

Site 12a. Mortiboy Reserve, The Basin

Council reserve with bushland being encouraged to recover from decades of suppression by pines. Melway ref. 65 F8.

Site Significance Level: *State*

- Contains an example of vegetation intermediate between two regionally Endangered Ecological Vegetation Classes. Grassy Forest and Valley Heathy Forest;
- The tree cover and grassy ground layer represent good habitat for some native fauna.



Boundaries

The site is the whole of Mortiboy Reserve and the strip between the reserve and the Stuart St footpath. It measures 0.35 ha.

Land use & tenure: Bushland reserve, zoned Public Park and Recreation Zone (PPRZ).

Site description

This small reserve's native vegetation underwent substantial modification from a natural state over most of the twentieth century but has been steadily recovering over recent years. During private ownership from the 1920s to the 1970s, the land was partly cleared and used (in part) as a venue for the 6th Malvern scout troop. A bunkhouse was constructed and pines were planted. The bunkhouse was long since removed and the pines were culled by Council in 2008 to allow regeneration of native vegetation. Council has also begun planting of indigenous species to assist natural regeneration.

A surprising number of indigenous plant species remain. The presence of many Hyacinth Orchids (*Dipodium roseum*) in the western half of the block suggests that there has been little if any excavation of that area over the past century. Council's regenerative work is likely to stimulate a significant increase in the number of naturally occurring indigenous plant species over coming years. Planting is adding further species. Ideally, records will be retained to show which species have been planted.

The land slopes gently to the west-northwest at a gradient of 1:14, with an average elevation of 75 metres (AHD). The soil is clay loam derived from the underlying rhyodacite of the Mount Evelyn rhyodacite formation. This puts the reserve within the Highlands - Southern Fall bioregion, but quaternary soils of the Gippsland Plain bioregion are less than 100 m away. Consequently, the reserve's vegetation is best classified as the form of Grassy Forest that occurs in the Highlands - Southern Fall bioregion but some plant species present are suggestive of Valley Heathy Forest from the Gippsland Plain.

Relationship to other land

The site lies within a treed neighbourhood with a substantial cover of remnant eucalypts and occasional indigenous understorey plants. Consequently, substantial numbers of native birds and insects move through the neighbourhood, facilitating access to Mortiboy Reserve. Most indigenous birds, bats and insects that visit the site would spend part of their lives in the more substantial habitat of the Dandenong Ranges National Park, which is just under 600 m away. Movement of fauna between these sites and other nearby bushland (e.g. The Basin Scout Hall Reserve and St Bernadette's Primary School Sanctuary) helps to maintain the native vegetation of Mortiboy Reserve by pollination and maintaining ecological balance (e.g. control of insect pests). In recognition of the importance of fauna movements, the neighbourhood within which Mortiboy Reserve is located forms part of Site 99 (Dandenong Ranges Buffer).

Bioregion: Highlands Southern Fall, within 100 m of the Gippsland Plain to the west.

Habitat types

Grassy Forest (EVC 128, regionally **Vulnerable**), tending toward Valley Heathy Forest (EVC 12): 3,500 m², estimated to comprise 100 m² in good ecological condition (rating B), 3,000 m² in fair ecological condition (rating C) and 400 m² in poor ecological condition (rating D).

Canopy trees: *Eucalyptus obliqua* is clearly dominant, with fewer *E. macrorhyncha* and *E. radiata*, and just three *E. goniocalyx*; approximately 20 m tall. Mature *Pinus radiata* trees and a cypress grow close to the abutting nature strips.

Lower trees: The lower tree layer is very sparse, attributable to past vegetation removal. There are some *Acacia melanoxylon* and *Exocarpos cupressiformis* would undoubtedly have been present previously.

Shrubs: Patchy and reduced in diversity due to past land use and the effects of pines (most of which were removed in 2008). Dominated by *Bursaria spinosa*. Other shrubs include *Acacia myrtifolia*, *Cassinia arcuata*, *C. aculeata*, *C. longifolia*, *C. trinerva*, *Dillwynia cinerascens*, *Platylobium obtusangulum*, *Polyscias sambucifolia*, *Prostanthera lasianthos* and *Solanum laciniatum*.

Vines: The light twiner, *Billardiera mutabilis*, is fairly abundant and there are two *Clematis aristata*.

Ferns: Absent.

Ground flora: Variable, with the western half richer and more natural than the eastern half. The western half is densely grassy and dominated by *Rytidosperma racemosum*. *Rytidosperma tenuius* is abundant and there are substantial numbers of *Rytidosperma pilosum*, *Carex breviculmis*, *Dichelachne rara*, *Deyeuxia quadriseta*, *Gahnia radula*, *Rytidosperma pallidum*, *Lomandra filiformis* subsp. *coriacea*, *Microlaena stipoides*, *Poa morrisii*, *Tetrarrhena juncea* and *Themeda triandra*. Between the grasses are substantial numbers of *Acrotriche prostrata*, *Arthropodium strictum*, *Dipodium roseum*, *Opercularia ovata*, *O. varia*, *Oxalis perennans* and *Senecio quadridentatus*. The following species are less abundant but useful ecological indicators: *Austrostipa pubinodis*, *Caesia parviflora*, *Helichrysum scorpioides*, *Lagenophora gracilis*, *Lepidosperma gunnii* and *Stylidium armeria*.

Plant species

55 naturally occurring indigenous plant species were found by Dr Lorimer on the site on 8/12/08 and are listed below. Other species are likely to appear in regeneration following the 2008 removal of pines. 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, *Cassinia trinerva* (of which there are two in the reserve) is rare throughout the Melbourne area.

Risk	Wild Indigenous Species	Risk	Wild Indigenous Species
V	<i>Acacia melanoxylon</i>		<i>Deyeuxia quadriseta</i>
E	<i>Acacia myrtifolia</i> (wild and planted)		<i>Dianella admixta</i>
V	<i>Acrotriche prostrata</i>	V	<i>Dianella longifolia</i> s.l. (planted)
	<i>Arthropodium strictum</i>	V	<i>Dianella tasmanica</i>
	<i>Austrostipa pubinodis</i>		<i>Dichelachne rara</i>
	<i>Austrostipa rudis</i> subsp. <i>rudis</i>		<i>Dichondra repens</i>
	<i>Billardiera mutabilis</i>	V	<i>Dillwynia cinerascens</i>
	<i>Bursaria spinosa</i>	E	<i>Dipodium roseum</i>
V	<i>Caesia parviflora</i>		<i>Elymus scaber</i>
	<i>Carex breviculmis</i>		<i>Eucalyptus goniocalyx</i>
	<i>Cassinia aculeata</i>	E	<i>Eucalyptus macrorhyncha</i>
	<i>Cassinia arcuata</i>	V	<i>Eucalyptus obliqua</i>
V	<i>Cassinia longifolia</i>	E	<i>Eucalyptus radiata</i>
C	<i>Cassinia trinerva</i> (1 of only 3 sites in Knox)	V	<i>Euchiton collinus</i>
V	<i>Clematis aristata</i>		<i>Gahnia radula</i>

Risk	Wild Indigenous Species	Risk	Wild Indigenous Species
E	<i>Gahnia sieberiana</i> (planted)	E	<i>Prostanthera lasianthos</i>
V	<i>Helichrysum scorpioides</i>	V	<i>Pultenaea gunnii</i>
V	<i>Lagenophora gracilis</i>		<i>Rytidosperma pallidum</i>
	<i>Lepidosperma gunnii</i>		<i>Rytidosperma penicillatum</i>
	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	V	<i>Rytidosperma pilosum</i>
	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>		<i>Rytidosperma racemosum</i>
	<i>Lomandra longifolia</i> (wild and planted)		<i>Rytidosperma tenuius</i>
	<i>Microlaena stipoides</i>	E	<i>Senecio hispidulus</i>
V	<i>Opercularia ovata</i>		<i>Senecio prenanthoides</i>
V	<i>Opercularia varia</i>		<i>Senecio quadridentatus</i>
	<i>Oxalis exilis/perennans</i>	V	<i>Solanum laciniatum</i>
V	<i>Platylobium formosum</i>	E	<i>Stylidium armeria/graminifolium</i>
	<i>Poa ensiformis</i> (planted)		<i>Tetrarrhena juncea</i>
	<i>Poa morrisii</i>		<i>Themeda triandra</i>
E	<i>Polyscias sambucifolia</i>		
Introduced Species			
	<i>Agrostis capillaris</i>		<i>Cynosurus echinatus</i>
	<i>Anthoxanthum odoratum</i>		<i>Dactylis glomerata</i>
	<i>Briza maxima</i>		<i>Ehrharta erecta</i>
	<i>Bromus catharticus</i>		<i>Ehrharta longiflora</i>
	<i>Chlorophytum ?comosum</i>		<i>Fraxinus angustifolia</i>
	<i>Cotoneaster pannosus</i>		<i>Genista monspessulana</i>
	<i>Cupressus ?macrocarpa</i> (planted)		<i>Hypochoeris radicata</i>
			<i>Oxalis incarnata</i>
			<i>Pinus radiata</i>
			<i>Pittosporum undulatum</i>
			<i>Plantago lanceolata</i>
			<i>Sonchus oleraceus</i>
			<i>Vulpia bromoides</i>

Fauna habitat features

- The mature eucalypts and scattered shrubs would attract a modest diversity of forest birds, as well as the Southern Brown Tree Frog and probably bats;
- The ground layer of dense grasses in much of the site is excellent habitat for grass-reliant butterflies and darts (some of which were observed during the site inspection);
- The abundance of *Bursaria spinosa* would provide summer nectar for butterflies.

Significance ratings

Regionally Threatened Ecological Vegetation Class

According to the criteria of 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), remnants of a regionally vulnerable EVC (including Grassy Forest) have a conservation significance rating of Medium to Very High, depending on their habitat score (Volume 1, Section 2.4.4). Even a very cursory assessment of the native vegetation at Mortiboy Reserve shows it to have a habitat score above 0.3, which puts the conservation significance in the High or Very High category under the Framework. This gives the whole site **State** significance under criterion 3.2.3 of Amos (2004).

Rare or Threatened Flora

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

- Invasion by the environmental weeds listed below:
 - Serious: Sweet Vernal-grass (*Anthoxanthum odoratum*), Cat's Ear (*Hypochoeris radicata*), Panic Veldt-grass (*Ehrharta erecta*), Monterey Pine (*Pinus radiata*), Ribwort (*Plantago lanceolata*);
 - Moderate: Brown-top Bent (*Agrostis capillaris*), Prairie Grass (*Bromus catharticus*), Large Quaking-grass (*Briza maxima*), Cotoneaster (*Cotoneaster pannosus*), Dog's-tail grass (*Cynosurus echinatus*), Annual Veldt-grass (*Ehrharta longiflora*), Cocksfoot (*Dactylis glomerata*), Montpellier Broom (*Genista monspessulana*), Desert Ash (*Fraxinus angustifolia*), Sweet Pittosporum (*Pittosporum undulatum*), Pale Wood-sorrel (*Oxalis incarnata*) and Squirrel-tail Fescue (*Vulpia bromoides*);
- Loss or decline of plant species that are present in dangerously small numbers, due to inbreeding, poor reproductive success or vulnerability to localised chance events.

Management issues

- Council has been very actively and successfully rehabilitating the reserve's native vegetation by removal of pines, removal of smaller weeds and planting in areas left bare following weed removal.

Administration matters

- This reserve is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of the endangered EVC and the consequent State significance;
- The reserve's vegetation is not protected under any existing planning overlay;
- The reserve is zoned Public Park and Recreation Zone (PPRZ).

Information sources used in this assessment

- A site survey undertaken during this study by Dr Lorimer for 1 hour on 8/12/08 using this study's standard procedures discussed in Section 2.4 of Volume 1. This included a description of the vegetation composition, compilation of a list of indigenous and introduced plant species, incidental fauna observations and checks for fauna habitat, ecological threats and management issues;
- Aerial photography from February 2007;
- The Department of Sustainability & Environment's BioMaps of the area;
- Maps of geology and topography produced by agencies of the Victorian government;
- Chapter 12 of the online publication, *'History of The Basin'*, by Rick Coxhill, dated 18th November 2007.