

Site 41. 52 Kathryn Rd, Knoxfield

Private vacant block, partly with indigenous tree cover and periodically slashed understorey. Melway ref. 73 B5.

Site Significance Level: *State*

- Contains a remnant of a regionally endangered Ecological Vegetation Class (Valley Heathy Forest) in reasonable ecological condition, albeit with the shrub layer suppressed by slashing.



The red outline on the aerial photograph is the site boundary and the dashed white curve is the approximate boundary of the area with substantial native understorey (greater than about 25% cover, including immature trees).

Boundaries

The site is the whole of the lot known as 52 Kathryn Rd, Knoxfield. It measures 3,972 m².

Land use & tenure: Vacant private property, zoned 'Residential 1'.

Site description

The site is at elevations of approximately 85 m with a shallow, southwest-facing slope, on the low ridge between the valleys of Monbulk Ck and Riddells Drain (which flows through Lakewood Nature Reserve, Site 43). The soil 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 front 25 m of the block and the northeastern corner have been thoroughly cleared and the only vestiges of native vegetation left there are scattered native grasses. The trees on the rest of the block are Mealy Stringybarks (*Eucalyptus cephalocarpa*) and smaller numbers of Narrow-leafed Peppermints (*Eucalyptus radiata*). They appear to be regrowth following clearing long ago. Some of the regrowth is many decades old and some is more recent. Periodic slashing has suppressed regeneration of shrubs, but small plants have coped fairly well and contain a good representation of the ground flora of Valley Heathy Forest, with abundant lilies and quite a few orchids.

The composition of the tree canopy and the abundance of Prickly Tea-tree (*Leptospermum continentale*, stunted by slashing) also indicate Valley Heathy Forest. The localised presence of the moisture-loving species, Centella (*Centella*

cordifolia) and Mat Grass (*Hemarthria uncinata*), outside the perimeter of the tree canopy indicates that the topsoil can get waterlogged during winter and spring in the absence of tree roots.

A fully developed eucalypt canopy extends onto adjoining land, making the overall size of the patch approximately 3,500 m².

There are mature plants of the serious weed, Gorse, near the northeastern corner of the property, spreading further into the block (where most seedlings are being periodically slashed). There is also an infestation of Sweet Pittosporum in the southeastern corner. Otherwise, the main weeds are introduced grasses.

Relationship to other land

As can be seen on the aerial photograph, the native tree canopy continues unbroken into the property to the south. The native understorey there is reduced to some immature trees and scattered, hardy grasses.

There are also remnant trees and mature, planted eucalypts from other parts of Australia scattered within the surrounding residential neighbourhood. These provide habitat for native insects and forest birds such as Kookaburras and Rosellas as they move between more substantial habitat areas such as Lakewood Nature Reserve (Site 43) and R.D. Egan-Lee Reserve (Site 42). The neighbourhood is covered by a Vegetation Protection Overlay, and forms Site 105 in this report (p. 520).

Bioregion: Gippsland Plain

Habitat type

Valley Heathy Forest (EVC 127, **regionally Endangered**): Estimated to occupy 0.25 ha, comprising 0.19 ha in ecological condition C (fair) and 0.06 ha in ecological condition D (poor). Some of the vegetation is intermediate between categories C and D.

Canopy trees: Dominated by *Eucalyptus cephalocarpa* with some *E. radiata*, of various ages but none very old.

Lower trees: *Acacia melanoxylon* is dense in the southeast, becoming very sparse in the west.

Shrubs: Shrubs have been decimated by periodic slashing, but there are many stunted specimens of the characteristic species, *Leptospermum continentale*, scattered throughout. Gorse is radiating from the northeast.

Vines: The light twiner, *Billardiera mutabilis* is scattered through the slashed ground flora.

Ferns: Absent.

Ground flora: Species sensitive to slashing have been depleted, but there are still many low-growing species. Lilies are abundant (*Arthropodium strictum*, *Burchardia umbellata*, *Dianella admixta*, *Tricoryne elatior*) and quite a few orchid plants were found (*Pterostylis nutans*, *Thelymitra ?pauciflora*), considering the vegetation's history and the time of year of the site inspection (May). The dominant indigenous ground flora species are *Themeda triandra*, *Poa morrisii*, *Microlaena stipoides*, *Rytidosperma* species and (to a lesser degree) *Gahnia radula* and *Lomandra filiformis*. The grass weeds, *Anthoxanthum odoratum* and *Agrostis capillaris*, are also among the dominant species. Other abundant species are *Bossiaea prostrata*, *Gonocarpus tetragynus*, *Poranthera microphylla* and *Opercularia ovata*. The following species are less abundant but characteristic of Valley Heathy Forest: *Acrotriche serrulata*, *Hardenbergia violacea* (one plant only), *Lepidosperma gunnii* and *Platylobium obtusangulum*.

Plant species

The following plant species were observed by the author on 23rd May 2004. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable. Additional species would no doubt be detectable in other seasons.

Risk	Indigenous Species	Risk	Indigenous Species
V	<i>Acacia melanoxylon</i>		<i>Gahnia radula</i>
	<i>Acaena novae-zelandiae</i>		<i>Gonocarpus tetragynus</i>
	<i>Acrotriche serrulata</i>	V	<i>Hardenbergia violacea</i>
	<i>Arthropodium strictum</i>	V	<i>Hemarthria uncinata</i>
	<i>Austrostipa pubinodis</i>		<i>Lepidosperma gunnii</i>
	<i>Billardiera mutabilis</i>		<i>Leptospermum continentale</i>
	<i>Bossiaea prostrata</i>		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>
	<i>Burchardia umbellata</i>		<i>Lomandra filiformis</i> subsp. <i>filiformis</i>
E	<i>Centella cordifolia</i>		<i>Microlaena stipoides</i>
	<i>Dianella admixta</i>	V	<i>Opercularia ovata</i>
V	<i>Dillwynia cinerascens</i>	V	<i>Opercularia varia</i>
	<i>Eragrostis brownii</i>		<i>Oxalis exilis/perennans</i>
V	<i>Eucalyptus cephalocarpa</i>	V	<i>Platylobium obtusangulum</i>
E	<i>Eucalyptus radiata</i>		<i>Poa morrisii</i>

Risk	Indigenous Species	Risk	Indigenous Species
	<i>Poranthera microphylla</i>		<i>Schoenus apogon</i>
	<i>Pterostylis nutans</i>	V	<i>Thelymitra ?peniculata</i>
	<i>Rytidosperma laeve</i>		<i>Themeda triandra</i>
	<i>Rytidosperma penicillatum</i>		<i>Tricoryne elatior</i>
	<i>Rytidosperma racemosum</i>	V	<i>Veronica gracilis</i>
Introduced Species			
	<i>Agrostis capillaris</i>		<i>Ehrharta erecta</i>
	<i>Anthoxanthum odoratum</i>		<i>Fraxinus angustifolia</i>
	<i>Arbutus unedo</i>		<i>Galium aparine</i>
	<i>Briza maxima</i>		<i>Hypochoeris radicata</i>
	<i>Conyza sumatrensis</i>		<i>Linum trigynum</i>
	<i>Cotoneaster glaucophyllus</i>		<i>Paspalum dilatatum</i>
	<i>Cotoneaster pannosus</i>		<i>Pittosporum undulatum</i>
			<i>Plantago lanceolata</i>
			<i>Prunus cerasifera</i>
			<i>Romulea rosea</i>
			<i>Rubus anglocandicans</i>
			<i>Ulex europaeus</i>
			<i>Vulpia bromoides</i>

Fauna habitat features

The cover of remnant trees within the site provides some habitat for forest and woodland birds in an area otherwise substantially depleted of suitable habitat. The ground flora no doubt provides habitat for some native insects. There are several Bull Ant nests, indicating higher ecological complexity than would be present in the absence of native understorey.

Significance ratings

Regionally Endangered Ecological Vegetation Class

Under the Department of Sustainability & Environment's criteria, this site contains a 'remnant patch' of an endangered EVC. According to 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), remnant patches of native vegetation belonging to an endangered EVC have a conservation significance rating of either High or Very High, depending on their ecological condition. In either case, any site containing a remnant patch of such vegetation is of **State** significance under the Department of Sustainability & Environment's standard criteria (Amos 2004 – criterion 3.2.3).

The author has misgivings about such a high rating for such a small site with poor long-term prospects of persistence, but these misgivings are overridden by the importance of consistency with the standard criteria.

Locally Threatened Plant Species

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

- Possible residential development;
- Slashing;
- Invasion by environmental weeds:
 - Serious: Brown-top Bent (*Agrostis capillaris*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Gorse (*Ulex europaeus*);
 - Moderate: Large Quaking-grass (*Briza maxima*), cotoneasters (*Cotoneaster glaucophyllus* and *C. pannosus*), Panic Veldt-grass (*Ehrharta erecta*), Cleavers (*Galium aparine*), Cat's Ear (*Hypochoeris radicata*), French Flax (*Linum trigynum*), Paspalum (*Paspalum dilatatum*), Sweet Pittosporum (*Pittosporum undulatum*), Ribwort (*Plantago lanceolata*), Cherry Plum (*Prunus cerasifera*), Common Onion-grass (*Romulea rosea*), Blackberry (*Rubus discolor*), Squirrel-tail Fescue (*Vulpia bromoides*).

Note that Gorse and Blackberry are Regionally Controlled Weeds under the *Catchment and Land Protection Act 1994*.

- 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.

Management issues

- The ecological condition of the native understorey vegetation could be improved significantly with relatively small effort, involving weed control and a changed slashing regimen;
- The main legal imperative for action is that Gorse is controlled under the *Catchment and Land Protection Act 1994*.

Administration matters

- This site is suited to inclusion under the proposed ESO2 overlay because it contains a remnant of an endangered EVC in reasonable condition;
- The site is presently covered by Vegetation Protection Overlay 3. This overlay is proposed in this study to be revised, but still cover this neighbourhood;
- The significance of the vegetation would not be maintained if the site were to be developed for residential use, as foreseen by the property's zoning. There could therefore be competition between different objectives of the Planning Scheme.

Information sources used in this assessment

- A site survey of 90 minutes undertaken during this study by Dr Lorimer on 23/5/04, following this study's standard procedures discussed in Section 2.4 of Volume 1. This included a description of the composition and condition of the vegetation, compilation of a list of indigenous and introduced plant species, incidental fauna observations, and checks for fauna habitat, ecological threats, management issues and populations of scarce or threatened plant species;
- A brief reinspection of the site from the footpath by Dr Lorimer on 10/3/08 to check that there had been no significant changes that would make the information above obsolete;
- 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

Thank you to the landowner for permission to inspect the property.