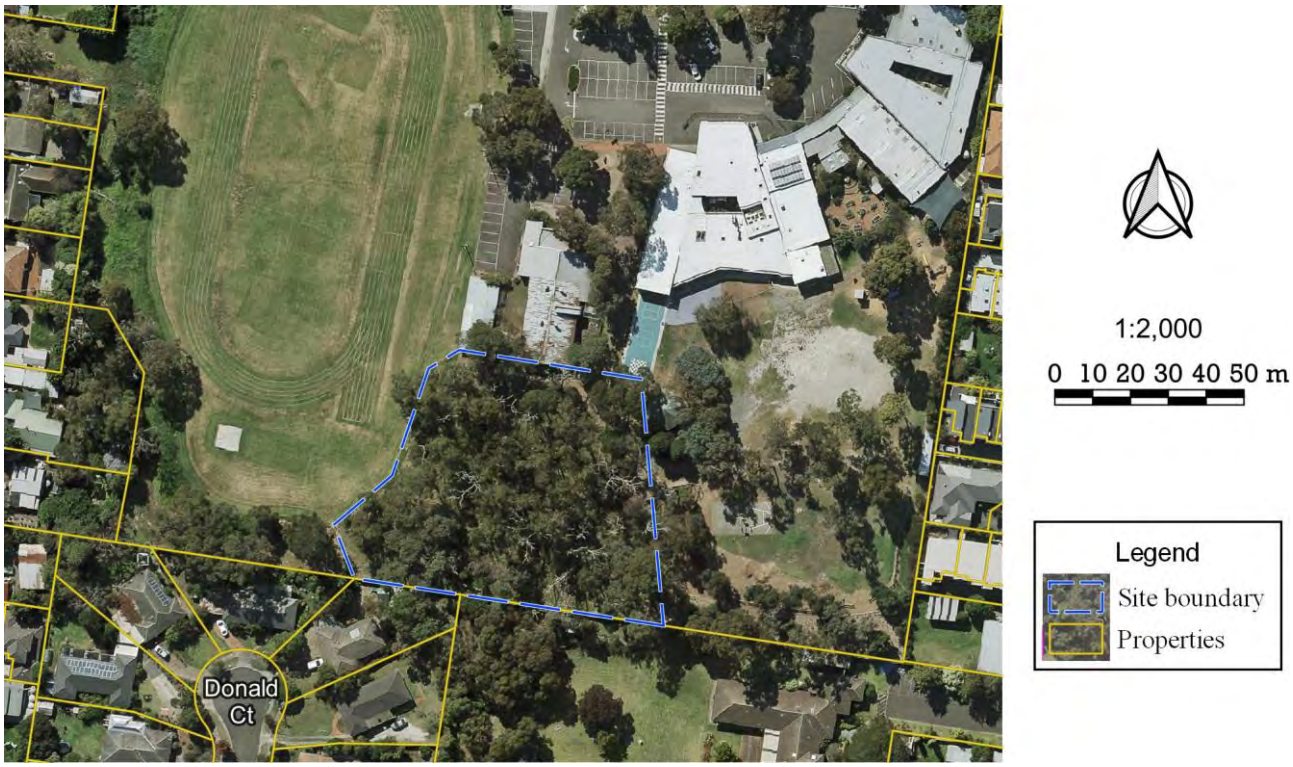
Site 32. St Joseph's School, Boronia

The 'conservation area' within the grounds of St Joseph's Primary School on Boronia Rd.

Summary of significant features:

- Nationally significant: an abundance of the flat-pea, *Platylobium infecundum*, which is Critically Endangered globally;
- State significance: a good example of the regionally endangered vegetation type, Valley Heathy Forest;
- Regionally significant: an important population of the Dainty Bird-orchid, which is regionally threatened;
- Locally significant: viable populations of several plant species that are threatened with dying out in Knox;
- Indigenous flora and fauna are beneficial for education and childhood development.



Boundaries

The site comprises the school's fenced 'conservation area', measuring 0.45 ha. It is embedded within the less significant Site 103, which is described at page 661.

The previous (2010) edition of this report was much larger (1.60 ha), extending east of the conservation area and around the oval. These extra areas are transferred in this edition to Site 103 due to deterioration of native vegetation, as discussed below.

Land use & tenure: Primary school nature sanctuary.

Site description

The site is located on a gentle, south-facing slope among low hills in Boronia, at an average elevation of 113 m. The soil is shallow clay loam over clay subsoil, derived from weathering of the underlying Lower Devonian siltstone of the Humevale formation.

Eucalypt cover within the conservation area is somewhat reduced from a natural state. The Millennium Drought and perhaps other factors have left some of the pre-existing trees dead, as evidenced by the aerial photograph above. Tree deaths and associated loss of indigenous understorey affected the rest of the school's native vegetation, bringing about the contraction of the site in this edition.

With the care of the school community, the vegetation within the conservation area has mostly recovered from the Millennium Drought. The ecological condition of the understorey is quite patchy due to historical activities, including mowing. A substantial core area is in good condition and has a high cover of plant species that are rare either globally (e.g. the flat-pea, *Platylobium infecundum*), regionally (the Dainty Bird-orchid, *Chiloglottis trapeziformis*) or in Knox. A strip approximately 20 m wide along the southern perimeter is in much worse condition, with little native understorey.

Relationship to other land

The conservation area is too small to support much wildlife on its own, other than skinks and invertebrates. However, there are enough remnant eucalypts and Australian native trees in the rest of the schoolgrounds and in the surrounding neighbourhood to support a range of native forest birds such as rosellas and kookaburras. Bats, flying insects, tree frogs and some other wildlife are also expected to benefit from those remnant trees. These fauna are probably also increased in numbers by proximity to the extensive cover of trees and shrubs along the Blind Creek habitat corridor (Site 33, p. 244). The somewhat fragmented corridor of native vegetation along the northern verge of Boronia Rd (Site 90, page 586) may have a similar effect.

Some of the wildlife is known to be pollinators, seed-dispersers or controllers of insect pests. That is expected to benefit the vegetation and ecological functions of the conservation area, and the value of the conservation area for teaching and childhood development. Conversely, the conservation area provides the best wildlife habitat in the neighbourhood and thereby increases wildlife within the area. The support of birdlife, in particular, enriches the amenity of people who live in the neighbourhood.

Bioregion: Gippsland Plain

Habitat type

Valley Heathy Forest (EVC 127, **regionally Endangered**)

Canopy trees: Dominated by *Eucalyptus obliqua*, followed by *E. cephalocarpa* and *E. goniocalyx*. *Eucalyptus melliodora* and *E. radiata* are both scarce.

Sub-canopy trees: Scattered *Acacia mearnsii*, *A. melanoxylon*, *A. pycnantha* and *Exocarpos cupressiformis*.

Shrubs: Dominated (to an unnatural degree) by *Bursaria spinosa*, followed by *Leptospermum continentale*; otherwise unnaturally sparse due to past clearing and mowing, comprising a solitary *Olearia lirata* and very small numbers of the small shrubs, *Dillwynia cinerascens*, *Platylobium obtusangulum* and (in 2002) *Epacris impressa*.

Vines: Represented in 2023 only by three *Billardiera mutabilis*.

Ferns: Only *Pteridium esculentum*.

Creepers: Abundant, having been more tolerant of past mowing than larger plants. *Platylobium infecundum* dominates substantial areas and *Dichondra repens* is abundant. *Acrotriche prostrata* and *Oxalis exilis/perennans* are fairly abundant and three other creeper species are scarce.

Other groundcover: A variably-dense cover of indigenous species dominated by a mix of indigenous forbs, sedges and grasses, the dominant ones being *Austrostipa rudis*, *Gahnia radula* and *Microlaena stipoides*. Among the many other species, the following are characteristic of Valley Heathy Forest: *Austrostipa pubinodis*, *Caesia parviflora*, *Dianella longifolia*, *Poa morrisii*, *Pterostylis nutans* & *Xanthorrhoea minor*.

Plant species

The following wild plant species have been recorded within the school's conservation area. The names of indigenous species not observed by the author on 9th September 2023 have a superscript indicating the year when last recorded, with 1985 referring to a survey by Andrew Paget, 2002 referring to a survey for the first edition of this report and 2019 referring to observations by Chris Klep. The introduced species were recorded in 1985 and 2002. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; 'V'=Vulnerable; and 'N'=Near threatened. Additional wild indigenous species would no doubt be found in late spring or summer.

Wild indigenous moss and liverwort
Campylopus clavatus, Broody Swan-neck Moss
Chiloscyphus semiteres, Green Worms

Risk	Other wild indigenous species
V	*Acacia mearnsii*, Black Wattle
V	*Acacia melanoxylon*, Blackwood

Risk	Other wild indigenous species
V	*Acacia pycnantha*, Golden Wattle
	Acaena novae-zelandiae, Bidgee-widgee
V	*Acrotriche prostrata*, Trailing Ground-berry
E	*Acrotriche serrulata*, Honey-pots
C	*Allittia cardiocarpa*, Swamp Daisy [1985]
	Arthropodium strictum, Chocolate Lily
	Austrostipa pubinodis, Tall Spear-grass
	Austrostipa rudis subsp. *rudis*, Veined Spear-grass
	Billardiera mutabilis, Common Apple-berry
N	*Bossiaea prostrata*, Creeping Bossiaea [1985]
	Burchardia umbellata, Milkmaids [1985]
	Bursaria spinosa, Sweet Bursaria
V	*Caesia parviflora*, Pale Grass-lily
	Carex breviculmis, Short-stem Sedge
E	*Chiloglottis trapeziformis*, Dainty Bird-orchid
C	*Coronidium scorpioides*, Button Everlasting [2002]
C	*Daviesia latifolia*, Hop Bitter-pea [1985]
	Dianella longifolia var. *longifolia*, Pale Flax-lily
	Dianella revoluta, Black-anther Flax-lily
	Dichondra repens, Kidney-weed
V	*Dillwynia cinerascens*, Grey Parrot-pea
V	*Drosera aberrans*, Scented Sundew
V	*Drosera auriculata*, Tall Sundew [2019]
C	*Epacris impressa*, Common Heath [2002]
E	*Eucalyptus cephalocarpa*, Mealy Stringybark
V	*Eucalyptus goniocalyx*, Bundy
E	*Eucalyptus melliodora*, Yellow Box
E	*Eucalyptus obliqua*, Messmate Stringybark
E	*Eucalyptus radiata*, Narrow-leaved Peppermint
V	*Exocarpos cupressiformis*, Cherry Ballart
C	*Gahnia radula*, Thatch Saw-sedge
	Gonocarpus tetragynus, Common Raspwort
N	*Goodenia lanata*, Trailing Goodenia [2002]
C	*Hibbertia australis*, Upright Guinea-flower
E	*Hypericum gramineum*, Small St John's Wort [1985]
	Lagenophora sp., a bottle-daisy [1985]
	Lepidosperma gunnii, Slender Sword-sedge
C	*Leptospermum continentale*, Prickly Tea-tree
	Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush
	Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush
	Lomandra longifolia subsp. *exilis*, Cluster-headed Mat-rush
	Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush
	Microlaena stipoides, Weeping Grass
E	*Olearia lirata*, Snowy Daisy-bush
V	*Opercularia* ?*aspera*, Coarse Stinkweed [1985]
V	*Opercularia varia*, Variable Stinkweed
	Oxalis exilis/perennans, Wood-sorrel
E	*Pauridia vaginata* var. *vaginata*, Yellow Star [2019]
E	*Pimelea humilis*, Common Rice-flower
E	*Platylobium infecundum*, a flat-pea
E	*Platylobium obtusangulum*, Common Flat-pea
	Poa morrisii, Soft Tussock-grass
	Poranthera microphylla, Small Poranthera
	Pteridium esculentum, Austral Bracken
	Pterostylis nutans, Nodding Greenhood
	Rytidosperma ?*racemosum*, Clustered Wallaby-grass
E	*Rytidosperma pallidum*, Red-anther (or Silvertop) Wallaby-grass
	Rytidosperma tenuius, Purplish Wallaby-grass
	Schoenus apogon, Common Bog-rush
E	*Stackhousia monogyna/subterranea*, Candles
C	*Thelymitra ixioides*, Dotted Sun-orchid [2002]
E	*Thelymitra peniculata*, Trim Sun-orchid
	Themeda triandra, Kangaroo Grass
	Tricoryne elatior, Yellow Rush-lily
E	*Viola hederacea*, Ivy-leaf Violet [2002]
E	*Wahlenbergia stricta*, Tall Bluebell [2002]
E	*Wurmbea dioica*, Common Early Nancy [1985]
E	*Xanthorrhoea minor*, Small Grass-tree

Introduced species

Acacia longifolia subsp. *longifolia*, Sallow Wattle
Allium triquetrum, Angled Onion
Anthoxanthum odoratum, Sweet Vernal-grass
Arctotheca calendula, Cape Weed
Briza maxima, Large Quaking-grass
Cassinia sifton, Sifton Bush
Cenchrus clandestinus, Kikuyu Grass
Coprosma repens, Mirror-bush
Cotoneaster glaucophyllus, Cotoneaster
Dactylis glomerata, Cocksfoot
Ehrharta longiflora, Annual Veldt-grass
Erigeron sumatrensis, Fleabane
Fraxinus angustifolia, Desert Ash
Galium aparine, Cleavers
Genista monspessulana, Montpellier Broom
Hedera helix/hibernica, Ivy
Hypochaeris radicata, Cat's Ear
Pinus radiata, Monterey Pine
Pittosporum undulatum, Sweet Pittosporum
Plantago lanceolata, Ribwort
Prunus cerasifera, Cherry-plum
Romulea rosea, Common Onion-grass
Rubus anglocandicans, Blackberry
Sonchus oleraceus, Sow-thistle
Taraxacum sect. *Taraxacum*, Garden Dandelion
Watsonia meriana var. *bulbillifera*, Bulbil Watsonia

Notes concerning some of the plant species

Critically Endangered, globally

Platylobium infecundum (a flat-pea) – the dominant groundcover over hundreds of square metres.

Regionally threatened

Chiloglottis trapeziformis (Dainty Bird-orchid) – a colony of ~1,000 plants.

Opercularia ?*aspera* (Coarse Stinkweed) – a 1985 specimen at the National Herbarium of Victoria has recently been determined by an expert to be *Opercularia aspera*. The specimen falls outside the species' broad circumscription, differing from *O. ovata* only in hairs on the stems. It seems possible that the plant was just an aberrant individual. Only the one plant has ever been recorded in Knox. The nearest record is over 50 km away, near Mt Disappointment.

Locally-threatened

Allittia cardiocarpa (Swamp Daisy) – presumed to have died out.

Pauridia vaginata (Sheath Star) – rarely seen in the site, perhaps just because the species is very cryptic except during its brief flowering season, and even then, hard to spot among grass.

Pimelea humilis (Common Rice-flower) – a single plant, in 2023.

Platylobium obtusangulum (Common Flat-pea) – a single plant, in 2023.

Thelymitra ixioides (Dotted Sun-orchid) – a single plant was found in 2002 towards the western end of the conservation area.

Wahlenbergia stricta (Tall Bluebell) – a few plants were seen in 2002.

Wurmbea dioica (Early Nancy) – as for *Pauridia*.

Fauna of special significance

None recorded.

Fauna habitat features

The conservation area's remnant native vegetation provides the best habitat for native forest birds, bats, lizards and invertebrates in the neighbourhood.

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).

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).

Threatened Plants

Platylobium infecundum is abundant in the conservation area, even being a dominant or co-dominant groundcover over hundreds of square metres. That species is listed under the *Flora and Fauna Guarantee Act* as Critically Endangered and it does not occur outside Victoria. As a result, the habitat the site provides for *Platylobium infecundum* qualifies as **National** significance under criterion 3.1.2.

Platylobium infecundum had not been scientifically described in 2010 when the previous edition of this report was written. As a result, the site's significance level has risen from State to National.

Chiloglottis trapeziformis is rare and threatened in the Gippsland Plain bioregion. This site's population of ~1,000 plants is an important population in the bioregion and therefore the habitat for it qualifies for **Regional** significance under criterion 3.1.4.

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

Threats

- Potential loss of native vegetation if additional school facilities are established;
- Displacement of indigenous flora by environmental weeds;
- Loss or decline of plant species that are present in such precariously small numbers that they are vulnerable to inbreeding, poor reproductive success or localised chance events such as being struck by a falling tree limb;
- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves, fires and storms, as well as substantially lower rainfall (particularly in winter). The Millennium Drought has already done irreversible harm to habitat around the school, e.g. eucalypt deaths.

Management

Woody environmental weeds have been reduced enough that as long as they are prevented from reproducing, they are not a serious ecological threat. Of greater concern are groundcover environmental weeds, including grasses such as Kikuyu Grass.

Strategic planning

- As a result of the second edition of this report in 2010, the original version of this site is covered by Schedule 2 of the Environmental Significance Overlay (ESO2) and the surrounding land is covered by Schedule 4 of the Vegetation Protection Overlay. VPO4 provides a modest level of planning protection for canopy trees that are indigenous or belong to certain other Australian native species. This edition has greatly contracted the extent of the site. ESO2 remains an appropriate protective instrument for the reduced area. It is recommended that the boundary between ESO2 and VPO4 be amended to the new site boundary, i.e. that some of the current ESO2 area change to VPO4;
- The school is larger than 0.4 ha and therefore does not qualify for the size-based exemption from the state-wide baseline planning controls over removal of native vegetation (clause 52.17);
- The school is zoned 'General Residential Zone – Schedule 4' (GRZ4) and covered by Schedule 7 of the Design and Development Overlay (DDO7).

Information sources used in this assessment

- A plant list compiled by Andrew Paget in 1985 and a specimen of *Opercularia* ?*aspera* that he lodged at the National Herbarium of Victoria;
- An ecological survey undertaken by Rik Brown on 11th September 2002 for the first edition of this report. 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;
- Observations of *Chiloglottis trapeziformis*, *Drosera auriculata* and *Pauridia vaginata* by Chris Klep in 2019;
- A botanical survey of the entire original version of the site by Dr Lorimer for this report on 9th September 2023. This included a list of indigenous plant species and their abundances, plus counts and precise locations of individuals, in the case of scarce species;
- Records of flora and fauna observations stored in the Atlas of Living Australia;
- The Victorian Government's 'NatureKit' website;
- Aerial and satellite imagery from between 1946 and 2024;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.

Acknowledgment

Thanks to the school for granting permission to inspect the land, and to Chris Klep for notifying the author of his significant plant finds and for facilitating the 2023 botanical survey.