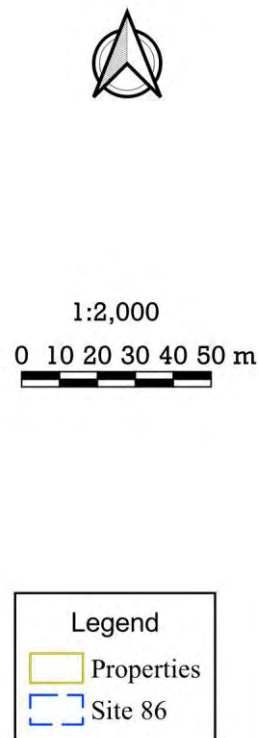


## Site 86. Pine Hill Reserve, Rowville

Part of a Council park with good remnant overstorey and a core of indigenous understorey.

Summary of significant features:

- State significance: a patch of the regionally-endangered vegetation type, Valley Heathy Forest;
- Locally significant: viable populations of five tree species threatened with dying out in Knox;
- Locally significant: a possible role as an ecological stepping-stone for movement of fauna between Monbulk Creek and the Lysterfield Hills.



### Boundaries

The site is the part of Pine Hill Reserve north of the kindergarten, as outlined with blue dashes on the aerial photograph. The southern boundary is a line drawn between corners of two adjoining residential properties. 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, for nature conservation, recreation and pedestrian thoroughfare.

### Site description

This 1.12-hectare site is located on gently undulating terrain, at an elevation of just over 80 m with very little slope. Its bedrock is siltstone of the Lower Devonian 'Humevale' geological formation. The soil is a shallow, poorly draining, pale loam over clay subsoil.

A 1946 aerial photograph shows the area to have been sparsely treed and densely crisscrossed by cattle tracks. Little if any shrub cover is visible in the photograph, consistent with heavy grazing.

Once the area became a reserve as part of the area's subdivision in the 1980s, grazing was replaced by regular mowing until around the turn of the 21st Century. At that point, Knox City Council reduced mowing where wildflowers had been noticed. When the vegetation was surveyed in June 2002 for the first edition of this report, only a very small number of indigenous groundcover species were detected, mainly around the bases of tree trunks.

Since then, the indigenous groundcover has recovered surprisingly well. This study's 2024 survey found much greater botanical diversity than in 2002 and over a much larger area (exceeding 0.2 ha). Chocolate Lilies (*Arthropodium strictum*) are abundant. The density of remnant eucalypts and sub-canopy trees is fairly natural in at least quarter of the site and naturally-occurring shrubs are now dense in some patches but restricted to two species – Hedge Wattle (*Acacia paradoxa*) and descendants of planted Sweet Bursaria (*Bursaria spinosa*). A few of the largest eucalypts and Cherry Ballarts (*Exocarpos cupressiformis*) are likely to be over 100 years old.

### Relationship to other land

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

The reserve, in conjunction with other small reserves in the area, may function like a 'stepping-stone' for native birds and flying insects moving between Monbulk Creek to the north (within Site 66, p. 448) and the Lysterfield Hills to the south (Site 81, p. 533). This is supported to some degree by the observation of Musk Lorikeets, Rainbow Lorikeets and Eastern Rosellas moving through the reserve. 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 approximately 0.7 ha, divided roughly equally between fair ecological condition (rating C) and poor (rating D).

Canopy trees: *Eucalyptus cephalocarpa* is dominant, or co-dominant with *E. radiata* in the north.

Sub-canopy trees: Scattered specimens of *Exocarpos cupressiformis*, *Acacia mearnsii* and *Allocasuarina littoralis*. Includes a few old *E. cupressiformis* trees. *Acacia melanoxylon* is scarce, perhaps only present due to planting.

Shrubs: Remnant shrubs are restricted to patches of *Acacia paradoxa*. *Bursaria spinosa* is among the shrub species that have been planted and it has produced a second generation.

Vines: *Billardiera mutabilis* is scattered.

Ferns: Absent.

Groundcover: The more natural areas have a dense cover of indigenous grasses, dominated by *Microlaena stipoides* and with substantial numbers of *Lomandra filiformis*, *Poa morrisii*, *Rytidosperma setaceum* and *Lepidosperma gunnii*. There are hundreds of *Arthropodium strictum* and substantial numbers of *Gonocarpus tetragynus* and *Tricoryne elatior*. *Dichondra repens* and indigenous mosses (particularly *Thuidiopsis furfurosa*) form a stratum beneath the grasses and wildflowers.

### Plant species

The author observed the following indigenous plant species growing wild (not just planted) in the site on 3rd October 2024, except that *Veronica plebeia* was recorded by Rik Brown in 2002. No other wild plant species have been recorded but additional grass species would be detectable in summer. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable.

#### Indigenous mosses and liverworts

*Campylopus introflexus*, Heath Star Moss  
*Chiloscyphus semiteres*, Green Worms

#### Indigenous mosses and liverworts

*Thuidiopsis furfurosa*, Golden Weft-moss

Risk Wild indigenous vascular species

- V *Acacia mearnsii*, Black Wattle  
 V *Acacia melanoxylon*, Blackwood  
*Acacia paradoxa*, Hedge Wattle  
 V *Allocasuarina littoralis*, Black Sheoak  
 C *Amyema pendula*, Drooping Mistletoe  
*Arthropodium strictum*, Chocolate Lily  
*Austrostipa rudis* subsp. *rudis*, Veined Spear-grass  
*Billardiera mutabilis*, Common Apple-berry  
*Bursaria spinosa*, Sweet Bursaria  
*Crassula decumbens*, Spreading Crassula  
*Dianella longifolia* var. *longifolia*, Pale Flax-lily  
*Dianella revoluta*, Black-anther Flax-lily  
*Dichondra repens*, Kidney-weed  
 E *Eucalyptus cephalocarpa*, Mealy Stringybark  
 E *Eucalyptus radiata*, Narrow-leaved Peppermint

Risk Wild indigenous vascular species

- V *Exocarpos cupressiformis*, Cherry Ballart  
*Gonocarpus tetragynus*, Common Raspwort  
*Juncus bufonius*, Toad Rush  
*Lepidosperma gunnii*, Slender Sword-sedge  
*Lomandra filiformis* subsp. *coriacea*, Wattle Mat-rush  
*Lomandra filiformis* subsp. *filiformis*, Wattle Mat-rush  
*Microlaena stipoides*, Weeping Grass  
*Oxalis exilis/perennans*, Wood-sorrel  
*Poa morrisii*, Soft Tussock-grass  
*Rytidosperma setaceum*, Bristly Wallaby-grass  
*Senecio quadridentatus*, Cotton Fireweed  
*Themeda triandra*, Kangaroo Grass  
*Tricoryne elatior*, Yellow Rush-lily  
 V *Veronica gracilis*, Slender Speedwell  
 E *Veronica plebeia*, Trailing Speedwell

**Fauna of special significance**

None recorded.

**Fauna habitat features**

The density of remnant trees within the site provides good habitat for invertebrates, forest birds and possums in an area otherwise substantially depleted of suitable habitat. Urban-adapted parrot species are fairly abundant. The dense, grassy groundcover with wildflowers and logs is good habitat for some invertebrate species and lizards.

**Significance ratings**

The following is an assessment of the site's biological significance against the Department of Energy, Environment & Climate Action's standard criteria (Amos 2004).

*Ecological Integrity and Viability*

As noted above under the heading, 'Relationship to other land', this site might function like an ecological stepping-stone for native birds and flying 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*

The native vegetation of Pine Hill Reserve belongs to a regionally-endangered EVC – Valley Heathy Forest. Criterion 3.2.3 of Amos (2004) treats any 'remnant patch' of a regionally-endangered EVC as State significance, where 'remnant patch' is defined as a continuous area of at least 0.25 ha in which the cover of native understorey is at least 10% throughout. The reserve's core area that has at least 10% cover of native understorey just meets the size requirement and is therefore of **State** significance under criterion 3.2.3.

*Locally Threatened Plants*

The site's locally-threatened tree species have viable populations except (probably) *Acacia melanoxylon*. Each of those species thereby meets criterion 3.1.5 for **Local** significance.

**Threats**

- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves and storms, as well as substantially lower rainfall (particularly in winter);
- Deterioration of the health of the reserve's eucalypts, which are quite vulnerable to the abovementioned droughts and storms;
- Displacement of the indigenous groundcover by environmental weeds, except that council has been effectively preventing that outcome. Gorse could quickly proliferate if not for persistent control;

- Digging out of wildflowers, as appears to have been happening (judging from the small holes dug within the area of densest wildflowers);
- Loss or decline of plant species whose populations are so small that they are vulnerable to inbreeding, poor reproductive success or elimination by chance events such as digging by dogs.

### **Strategic planning**

The previous (2010) edition of this report led to this site being covered by Schedule 2 of the Environmental Significance Overlay (ESO2) because of the presence of the regionally-endangered EVC. There has been no material change since 2010 other than an improvement in the condition of the habitat, so no amendment to ESO2 is needed.

### **Information sources used in this assessment**

- A survey undertaken by Rik Brown on 3rd June 2002 for the first edition of this report, including compilation of lists of indigenous and introduced plant species, incidental fauna observations and vegetation mapping/descriptions;
- A botanical survey of the site by Dr Lorimer on 3rd October 2024, compiling a list of wild indigenous plant species and checking for changes in features relevant to this report compared with pre-existing information;
- Records of flora and fauna observations stored in Knox City Council's biodiversity database;
- Records of flora and fauna observations stored in the Atlas of Living Australia;
- Aerial and satellite imagery from between 1946 and 2025;
- The Victorian Government's 'NatureKit' website;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.