

Site 10. Corner Philippa Rd & Hansen Rd, Boronia

Two residential lots with rather rich native vegetation, immediately opposite a particularly important part of the Dandenong Ranges National Park. Melway ref. 65 E9.

Site Significance Level: *Local*

- Supports six plant species that are threatened in Knox, one of which is rare or threatened throughout the Melbourne area and another of which is the only occurrence in Knox;
- The site represents a small extension to the flora and fauna habitat of the adjacent Chandlers Hill block of the Dandenong Ranges National Park;
- Potential residential development and environmental weeds threaten the site's values.

Aerial photograph: See page 35, which covers this site and Wirrianda Reserve.

Boundaries

This 4,930 m² site comprises the whole of two lots and their abutting roadside verge along Hansen Rd and the batter on the verge of Philippa Rd, as shown on p. 35.

Land use & tenure: Private land, zoned 'Low Density Residential Zone' (LDRZ).

Note: The site had to be inspected from outside the property boundaries. Some species would have escaped detection.

Site description

The site is on the steep, northwest-facing slope of the main ridge of Chandlers Hill, overlooking Boronia from an elevation of 220 m. The soil is stony clay derived from the Mount Evelyn rhyodacite formation, part of the Dandenong Ranges volcanic complex. The steep slope and the soil composition result in rapid drainage, and the soil becomes very dry during the first quarter of each year.

Road construction and installation of utility services has altered the ground contours and modified the vegetation around the site's edges. Past clearing has occurred throughout the site long ago, but native vegetation has regenerated well and over 60 indigenous plant species were present when houses were constructed on both properties in (or about) 2005. Residential use and environmental weeds have taken a substantial environmental toll but much of the properties' native vegetation remains and most of the indigenous plant species remain.

Some of the environmental weeds on the properties have been planted and many others are declared noxious weeds. A hedge of Pincushion Hakeas was planted in 2007 along Philippa Rd (private and public land). The planting would have dug up some of Knox's last remaining population of Brown-Beaks orchid (*Lyperanthus suaveolens*) and if the Hakeas are allowed to survive, they could displace the remaining population as well as many other wildflowers. Slashing of the properties has destroyed many indigenous shrubs, and in 2008, the author could no longer see any of what had previously been Knox's only population of Rusty Bush-pea, *Pultenaea hispidula* (which is more abundant over the road in the Dandenong Ranges National Park).

The site may well contain rare orchids that have escaped detection, given the abundance of such plants within 20 m on the other side of Philippa Rd, particularly following fire.

The weeds present in the site pose some threat of spread into the National Park, but most of the serious weed species spread mainly downhill, away from the park.

Relationship to other land

The Dandenong Ranges National Park, just a few metres from this site, is of high National significance for its native vegetation and wildlife. Some of the plants and wildlife on the site owe their continuing existence to the park's proximity. Many seeds no doubt enter the site from the park, and there is no risk of inbreeding of flora or fauna because of the large, secure populations within the park.

Bioregion: Highlands Southern Fall

Habitat type

Grassy Dry Forest (EVC 22, conservation status rated 'Least Concern' in the bioregion): 3,000 m² in area, of which it is estimated that 1,300 m² is in good ecological condition (rating B), 1,600 m² is in fair ecological condition (rating C) and 100 m² around the houses is in poor ecological condition (rating D).

Dominant canopy trees: *Eucalyptus goniocalyx* and *E. macrorhyncha*. *E. melliodora* is also present.

Dominant lower trees: Scattered *Exocarpos cupressiformis* and patches of *Acacia implexa*.

Shrubs: Small numbers of *Acacia stricta*. Prior to house construction, there was also *Bursaria spinosa*, *Cassinia longifolia* and *Goodenia ovata*.

Vines: Sparse *Billardiera mutabilis*, *Hardenbergia violacea* and *Pandorea pandorana*.

Ferns: None detected.

Ground flora: Dominated by *Themeda triandra* and smaller numbers of *Rytidosperma pallidum*. The following species are abundant but not dominant: *Dianella admixta*, *Lomandra filiformis*, *Rytidosperma* species, *Poa morrisii*, *Plantago varia*, *Bossiaea prostrata*, *Burchardia umbellata*, *Drosera peltata* subsp. *auriculata*. *Lepidosperma laterale* is a character species.

Plant species

The following plant species were observed by the author in the years indicated in the last column (or in 2008 where not otherwise indicated). Other species would probably have been recorded if access to the private property had been available. 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, *Pultenaea hispidula* is rare throughout the Melbourne region.

| Indigenous Species | Risk | Year | Indigenous Species | Risk | Year |
|---|---|------|---|------|------|
| <i>Acacia implexa</i> | V | 2008 | <i>Hibbertia riparia</i> | E | 2008 |
| <i>Acacia myrtifolia</i> | E | 2008 | <i>Hovea heterophylla</i> | V | 2008 |
| <i>Acacia pycnantha</i> | E | 2008 | <i>Hypericum gramineum</i> | E | 2003 |
| <i>Acacia stricta</i> | E | 2008 | <i>Indigofera australis</i> | E | 2008 |
| <i>Acrotriche prostrata</i> | V | 2008 | <i>Lepidosperma laterale</i> | V | 2008 |
| <i>Acrotriche serrulata</i> | | 2003 | <i>Linum marginale</i> | E | 2003 |
| <i>Arthropodium strictum</i> | | 2008 | <i>Lomandra filiformis</i> subsp. <i>coriacea</i> | | 2008 |
| <i>Austrostipa pubinodis</i> | | 2003 | <i>Lomandra longifolia</i> | | 2002 |
| <i>Billardiera mutabilis</i> | | 2003 | <i>Lyperanthus suaveolens</i> | C | 2004 |
| <i>Bossiaea prostrata</i> | | 2008 | <i>Microlaena stipoides</i> | | 2008 |
| <i>Brunonia australis</i> | V | 2003 | <i>Opercularia varia</i> | V | 2008 |
| <i>Bulbine bulbosa</i> | E | 2003 | <i>Oxalis exilis/perennans</i> | | 2003 |
| <i>Burchardia umbellata</i> | | 2003 | <i>Pandorea pandorana</i> | | 2003 |
| <i>Bursaria spinosa</i> | | 2002 | <i>Pimelea curviflora</i> | E | 2008 |
| <i>Carex breviculmis</i> | | 2003 | <i>Pimelea humilis</i> | V | 2003 |
| <i>Cassinia longifolia</i> | V | 2003 | <i>Plantago varia</i> | V | 2003 |
| <i>Daviesia latifolia</i> | E | 2008 | <i>Platylobium formosum</i> | V | 2003 |
| <i>Deyeuxia quadriseta</i> | | 2003 | <i>Poa morrisii</i> | | 2003 |
| <i>Dianella admixta</i> | | 2008 | <i>Poranthera microphylla</i> | | 2002 |
| <i>Dianella longifolia</i> s.l. | V | 2008 | <i>Pultenaea hispidula</i> | C | 2003 |
| <i>Dichondra repens</i> | | 2003 | <i>Ranunculus lappaceus</i> | E | 2003 |
| <i>Dillwynia cinerascens</i> | V | 2003 | <i>Rytidosperma linkii</i> var. <i>fulvum</i> | | 2008 |
| <i>Drosera peltata</i> subsp. <i>auriculata</i> | V | 2003 | <i>Rytidosperma pallidum</i> | | 2008 |
| <i>Eucalyptus goniocalyx</i> | | 2008 | <i>Rytidosperma penicillatum</i> | | 2003 |
| <i>Eucalyptus macrorhyncha</i> | E | 2008 | <i>Rytidosperma racemosum</i> | | 2008 |
| <i>Eucalyptus melliodora</i> | V | 2008 | <i>Rytidosperma tenuius</i> | | 2008 |
| <i>Exocarpos cupressiformis</i> | V | 2008 | <i>Senecio quadridentatus</i> | | 2008 |
| <i>Geranium</i> sp. 2 | V | 2002 | <i>Stackhousia monogyna</i> | E | 2003 |
| <i>Glycine clandestina</i> | V | 2008 | <i>Themeda triandra</i> | | 2008 |
| <i>Gonocarpus tetragynus</i> | | 2008 | <i>Wahlenbergia stricta</i> | E | 2003 |
| <i>Goodenia ovata</i> | | 2003 | <i>Wurmbea dioica</i> | E | 2002 |
| <i>Hardenbergia violacea</i> | V | 2008 | | | |
| Introduced Species | | | | | |
| <i>Acacia floribunda</i> | <i>Chlorophytum comosum</i> | | <i>Oxalis incarnata</i> | | |
| <i>Acacia podalyriifolia</i> | <i>Chrysanthemoides monilifera</i> ssp. <i>monilifera</i> | | <i>Paspalum dilatatum</i> | | |
| <i>Agapanthus praecox</i> | <i>Crocasmia</i> × <i>crocosmiiflora</i> | | <i>Pinus radiata</i> | | |
| <i>Allium triquetrum</i> | <i>Ehrharta erecta</i> | | <i>Pittosporum undulatum</i> | | |
| <i>Anagallis arvensis</i> | <i>Genista linifolia</i> | | <i>Plantago lanceolata</i> | | |
| <i>Anthoxanthum odoratum</i> | <i>Genista monspessulana</i> | | <i>Rubus anglocandicans</i> | | |
| <i>Briza maxima</i> | <i>Grevillea rosmarinifolia</i> | | <i>Sonchus oleraceus</i> | | |
| <i>Bromus catharticus</i> | <i>Hakea salicifolia</i> | | <i>Trifolium repens</i> | | |
| <i>Centaureum erythraea</i> | <i>Hypochoeris radicata</i> | | <i>Vicia sativa</i> | | |
| <i>Chamaecytisus palmensis</i> | <i>Linum trigynum</i> | | <i>Watsonia meriana</i> var. <i>bulbillifera</i> | | |

Notes concerning some of the locally threatened plants

Bulbine bulbosa (Yellow Bulbine-lily). Approx. 50 plants were seen in 2002-3 scattered within the site (particularly towards southern corner). None could be seen in 2008 because of the time of year (March).

Linum marginale (Native Flax). A viable population.

Lyperanthus suaveolens (Brown Beaks). About 100 were seen in December 2004, close to Philippa Rd; the only remaining population in Knox. None could be seen in 2008 because of the time of year (March).

Pimelea curviflora (Curved Rice-flower). Dozens of plants, one of the biggest population in Knox.

Pultenaea hispidula (Rusty Bush-pea). A small number were present in 2002-3, the only records from Knox. There are many more on the other side of Philippa Rd in the national park. None could be seen from the property boundary in 2008.

Ranunculus lappaceus (Australian Buttercup). A few plants were seen in 2002-3 along Hansen Rd. None could be seen in 2008 because of the time of year (March).

Wahlenbergia stricta (Tall Bluebell). Scarce, but numbers not recorded. None could be seen from the property boundary in 2008.

Wurmbea dioica subsp. *dioica* (Common Early Nancy). Only a few plants seen in 2002, but others were possibly overlooked. None could be seen in 2008 because of the time of year (March).

Fauna of special significance

Because of the proximity to the Dandenong Ranges National Park, the site is bound to be occasionally visited by rare or threatened fauna from the park such as Powerful Owls. The site provides a small extension to the native habitat available for such species.

Fauna habitat features

- Remnant vegetation provides some habitat for native birds, including nesting Spotted Pardalotes beside Hansen Rd;
- Exposed rocks are likely to provide some habitat for skinks.

Significance ratings

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

Vegetation Type and Condition

Appendix 3 of *Victoria's Native Vegetation Management - a Framework for Action* (NRE 2002a) states that vegetation of an EVC rated as 'Least Concern' (as in this case) is of either Medium or Low conservation significance, depending on whether the habitat score is above or below 0.6. Although no habitat score has been determined in this site, it seems most likely that the highest habitat score on the site would be below 0.6, corresponding to a Low conservation significance. This, in turn, confers **Local** significance on the site under criterion 3.2.3 of Amos (2004).

If the site's significance rating were to become an important issue, the habitat score of the best native vegetation would have to be determined by fieldwork to see whether it really is below the threshold of 0.6.

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.

It is also quite possible that the site supports a threatened orchid such as *Caladenia oenochila*, which occurs in the adjoining part of the national park and could have escaped detection. This would raise the site's significance rating greatly, and should be considered as part of any development proposal for the site.

Threats

- Slashing, which has decimated the shrub cover since houses were built;
- Gardening. The Hakeas planted in 2007 beside 4 Philippa Rd are an extreme risk to Knox's last remaining population of Brown-beaks Orchids;
- Invasion by environmental weeds as listed below, with asterisks marking those that are controlled under the *Catchment and Land Protection Act 1994*:
 - Very serious: Bulbil Watsonia* (*Watsonia meriana*), Pincushion Hakea (*Hakea laurina*);
 - Serious: African Lily or Agapanthus (*Agapanthus praecox*), Sweet Vernal-grass (*Anthoxanthum odoratum*); and
 - Moderate: Angled Onion* (*Allium triquetrum*), Large Quaking-grass (*Briza maxima*), Common Centaury (*Centaureum erythraea*), Boneseed* (*Chrysanthemoides monilifera monilifera*), Montbretia (*Crocasmia* × *crocasmiflora*), Flax-leafed Broom* (*Genista linifolia*), Montpellier Broom* (*Genista monspessulana*), Cat's Ear (*Hypochoeris radicata*), Pale Wood-sorrel (*Oxalis incarnata*), Sweet Pittosporum (*Pittosporum undulatum*), Ribwort (*Plantago lanceolata*), Blackberry* (*Rubus discolor*) and vetches (*Vicia* species).

Management issues

- More effective weed control is highly desirable, and many of the weed species present must be controlled under the *Catchment and Land Protection Act 1994*.
- The site's fire risk needs to be managed, and this can be done harmoniously with proper care of the native vegetation. Slashing is an appropriate method as long as careful attention is paid to frequency, time of year and severity.

Administration matters

- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of the significant plants and the quality of much of the site's native vegetation;
- The reserve is zoned 'Low Density Residential Zone';
- The site is protected under the existing Vegetation Protection Overlay Schedule 1 and Significant Landscape Overlay Schedule 2 of the Knox Planning Scheme;
- The site was included in 'Composite Area A' by Water Ecoscience (1998) without any substantial assessment;

Information sources used in this assessment

- A site survey undertaken during this study by Mr Rik Brown on 11/10/02 using this study's standard procedures discussed in Section 2.4 of Volume 1. This included a description of the vegetation composition, compilation of lists of indigenous and introduced plant species, incidental fauna observations, and checks for fauna habitat, ecological threats and management issues;
- A site inspection and list of flora species by Dr Lorimer in early 2003 to detect seasonal species and check earlier identifications;
- A site inspection by Dr Lorimer on 7/3/08 to check how much of the site's significance had survived. The plant species list was compiled and the vegetation quality was mapped;
- 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.