

## Site 79. Whitecliffe Reserve, Rowville

Small Council reserve with areas of native vegetation. Melway ref. 82 A7.

### Site Significance Level: *Regional*

- The native vegetation is of the endangered type, Valley Heathy Forest;
- There are good prospects of regenerating the native vegetation from soil-stored seed, improving the ecological condition from its present state of unnaturally few species.

**Aerial photograph and plan:** See page 394, which covers this site, Site 78 and part of the Waverley Golf Club (Site 77).

### Boundaries

The site is the whole reserve, as outlined in red on the aerial photograph.

**Land use & tenure:** Council reserve, managed for conservation of bushland and for public enjoyment.

### Site description

This 4,872 m<sup>2</sup> reserve lies on a gentle, west-facing slope at the foot of the Lysterfield Hills, at an elevation of approximately 65 m. According to geological survey maps, the bedrock is Lysterfield Hills hornfels, covered in the northern half of the reserve by the edge of a deposit of colluvium, or soil that has washed or slipped from uphill.

The topsoil is poorly drained, rather infertile clay loam.

The indigenous vegetation community is typical of Valley Heathy Forest in the Rowville-Scoresby area, showing no influence of the hornfels or the colluvium deposit.

As can be seen on the aerial photograph, more than half of the reserve has been cleared of trees and shrubs. A substantial proportion of the trees that are present are Bracelet Honey-myrtles (*Melaleuca armillaris*) that have been planted (probably for a windbreak) and become a weed. The site appears to have been grazed for many years.

Despite the clearing, grazing and associated weed invasions, there has been good regeneration of understorey where the ground has been scraped during the construction of the surrounding residential estate in recent years. Species that germinated in the scalped ground included (among others) *Bossiaea prostrata*, *Dianella longifolia*, *Drosera peltata* subsp. *peltata*, *Gonocarpus tetragynus*, *Lomandra filiformis* and *Poranthera microphylla*. This indicates a good bank of indigenous plant seeds in the soil, but the seeds are not germinating on most of the reserve because of an unnaturally dense cover of the indigenous Weeping Grass (*Microlaena stipoides*). There are good prospects of regeneration if the ground flora were to be burned.

### Relationship to other land

The reserve is only 115 m from more extensive native vegetation at the Waverley Golf Course (Site 77), 140 m from Site 78, 300 m from Churchill National Park and 500 m from the Lysterfield Hills (including Site 80 and Site 81). Although the site's area is very small and it provides little habitat, some birds, bats and insects would be expected to occasionally stop at the reserve as they move around the neighbourhood. Pollen and seeds carried by these animals should help protect the plants in the reserve from inbreeding.

The surrounding residential estate is unfit for native flora and fauna.

**Bioregion:** Gippsland Plain

### Habitat type

Valley Heathy Forest (EVC 127, **Endangered**): Estimated to cover 0.28 ha, comprising 0.25 ha in fair ecological condition (rating C) and 0.03 ha in poor ecological condition (rating D).

Canopy trees: Dominated by *Eucalyptus cephalocarpa* and *E. radiata*, both typically 12 m tall.

Lower trees: Dominated by *Acacia mearnsii*, with a single *Exocarpos cupressiformis*.

Shrubs: The shrub layer has been decimated by past clearing and grazing. The dominant shrub species is *Acacia paradoxa*. Other species are *Cassinia arcuata* and *Ozothamnus ferrugineus*.

Vines: Absent. *Billardiera mutabilis* would probably germinate after a fire in the reserve.

Ferns: Absent.

Ground flora: Densely grassy (95% cover) and dominated by *Microlaena stipoides*. *Austrostipa rudis* and *Dichondra repens* are also dense in patches. Species that are abundant but not dominant in cover are *Gonocarpus tetragynus*, *Hypericum gramineum*, *Oxalis perennans*, *Poa morrisii* and *Themeda triandra*. Less abundant species that are good ecological indicators are *Bossiaea prostrata*, *Dianella longifolia*, *Drosera peltata peltata*, *Tricoryne elatior*, *Veronica gracilis* and *Xanthosia dissecta*.

### Plant species

The following plant species were observed by the author in July 2002. 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 mearnsii</i>		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>
	<i>Acacia paradoxa</i>		<i>Lomandra filiformis</i> subsp. <i>filiformis</i>
	<i>Austrostipa rudis</i> subsp. <i>rudis</i>		<i>Microlaena stipoides</i>
	<i>Bossiaea prostrata</i>	V	<i>Opercularia ovata</i>
	<i>Cassinia arcuata</i>		<i>Oxalis exilis/perennans</i>
V	<i>Dianella longifolia</i> s.l.	E	<i>Ozothamnus ferrugineus</i>
	<i>Dichondra repens</i>		<i>Poa morrisii</i>
E	<i>Drosera peltata</i> subsp. <i>peltata</i> (×3)		<i>Poranthera microphylla</i>
	<i>Eragrostis brownii</i>		<i>Rytidosperma racemosum</i>
V	<i>Eucalyptus cephalocarpa</i>		<i>Schoenus apogon</i>
E	<i>Eucalyptus radiata</i>		<i>Senecio quadridentatus</i>
V	<i>Euchiton collinus</i>		<i>Themeda triandra</i>
V	<i>Exocarpos cupressiformis</i>		<i>Tricoryne elatior</i>
	<i>Gonocarpus tetragynus</i>	V	<i>Veronica gracilis</i>
E	<i>Hypericum gramineum</i>	E	<i>Xanthosia dissecta</i>
<b>Introduced Species</b>			
	<i>Agrostis capillaris</i>		<i>Ehrharta longiflora</i>
	<i>Arctotheca calendula</i>		<i>Galium aparine</i>
	<i>Centaureum erythraea</i>		<i>Holcus lanatus</i>
	<i>Conyza sumatrensis</i>		<i>Hypochoeris radicata</i>
	<i>Dactylis glomerata</i>		<i>Melaleuca armillaris</i>
	<i>Ehrharta erecta</i>		<i>Modiola caroliniana</i>
			<i>Paspalum dilatatum</i>
			<i>Plantago lanceolata</i>
			<i>Romulea rosea</i>
			<i>Sporobolus africanus</i>
			<i>Ulex europaeus</i>

### Fauna of special significance

None detected.

### Fauna habitat features

The reserve provides the most basic habitat attributes of grassy woodland vegetation, but its value for habitat is diminished by the small size, the small number of mature trees and the small number of plant species that are present in substantial numbers.

### Significance rating

#### Endangered Vegetation Type

Valley Heathy Forest is endangered. It follows from Appendix 3 of *Victoria's Native Vegetation Management - a Framework for Action* (NRE 2002a) that the native vegetation at Whitecliffe Reserve is necessarily of at least High conservation significance. Any site that contains 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).

However, at the time Amos (2004) prepared the significance criteria, the unpublished convention was that native vegetation only qualified as a remnant patch if at least 2,500 m<sup>2</sup> contained native understorey. Because this does not apply to Whitecliffe Reserve, the author has reduced the significance level of the site to **Regional**.

#### Locally Threatened Plant Species

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

**Threats**

- Invasion by environmental weeds, although none are rated 'Very serious' and only two (Cat's Ear *Hypochoeris radicata* and Bracelet Honey-myrtle *Melaleuca armillaris*) are rated 'Serious';
- Loss or decline of plant species that have such small populations that they are vulnerable to inbreeding, poor reproductive success or random events such as trampling;
- Fragmentation of habitat, leading to reduced visitation by small insect-eating birds and hence a risk of worsening plant pests and diseases.

**Management issues**

This reserve should be a high priority for ecological burning, which should be made as hot as safety allows. Burning could occur whenever weather and fuel conditions suit. Mowing in advance would help to increase the amount of dry fuel available to burn. Post-fire regeneration of plant species should be monitored by a botanist, and is expected to be good.

**Administration matters**

- The Planning Scheme zoning is Residential 1 Zone (R1Z) and the site is inside the Urban Growth Boundary;
- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of the endangered EVC and its associated State significance;
- Most of the reserve is included under the existing Vegetation Protection Overlay Schedule 1 of the Knox Planning Scheme, based on the description of Site 277 of the report by Water Ecoscience (1998). The majority of Site 277 in that report is now covered with houses and streets. Note that Water Ecoscience apparently confused the weed *Melaleuca armillaris* with the locally indigenous species *M. ericifolia*, and so their site boundary may have been influenced by the extent of the weed rather than native vegetation.

**Information sources used in this assessment**

- A site survey by Dr Lorimer for approximately one hour on 31/7/02 using this study's standard approach described in Section 2.4 of Vol.1. This included:
  - Compilation of lists of indigenous and introduced plant species in the reserve;
  - Description of the structural and floristic composition of each type of native vegetation;
  - Incidental fauna observations (but only common urban birds were detected); and
  - Checks for fauna habitat, ecological threats and management issues;
- 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.