as a stepping-stone for movement of fauna between Monbulk Creek and the Lysterfield Hills.



Scale 1:2,000
10 0 20 40 60 80 100m

Aerial photograph taken February 2001

Boundaries

The site is the part of Pine Hill Reserve north of the kindergarten, as indicated by the red outline on the aerial photograph. The southern boundary is a line drawn between corners of two adjoining residential properties and the other boundaries coincide with the reserve's cadastral boundaries. There are small numbers of indigenous plants in the rest of the reserve, but not enough to warrant recognition as part of a site of biological significance.

Land use & tenure: Council park, zoned PPRZ – Public Park and Recreation Zone.

Site description

This 1.12 ha site is located on gently undulating terrain, at an elevation of just over 80 m with very little slope. It lies on the Humevale geological formation of Lower Devonian sedimentary origin, and the soil is shallow, poorly draining, light grey loam over clay subsoil.

It supports a relatively intact cover of remnant overstorey and lower trees. They include a few large eucalypts and specimens of Cherry Ballart (*Exocarpos cupressiformis*) likely to be over 100 years old. Some planting of indigenous trees

has been undertaken where remnant vegetation is depleted. Indigenous shrubs and ground flora have been greatly reduced from their natural coverage due to clearing long ago and ongoing mowing. However, a fair cover of ground layer vegetation dominated by indigenous grasses has persisted and regenerated in the least disturbed areas beneath the remnant trees. Mowing has relatively recently been discontinued in these areas. Other indigenous ground layer plants are mainly confined to around the bases of remnant tree trunks.

The part of the reserve south of the kindergarten, and out of the site recognised here, is maintained as mown open space with scattered planted trees, both 'Australian native' and exotic. The trees include several large Bracelet Honey-myrtles (*Melaleuca armillaris*) and a row of Monterey Pines (*Pinus radiata*) planted in the vicinity of the kindergarten. Remnant indigenous overstorey and understorey vegetation is very scarce in this area.

Relationship to other land

Planted native trees are scattered within residential properties and along nature strips in the surrounding area, however Pine Hill Reserve is relatively isolated from other areas of remnant vegetation.

The site, in conjunction with other small reserves in the area, may function like a 'stepping-stone' for native birds and insects moving between Monbulk Creek to the north (within Site 66) and the Lysterfield Hills to the south (Site 81). This is supported to some degree by the observation of Musk Lorikeets, Rainbow Lorikeets and Eastern Rosellas moving through the reserve during the site inspection. Further work would be needed to properly understand the reserve's functions for fauna movements, particularly since the roadside of Napoleon Rd (Site 94) appears superficially to provide a more substantial habitat link between Monbulk Creek and the Lysterfield Hills.

Bioregion: Gippsland Plain

Habitat type

Valley Heathy Forest (EVC 127, regionally Endangered): Total area 0.88 ha, of which approximately 0.35 ha is in fair condition (rating C) and 0.53 ha is in poor condition (rating D).

Canopy trees: A good cover of *Eucalyptus radiata* and *E. cephalocarpa* trees up to 20 m tall (mainly 50-80 years old). A few larger trees over 100 years old.

Lower trees: Scattered specimens of *Exocarpos cupressiformis*, *Acacia mearnsii* and *Allocasuarina littoralis*. Includes a few old *E. cupressiformis* trees.

Shrubs: Most shrub layer vegetation has been cleared, except for a few *Acacia paradoxa*.

Vines and ferns: Absent.

Ground flora: A fair cover of indigenous grasses has recovered in unmown areas, including *Austrostipa rudis*, *Microlaena stipoides* and *Rytidosperma* species, along with some *Dichondra repens*. Two small patches of *Dianella longifolia* are located towards the northern end (possibly planted). Other ground layer plants are mainly restricted to around the base of remnant tree trunks, including clumps of *Lomandra filiformis*.

Plant species

The following plant species were observed by Mr Rik Brown on 3rd June 2002. Additional species would no doubt be detectable in other seasons. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable.

Risk	Indigenous Species	Risk	Indigenous Species
V	<i>Acacia mearnsii</i>	E	<i>Eucalyptus radiata</i>
	<i>Acacia paradoxa</i>	V	<i>Exocarpos cupressiformis</i>
V	<i>Allocasuarina littoralis</i>		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>
C	<i>Amyema pendula</i>		<i>Lomandra filiformis</i> subsp. <i>filiformis</i>
	<i>Austrostipa rudis</i>		<i>Microlaena stipoides</i>
V	<i>Dianella longifolia</i> s.l.	E	<i>Poa tenera</i>
	<i>Dichondra repens</i>		<i>Rytidosperma</i> sp.
V	<i>Eucalyptus cephalocarpa</i>	E	<i>Veronica plebeia</i> (1 small patch)
Introduced Species			
	<i>Acacia longifolia</i> subsp. <i>longifolia</i>		<i>Arctotheca calendula</i>
	<i>Anthoxanthum odoratum</i>		<i>Paspalum dilatatum</i>
			<i>Romulea rosea</i>
			<i>Ulex europaeus</i>

Fauna of special significance

None recorded during field surveys.

Fauna habitat features

The relatively intact cover of remnant trees within the site provides good habitat for forest birds in an area otherwise substantially depleted of suitable habitat. A substantial population of lorikeets was apparent in the area during field surveys.

Significance ratings

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

Ecological Integrity and Viability

As noted above under the heading, 'Relationship to other land', this site might function like a stepping-stone for native birds and insects moving between Monbulk Creek and the Lysterfield Hills. Such movements would be only locally important. This represents **Local** significance under criterion 1.2.6.

Regionally Endangered Ecological Vegetation Class

Pine Hill Reserve contains a remnant patch of a regionally endangered EVC (Valley Heathy Forest). It follows from Appendix 3 of *Victoria's Native Vegetation Management - a Framework for Action* (NRE 2002a) that the reserve's native vegetation is necessarily of at least High conservation significance. This, in turn, gives the site **State** significance under criterion 3.2.3 of Amos (2004).

The author has misgivings about such a high rating when the ecological condition of the vegetation is so poor, but these misgivings are overridden by the importance of consistency with the standard criteria.

Locally Threatened Plants

Many of the locally threatened plant species listed above have viable populations, thereby meeting criterion 3.1.5 for a site of **Local** significance.

The large specimens of Cherry Ballart *Exocarpos cupressiformis* within the northern section of the reserve are locally significant in view of their size.

Threats

- Lack of recruitment of indigenous vegetation because of mowing;
- Loss or decline of plant species whose populations are so small that they are vulnerable to inbreeding, poor reproductive success or elimination by incidents such as digging by dogs;
- Reduced visitation of the site by small insect-eating birds due to its isolation from other areas with indigenous understorey, possibly leading to a worsening of plant pests and diseases;
- Competition of indigenous ground flora with exotic grasses and herbs, particularly Sweet Vernal-grass (*Anthoxanthum odoratum*), Paspalum (*Paspalum dilatatum*) and Onion-grass (*Romulea rosea*) – all rated as 'Moderate' threats.

Management issues

- There are good prospects for partial recovery of remnant indigenous ground flora in response to the recent cessation of mowing, and this should be monitored;
- This recovery would be enhanced by extension of indigenous revegetation beneath the remnant trees, and possibly spot spraying of Paspalum and use of grass-selective herbicide on Sweet Vernal-grass in August-September.

Administration matters

- This site is suited to the proposed Environmental Significance Overlay (ESO2) because of the presence of an endangered EVC;
- This site and the adjoining kindergarten are presently covered by Vegetation Protection Overlay 1. This is partly because of the study by Water Ecoscience (1998), in which this is Site 276. No justification could be found in this study for keeping the kindergarten under any such overlay.

Information sources used in this assessment

- A survey undertaken during this study by Rik Brown on 3/6/02, including compilation of lists of indigenous and introduced plant species, incidental fauna observations and vegetation mapping/descriptions according to the procedures discussed in Section 2.4 of Volume 1;
- 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.