

Site 108. Knox Park Primary School

Primary school with heavily treed grounds. Melway ref. 73 C3

Site Significance Level: **State**

- The native vegetation, and particularly the mature remnant trees, provide an effective extension of the State-significance habitat of the abutting Lakewood Nature Reserve;
- Fauna appear to move through the school on their way between Lakewood Nature Reserve and other areas of habitat.

Aerial photograph and map: See page 525 for an image at 1:8,000 scale and page 215 for an image at 1:4,000 scale.

Boundaries

The site is the whole school property, comprising five lots (one of which is a short, narrow walkway). The area is 2.93 ha. Only the parts of the school grounds outlined in white on page 215 are of biological significance.

Land use & tenure: Primary school.

Site description

This site is at an elevation of typically 85 m on a north-facing slope with a very shallow gradient of 3%. The topsoil is shallow, poorly draining, light grey loam over clay subsoil, derived from decomposition of the underlying Lower Devonian sedimentary rocks of the Humevale formation.

The main area of biological significance is the treed school grounds between the school buildings and Lakewood Nature Reserve (Site 43). The trees in this area are predominantly remnant Mealy Stringybarks (*Eucalyptus cephalocarpa*), many of them quite large and with hollows used by birds (and probably also bats). The shrub layer has been mostly cleared, but there is a patch of dense Sweet Bursarias (*Bursaria spinosa*) and a few other shrubs, just northwest of the school buildings. The lawn beneath the trees is in very patchy condition. Some patches are dominated by indigenous species of grasses and mat-rushes, but are not densely grassy due to mowing and trampling. Other patches are either rather bare or are dominated by introduced plants.

In the southern half of the school property, the areas outlined in white on the aerial photograph have native vegetation in similar condition to north of the buildings but smaller in extent and with little if any ground flora (native or otherwise).

Trees and shrubs that are visible on the aerial photographs but not in the white-outlined areas are native Australian plants, which provide additional habitat.

One of the most important biological attributes of the site is that it abuts Lakewood Nature Reserve (a site of State significance) and augments the reserve's habitat. The school community is to be congratulated for not only maintaining that habitat in the school grounds, but also helping look after the reserve through participation in the 'Friends of Lakewood Nature Reserve' (supported by Knox City Council). These activities are related to the school's participation in the 'Schools for a Sustainable Future' program.

Relationship to other land

As noted above, the school grounds provide an effective extension of the state-significance habitat of the abutting Lakewood Nature Reserve, which the school helps to look after and uses as an educational resource. Native birds were observed moving between the school grounds, the reserve and the treed neighbourhood to the south, and probably also moving to and from R.D. Egan-Lee Reserve (Site 42). Native insects are likely to exhibit similar behaviour, but were not investigated.

Bioregion: Gippsland Plain

Habitat type

Valley Heathy Forest (EVC 127, **regionally Endangered**): Estimated to occupy 0.73 ha, all in poor ecological condition (rating D).

Dominant canopy trees: *Eucalyptus cephalocarpa* with far fewer *Eucalyptus radiata* and *Eucalyptus obliqua*. The trunk diameters are mostly 30-50 cm.

Dominant lower trees: Several *Allocasuarina littoralis*, one *Acacia melanoxylon* and one *Exocarpos cupressiformis*.

Shrubs: *Bursaria spinosa* is dense northwest of the buildings. *Coprosma quadrifida* is scattered to the east and southeast of the buildings. There is one each of *Acacia paradoxa* and *Leptospermum continentale*.

Vines: None found.

Ferns: None found.

Ground flora: Native ground flora is patchy and limited to hardy native grasses and mat-rushes, competing for dominance with the weeds, *Agrostis capillaris*, *Ehrharta erecta*, *Hypochoeris radicata* and *Plantago lanceolata*. The dominant indigenous species is *Rytidosperma racemosum* and there are also large numbers of *Lomandra filiformis* subsp. *coriacea*. The other indigenous species are *Gahnia radula*, *Hemarthria uncinata*, *Lomandra filiformis* subsp. *filiformis* *Microlaena stipoides*, *Poa morrisii*, *Austrostipa rudis* and *Themeda triandra*.

Plant species

The following plant species were observed by the author on 30th April 2004. Additional species would no doubt be detectable in other seasons. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox with 'E'=Endangered and 'V'=Vulnerable.

Risk	Indigenous Species	Risk	Indigenous Species
V	<i>Acacia melanoxylon</i>	V	<i>Exocarpos cupressiformis</i>
	<i>Acacia paradoxa</i>		<i>Gahnia radula</i>
E	<i>Acacia pycnantha</i> (possibly planted)	V	<i>Hemarthria uncinata</i>
V	<i>Allocasuarina littoralis</i>		<i>Leptospermum continentale</i>
	<i>Austrostipa rudis</i> subsp. <i>rudis</i>		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>
	<i>Bursaria spinosa</i>		<i>Lomandra filiformis</i> subsp. <i>filiformis</i>
V	<i>Coprosma quadrifida</i>		<i>Microlaena stipoides</i>
V	<i>Eucalyptus cephalocarpa</i>		<i>Rytidosperma racemosum</i>
V	<i>Eucalyptus obliqua</i>		<i>Themeda triandra</i>
E	<i>Eucalyptus radiata</i>		

Fauna habitat features

- The remnant trees, combined with mature planted trees, provide basic habitat needs for native forest birds, bats, possums, frogs and insects. There are many large Mealy Stringybarks with hollows, at least some of which are used by native birds, and some are likely to be inhabited by bats. Mealy Stringybarks make good habitat trees because they produce plenty of carbohydrates and form hollows and crevices more readily than most eucalypts;
- Flowers on the dense patch of Sweet Bursarias are likely to be extensively visited by adult butterflies in summer. Lakewood Nature Reserve provides excellent habitat for caterpillars of butterfly species that rely on grasses and sedges for larval food, and the adults may move into the school in search of nectar.

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

The value of the school's native vegetation as habitat for fauna moving through the area makes the school an ecological link or 'stepping stone'. Criterion 1.2.6 attributes **Local** significance to sites that it describes as 'Important at Local scale - Link between individual remnant habitat blocks'.

Endangered Ecological Vegetation Class

Under the Department of Sustainability & Environment's criteria, the school grounds contain 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 patch is necessarily of at least High conservation significance. Criterion 3.2.3 of Amos (2004) attributes **State** significance to such a site.

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 Plant Species

At least some of the locally threatened plant species listed above have viable populations (in combination with neighbouring native vegetation), thereby meeting criterion 3.1.5 for a site of **Local** significance.

Threats

- Lack of recruitment of indigenous vegetation because of mowing and trampling, although the vegetation appears to be in a stable state under the current use of the school grounds;
- Potential future need for more school buildings, which might involve removal of native vegetation.

Management issues

If desired, the balance of ground flora between introduced and native species could be improved by more selective timing of mowing and localised use of selective herbicides. This would require expert advice.

Administration matters

- The site is large enough for the native vegetation to receive some protection by Clause 52.17 of the Knox Planning Scheme. However, that clause exempts vegetation removal for construction of buildings, which appears to be the most serious threat to the native vegetation in the school grounds. For this reason, and because Clause 52.17 does not affect plant species originating from outside Victoria, the vegetation needs to be recognised in an overlay to the planning scheme;
- This site would qualify on biological grounds for inclusion under the proposed Schedule 1 of the Environmental Significance Overlay. However, the vegetation that needs to be specifically recognised and protected in the Knox Planning Scheme is principally the trees, and protection of the trees would also provide incidental protection to the understorey. This view takes into account the potential uses of the land and the level of impact that those potential uses would have. The proposed schedule to the Vegetation Protection Overlay (Volume 1, Section 5.5) is deemed an adequate alternative to the Environmental Significance Overlay;
- The forested northern part of the school grounds are covered by the existing Schedule 1 to the Vegetation Protection Overlay of the Knox Planning Scheme. This resulted from the study by Water Ecoscience (1998), which mistook this area to be part of Lakewood Nature Reserve (their Site 5). The existing Schedule 1 is recommended to be removed.

Information sources used in this assessment

- A botanical survey by Dr Lorimer for 45 minutes on 30th April 2004, following the standard procedures described in Section 2.4 of Volume 1, including:
 - Compilation of a list of indigenous and introduced plants;
 - A description of the vegetation's structural and floristic composition;
 - Incidental fauna observations; and
 - Checks for fauna habitat, ecological threats and management issues;
- The Department of Sustainability & Environment's BioMaps of the area;
- Aerial photography from February 2001 and April 2003;
- Satellite imagery of the district;
- Maps of geology and topography produced by agencies of the Victorian government.

Acknowledgment

Thanks to the school administration for permission to inspect the grounds.