

Site 7. Wirrianda Reserve, Boronia

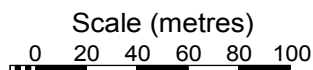
A small Council reserve located between two branches of Forest Rd near the intersection of Boronia Rd and Forest Rd. Melway ref. 65 D9-10.

Site Significance Level: State

- A remnant of vegetation that is intermediate between the two regionally threatened Ecological Vegetation Classes, Grassy Forest and Valley Heathy Forest;
- Supports indigenous understorey vegetation which is significant despite previous clearing and mowing activities and a relatively small area;
- Supports significant plants including the Dandenong Ranges variant of Cinnamon Wattle (*Acacia leprosa*) and a large population of Pale Flax-lily *Dianella longifolia*;
- Provides habitat for forest birds and serves as a biological 'stepping stone' for flora and fauna within a larger buffer area for the Dandenong Ranges National Park.



Aerial photograph taken Feb 2007



Boundaries

The 0.69 ha site encompasses all of the reserve and the roadside verge abutting the reserve's western boundary.

Land use & tenure: Council bushland reserve and road verge.

Site description

The reserve is located near the base of the moderately steep west-facing spur of Chandlers Hill in the Dandenong Ranges, centred on an elevation of 160 m (Australian Height Datum). Upper Devonian volcanic rock (rhyodacite) from further uphill has eroded and slipped down onto Wirrianda Reserve in recent geological time (Quaternary period).

The reserve is depicted in an aerial photograph from the early 1970s with scant native vegetation and newly planted pine trees. Today, it supports a relatively intact cover of remnant forest vegetation, including a fair cover of indigenous ground flora despite its history of clearing and mowing. In recent years there has been regular weed control activity (including removal of mature pines) and revegetation with indigenous plants.

There is a mown firebreak approximately 10m wide inside the reserve's northern boundary.

Relationship to other land

The site is located approximately 300m west of the extensive remnant forest vegetation and wildlife habitat within the Chandlers Hill section of the Dandenong Ranges National Park.

Residential properties around the reserve support a fair to good cover of remnant indigenous and planted native trees (particularly on the northern and eastern sides), although indigenous understorey vegetation is substantially depleted. Some remnant understorey vegetation occurs on the roadside verge abutting the eastern boundary of the reserve (a minor branch of Forest Rd).

The roadside and treed neighbourhood form a buffer to the nearby Dandenong Ranges National Park (see Site 99 – Dandenong Ranges Buffer), and Wirrianda Reserve serves as a biological 'stepping stone' within that buffer.

Bioregion: On the border between Highlands Southern Fall and Gippsland Plain.

Habitat type

Intermediate between Valley Heathy Forest (EVC 127, **regionally Endangered**) and Grassy Forest (EVC 128, **regionally Vulnerable**) – If there were ever enough clearly distinguishing features to identify the reserve's EVC, they have gone since European settlement.

Total area 0.81 ha – 70% (0.57 ha) in fair ecological condition (rating C) and 30% (0.24 ha) in poor ecological condition (rating D).

Canopy trees: A good cover of remnant *Eucalyptus goniocalyx* up to 20m tall, with some *E. obliqua*.

Lower trees: Several scattered specimens of *Exocarpos cupressiformis*, with some *Acacia melanoxylon* and *A. dealbata*.

Shrubs: The shrub layer is diverse and moderately dense, including *Acacia pycnantha*, *A. stricta*, *Leptospermum continentale* and a range of other species.

Vines: A few scattered weak twiners, including *Billardiera mutabilis* and *Hardenbergia violacea*.

Ferns: A small amount of *Pteridium esculentum*.

Ground flora: Dominated by a good cover of indigenous grasses, including *Austrostipa rudis* and *Rytidosperma penicillatum*, with *Gahnia radula* dominating moister areas. A large number of *Dianella longifolia* are scattered throughout, which is the strongest indication of Valley Heathy Forest as opposed to Grassy Forest.

Plant species

Except where otherwise noted, the following plant species were observed by Mr Rik Brown on 11th April 2002 or (in the case of a few grasses) Dr G. Lorimer on 2nd March 2000. At least five more species would probably be added in a survey during spring or early summer. 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, *Acacia leprosa* (Dandenong Range variant) is listed by Walsh and Stajsic (2007) as rare nationally. There are several in the reserve.

Risk	Indigenous Species	Risk	Indigenous Species
	<i>Acacia dealbata</i>		<i>Dichondra repens</i>
V	<i>Acacia leprosa</i> (Dandenong Range variant)	V	<i>Dillwynia cinerascens</i>
V	<i>Acacia melanoxylon</i>	C	<i>Diuris pardina</i> ×1 (2008 – A. Van Vloten)
E	<i>Acacia myrtifolia</i>		<i>Elymus scaber</i>
E	<i>Acacia pycnantha</i>	V	<i>Epacris impressa</i>
E	<i>Acacia stricta</i>		<i>Epilobium hirtigerum</i>
	<i>Acaena novae-zelandiae</i>		<i>Eucalyptus goniocalyx</i>
	<i>Acrotriche serrulata</i>	V	<i>Eucalyptus obliqua</i>
	<i>Austrostipa pubinodis</i>	V	<i>Exocarpos cupressiformis</i>
	<i>Austrostipa rudis</i>		<i>Gahnia radula</i>
	<i>Billardiera mutabilis</i>	V	<i>Glycine clandestina</i>
	<i>Bursaria spinosa</i>		<i>Gonocarpus tetragynus</i>
	<i>Carex breviculmis</i>		<i>Goodenia ovata</i>
	<i>Cassinia aculeata</i>	V	<i>Hardenbergia violacea</i>
E	<i>Cassytha melanantha</i>	E	<i>Hypericum gramineum</i>
V	<i>Clematis aristata</i>		<i>Juncus pallidus</i>
	<i>Deyeuxia quadriseta</i>		<i>Kunzea ericoides</i> spp. agg.
	<i>Dianella admixta</i>		<i>Lachnagrostis filiformis</i>
V	<i>Dianella longifolia</i> s.l.		<i>Leptospermum continentale</i>
	<i>Dichelachne rara</i>		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>

Risk	Indigenous Species	Risk	Indigenous Species
	<i>Lomandra longifolia</i>		<i>Pteridium esculentum</i>
	<i>Microlaena stipoides</i>	V	<i>Pultenaea gunnii</i>
E	<i>Olearia myrsinoides</i>		<i>Rytidosperma linkii</i> var. <i>fulvum</i>
	<i>Oxalis exilis/perennans</i>		<i>Rytidosperma pallidum</i>
E	<i>Ozothamnus ferrugineus</i>		<i>Rytidosperma penicillatum</i>
	<i>Pandorea pandorana</i>	V	<i>Rytidosperma pilosum</i>
V	<i>Plantago varia</i>		<i>Rytidosperma racemosum</i>
V	<i>Platylobium formosum</i>		<i>Rytidosperma tenuius</i>
	<i>Poa morrisii</i>		<i>Senecio quadridentatus</i>
E	<i>Poa tenera</i> (1985)	E	<i>Stackhousia monogyna</i>
E	<i>Polyscias sambucifolia</i>	E	<i>Stylidium armeria/graminifolium</i>
	<i>Poranthera microphylla</i>		<i>Themeda triandra</i>
Introduced Species			
	<i>Acacia baileyana</i>		<i>Pittosporum undulatum</i>
	<i>Acacia decurrens</i>		<i>Prunus cerasifera</i>
	<i>Acacia podalyriifolia</i>		<i>Rubus anglocandicans</i>
	<i>Agapanthus praecox</i>		<i>Viola odorata</i>
	<i>Briza maxima</i>		
	<i>Cotoneaster pannosus</i>		
	<i>Erica lusitanica</i>		
	<i>Fraxinus angustifolia</i>		
	<i>Genista monspessulana</i>		
	<i>Hedera helix</i>		
	<i>Lonicera japonica</i>		
	<i>Pinus radiata</i>		

Fauna of special significance

None recorded during field surveys, although significant forest birds occurring within the nearby Dandenong Ranges National Park are likely to be frequent visitors.

Fauna habitat features

The good cover of remnant trees and shrubs within the reserve and surrounding private properties provide habitat for forest birds, butterflies. This includes a substantial population of Spotted Pardalotes (approx. 20 birds) recorded within the reserve during field surveys. The reserve is likely to provide a habitat refuge for forest birds occurring in the area despite its relatively small size. It would be subject to fewer disturbances (from noise, lighting, pets etc.) than residential properties in the surrounding area. Bats and insects are likely to use the habitat, also.

Significance ratings

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

Ecological Integrity & Viability

The site acts as an ecological 'stepping stone' within a network of native vegetation sites in the local area, including sites 5-9. Site 99 (the Dandenong Ranges Buffer) envelopes these sites, providing an expansive (but patchy) area of tree canopy and occasional patches of understorey, and a habitat connection with the Dandenong Ranges National Park. Criterion 1.2.6 of Amos (2004) recognises that 'stepping stone' sites within such a local-scale network are of **Local** conservation significance.

Regionally Threatened Ecological Vegetation Class

The site's most significant attribute is the presence of a regionally threatened Ecological Vegetation Class.

The vegetation has been modified from its pre-European state just enough to confound identification of its EVC, which is intermediate between Valley Heathy Forest and Grassy Forest. The former EVC is endangered and the latter is vulnerable in the Highlands Southern Fall bioregion.

According to the criteria of 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), the conservation significance rating of the site's most intact vegetation is predicted to be Very High if the vegetation is treated as Valley Heathy Forest, or High otherwise. A habitat score assessment would be required to confirm or correct these predictions, but a level below High is unlikely. According to criterion 3.2.3, a site is of **State** significance if it contains any vegetation that is of High or Very High conservation significance due to its EVC being threatened.

Rare or Threatened Flora

The Dandenong Range variant of *Acacia leprosa* is listed as 'rare' in Victoria. The several plants in this site are part of a larger, viable local population, but on their own they do not make a significant contribution to the total population of the taxon. This represents **Regional** significance under criterion 3.1.2 of the standard criteria.

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

Threats

- Invasion by environmental weeds, including:
 - Very serious: Ivy (*Hedera helix*);
 - Serious: Japanese Honeysuckle (*Lonicera japonica*), Montpellier Broom (*Genista monspelliensis*).

The weed problem is exacerbated by the reserve's small size, large edge-to-area ratio and the presence of invasive species in the neighbouring lot to the north;

- Dumping of garden refuse which has been occurring within the reserve;
- 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 such as digging by dogs or a falling log;
- Potentially, fire prevention measures, if these were to be intensified without adequate regard to the native flora.

Management issues

- Weed control is the highest priority, particularly along the northern boundary and with a focus on the species listed above under the heading 'Threats';
- Slashing of roadside vegetation along the western boundary (main branch of Forest Rd) should continue to be done at a frequency and time of year that favours the native ground flora rather than weeds;
- Other undergrowth cutting should be confined to the existing firebreak along the northern boundary and along paths;
- Preparation of a management plan for the reserve would be ideal, but of only moderate priority on the municipal scale;
- Fire hazard and the potential ecological benefits of fire should be considered as part of the reserve's management;
- The large population of Pale Flax-lily (*Dianella longifolia*) deserves periodic monitoring.

Administration matters

- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of its State biological significance (discussed above);
- The reserve is zoned 'Public Park and Recreation Zone' and is included within Vegetation Protection Overlay VPO1 of the Knox Planning Scheme;
- The site is inside the Urban Growth Boundary for Melbourne;
- The treed neighbourhood to the east of the site is part of Site 99 and is recommended to be covered by the proposed Environmental Significance Overlay, ESO3.

Information sources used in this assessment

- A site survey undertaken during this study by Mr Rik Brown on 11th April 2002, 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 lists 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 list of grasses seen incidentally by Dr Lorimer during a brief visit to the reserve on 2/3/00;
- Data from one quadrat, as stored in the Department of Sustainability & Environment's Flora Information System and listed by Water Ecoscience (1998) – *some of which is clearly erroneous*;
- Aerial photography from the early 1970s, February 2001 and April 2003;
- 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.