

## Site 32. St Joseph's School, Boronia

The grounds of St Joseph's Primary School in Boronia Rd. Melway ref. 64 H9-10.

### Site Significance Level: *State*

- Contains remnants of an endangered Ecological Vegetation Class (Valley Heathy Forest), partly with high quality indigenous ground layer vegetation (despite previous disturbances and relatively small extent);
- Has records of four plant species that are threatened in Knox, one of which is rare throughout Melbourne;
- Provides a habitat refuge for forest birds in an area otherwise substantially depleted of suitable habitat;
- Remnant vegetation and habitat within the school grounds provides an educational resource.



Scale 1:3,000

0 20 40 60 80 100m

*Aerial photograph taken Feb. 2007*

### Boundaries

The site is the parts of the school property outlined in red above, measuring 1.60 ha. The remainder of the site is within the less significant Site 103, which is described at page 515.

**Land use & tenure:** Primary school, including a 'conservation area'.

### Site description

The site is located on a gentle south-facing slope among lower hills in Boronia, at elevations of 103-117 m. The soil is shallow, light grey loam over clay subsoil, derived from decomposition of the underlying Lower Devonian sedimentary rocks of the Humevale formation.

The 'conservation area' within the southern section of the school grounds supports intact remnant forest with a fair to good cover of indigenous understorey vegetation. Some mowing activities are apparent in this area.

Other areas supporting remnant vegetation occur around the sporting field and car park in the western part of the school and adjacent to basketball courts in the southeastern corner. These areas have a fair cover of remnant trees but indigenous understorey vegetation is scarce. Some revegetation with indigenous plants has been undertaken around the western side of the sporting field, including the planting of Tree Everlasting, Prickly Tea-tree, Prickly Moses, Hedge Wattle and Golden Wattle. Weed infestations are a significant environmental problem around most of the sporting field.

Outside the site delineated here, the school grounds include scattered remnant trees (progeny of the pre-European vegetation) and planted trees from other parts of Australia. A substantial proportion of the planting appears to have occurred in the 1970s, including Southern Mahogany, Spotted Gum, Red Flowering Gum and Paperbarks. All the school's native trees, and particularly the remnant ones, help support native birds, insects, bats and tree frogs.

### Relationship to other land

The site is relatively isolated from other areas of habitat with native understorey. Residential properties in the surrounding area (Site 103, p. 515) support scattered remnant indigenous trees and planted trees that are native to other parts of Australia. These trees undoubtedly encourage some movement of native birds between the school and Blind Creek, which is approximately 400 m south of the site. One would also expect similar movements of birds along the Boronia Rd roadside opposite the school (Site 90, page 456).

**Bioregion:** Gippsland Plain

### Habitat type

Valley Heathy Forest (EVC 127, **regionally Endangered**), grading toward Swampy Woodland (which is also regionally endangered) in poorly drained areas on the western side of the sporting field.

**Conservation Area:** Total area 0.53 ha – 70% (0.37 ha) in good ecological condition (rating B) and 30% (0.16 ha) in fair ecological condition (rating C). 38 indigenous plant species were recorded on 11/9/02 and another 18 were recorded by Mr Andrew Paget in spring 1985.

**Canopy trees:** Dominated by *Eucalyptus goniocalyx* and *E. obliqua*, with some *E. cephalocarpa* and *E. radiata*. Intact cover of remnant trees up to 25m tall (mainly 50-80 years old).

**Lower trees:** Scattered specimens of *Acacia mearnsii*, *A. melanoxylon*, *A. pycnantha* and *Exocarpos cupressiformis*.

**Shrubs:** A few scattered shrubs, including some large specimens of *Bursaria spinosa* up to 6 m tall. The density of shrub layer vegetation has been reduced by previous clearing activities.

**Vines:** Some *Billardiera mutabilis*.

**Ferns:** Absent, except for some *Pteridium esculentum*.

**Ground flora:** A fair to good cover of indigenous ground layer vegetation dominated by a mix of indigenous herbs, sedges and grasses, including *Themeda triandra*, *Rytidosperma pallidum*, *Gahnia radula*, *Dianella admixta*, *Stackhousia monogyna*, *Platylobium formosum* and a range of other species. Includes a substantial population of *Pterostylis nutans* and scattered specimens of *Xanthorrhoea minor*. It is likely to support additional terrestrial orchids and lilies. Some mowing apparent, however infrequent.

**Other Native Vegetation:** Total area 1 ha, all of which is in poor ecological condition (rating D). 13 indigenous plant species were recorded.

**Canopy trees:** A fair cover of remnant trees up to 25m tall (mainly 50-80 years old), generally dominated by *Eucalyptus goniocalyx*. *E. ovata* dominates some poorly drained areas on the western side of the sporting field. Other remnant trees include *E. obliqua*, *E. cephalocarpa*, *E. radiata* and *E. melliodora*.

**Lower trees:** Scattered specimens of *Acacia mearnsii*, *A. melanoxylon* and *Exocarpos cupressiformis*.

**Shrubs:** Most remnant shrub layer vegetation has been cleared. A few remnant *Bursaria spinosa* shrubs occur around the base of trees. Indigenous shrubs have been planted in some locations.

**Vines and ferns:** Absent.

**Ground flora:** Restricted to a few *Gahnia radula* and *Lomandra longifolia* plants around the base of remnant trees. Areas along the western side of the sporting field are dominated by moderate to severe weed infestations. Other areas are mown or utilised for recreational activities.

### Plant species

The following plant species were observed on 11th September 2002 except where otherwise noted. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable. In addition, *Allittia cardiocarpa* is rare throughout the Melbourne region. Additional wild indigenous species would no doubt be found in other seasons.

Risk	Indigenous Species	Risk	Indigenous Species
V	<i>Acacia mearnsii</i>		<i>Acrotriche serrulata</i>
V	<i>Acacia melanoxylon</i>	C	<i>Allittia cardiocarpa</i> (1985)
E	<i>Acacia pycnantha</i>		<i>Arthropodium strictum</i> (1985)
	<i>Acaena novae-zelandiae</i>		<i>Austrostipa rudis</i>
V	<i>Acrotriche prostrata</i> (1985)		<i>Billardiera mutabilis</i>

Risk	Indigenous Species	Risk	Indigenous Species
	<i>Bossiaea prostrata</i> (1985)		<i>Leptospermum continentale</i>
	<i>Burchardia umbellata</i> (1985)		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>
	<i>Bursaria spinosa</i>		<i>Lomandra longifolia</i>
E	<i>Daviesia latifolia</i> (1985)		<i>Microlaena stipoides</i>
	<i>Dianella admixta</i>	V	<i>Olearia lirata</i>
V	<i>Dianella longifolia</i> s.l.	V	<i>Opercularia ovata/varia</i> (1985)
	<i>Dichondra repens</i>		<i>Oxalis exilis/perennans</i>
V	<i>Dillwynia cinerascens</i>	V	<i>Pimelea humilis</i> (1985)
V	<i>Drosera whittakeri</i> (1985)	V	<i>Platylobium formosum</i>
V	<i>Epacris impressa</i>	V	<i>Platylobium obtusangulum</i> (1985)
V	<i>Eucalyptus cephalocarpa</i>		<i>Poa morrisii</i> (1985)
	<i>Eucalyptus goniocalyx</i>		<i>Poranthera microphylla</i>
V	<i>Eucalyptus melliodora</i>		<i>Pteridium esculentum</i>
V	<i>Eucalyptus obliqua</i>		<i>Pterostylis nutans</i>
V	<i>Eucalyptus ovata</i>		<i>Rytidosperma pallidum</i>
E	<i>Eucalyptus radiata</i>		<i>Schoenus apogon</i> (1985)
V	<i>Exocarpos cupressiformis</i>	E	<i>Stackhousia monogyna</i>
	<i>Gahnia radula</i>	C	<i>Thelymitra ixioides</i> s.l.
	<i>Gonocarpus tetragynus</i>		<i>Themeda triandra</i>
	<i>Goodenia lanata</i>	E	<i>Viola hederacea</i>
V	<i>Helichrysum scorpioides</i>	E	<i>Wahlenbergia stricta</i>
E	<i>Hypericum gramineum</i> (1985)	E	<i>Wurmbea dioica</i> (1985)
E	<i>Hypoxis vaginata</i> (1985)	V	<i>Xanthorrhoea minor</i>
V	<i>Lagenophora gracilis/stipitata</i> (1985)		
Introduced Species			
	<i>Acacia longifolia</i> subsp. <i>longifolia</i>		<i>Ehrharta longiflora</i>
	<i>Agapanthus praecox</i>		<i>Foeniculum vulgare</i>
	<i>Allium triquetrum</i>		<i>Fraxinus angustifolia</i>
	<i>Anthoxanthum odoratum</i>		<i>Galium aparine</i>
	<i>Arctotheca calendula</i>		<i>Genista monspessulana</i>
	<i>Briza maxima</i>		<i>Hedera helix</i>
	<i>Conyza sumatrensis</i>		<i>Hypochoeris radicata</i>
	<i>Coprosma repens</i>		<i>Ipomoea indica</i>
	<i>Cotoneaster glaucophyllus</i>		<i>Pennisetum clandestinum</i>
	<i>Dactylis glomerata</i>		<i>Pinus radiata</i>
	<i>Delairea odorata</i>		<i>Pittosporum undulatum</i>
			<i>Plantago lanceolata</i>
			<i>Prunus cerasifera</i>
			<i>Raphanus raphanistrum</i>
			<i>Romulea rosea</i>
			<i>Rubus anglocandicans</i>
			<i>Sonchus oleraceus</i>
			<i>Taraxacum</i> sp.
			<i>Tradescantia fluminensis</i>
			<i>Watsonia meriana bulbifera</i>
			<i>Zantedeschia aethiopica</i>

#### Notes concerning some of the locally threatened plant species

*Allittia cardiocarpa* (Swamp Daisy). Recorded by Andrew Paget in 1985.

*Hypoxis ?vaginata* (Sheath Star). Recorded by Andrew Paget in 1985 and quite possibly still present.

*Thelymitra ixioides* s.l. (Spotted Sun-orchid). A single plant is located towards the western end of the conservation area.

*Wahlenbergia stricta* (Tall Bluebell). A few plants are located within the conservation area.

*Wurmbea dioica* (Early Nancy). Recorded by Andrew Paget in 1985 and quite likely still present.

#### Fauna of special significance

None recorded during field surveys.

#### Fauna habitat features

The fair cover of remnant indigenous and planted native trees within the site provides habitat for forest birds in an area otherwise substantially depleted of suitable habitat. This includes providing good foraging habitat for parrots.

#### Significance ratings

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

##### Regionally Endangered Ecological Vegetation Class

This site contains a 'remnant patch' of an endangered EVC. According to 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), vegetation belonging to an endangered EVC has a conservation significance

rating of either High or Very High, depending on its 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).

#### *Rare or 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.

#### **Threats**

- Potential loss of native vegetation if additional school facilities are established;
- Mowing and trampling of indigenous understorey vegetation within the conservation area;
- Invasion by environmental weeds, including infestations of Angled Onion (*Allium triquetrum*), Cleavers (*Galium aparine*) and Blackberry (*Rubus discolor*) that all rate as 'serious' by the criteria in Section 2.4.3 of Volume 1, along with a range of other woody weeds, bulbs and creepers;
- 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 cubby house construction or 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.

#### **Management issues**

- Protect remnant vegetation in the establishment of any future facilities;
- Specific measures should be implemented to protect remnant vegetation within the conservation area, including restricting future mowing of indigenous ground layer vegetation, the maintenance of clearly defined walking trails and restriction of access as required;
- Incorporate remnant trees within indigenous revegetation areas wherever possible. There are good opportunities to enhance environmental values through the additional planting of indigenous vegetation within the school grounds;
- Selective control of the weeds mentioned above under the heading 'Threats'. Intensive selective control of exotic grasses within the conservation area would be desirable to effectively rehabilitate ground layer vegetation, particularly of Sweet Vernal-grass, Large Quaking-grass, Cocksfoot and Kikuyu. The first two of these can be controlled very effectively with late-winter application of a grass-specific herbicide.

#### **Administration matters**

- This site is suited to inclusion under the proposed ESO2 overlay because it is of State significance and contains a viable remnant of an endangered EVC;
- It is zoned 'Residential 1' and is presently covered by Vegetation Protection Overlay 1 (based in part on the study by Water Ecoscience (1998), in which this is Site 38);
- Council may be able to assist or promote environmental education programs in the school that relate to the remnant vegetation.

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

- A site survey undertaken during this study by Rik Brown on 11th September 2002, following this study's standard procedures discussed in Section 2.4 of Volume 1. This included vegetation mapping, descriptions of the composition and condition of the vegetation in each area, compilation of two lists of indigenous and introduced plant species (one for the conservation area and one for the rest of the school), incidental fauna observations, and checks for fauna habitat, ecological threats, management issues and populations of scarce or threatened plant species;
- A plant list compiled by Mr Andrew Paget in 1985;
- Aerial photography from February 2001, April 2003 and February 2007;
- 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.

#### **Acknowledgment**

Thanks to the school for granting permission to inspect the land.