

## Site 14. West of Wicks Reserve, The Basin

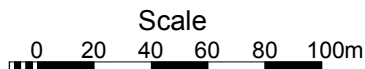
Residential properties located between Mountain Hwy and Wicks Reserve adjacent to The Basin township area. Melway ref. 65 H7-8.

### Site Significance Level: *Regional or State*

- Contains remnants of two regionally vulnerable Ecological Vegetation Classes (Grassy Forest and Swampy Woodland) with patches of indigenous understorey vegetation that is moderately to heavily modified;
- Provides good habitat for forest birds and arboreal insects, and some understorey for ground-dwelling fauna;
- Provides some ecological protection and buffering to Wicks Reserve and the Dandenong Ranges National Park.



Aerial photograph taken April, 2003



### Boundaries

The site encompasses the properties and road verge depicted above within the red outline for Site 14. The road verge extends as far north as the kerb of Basin-Olinda Rd. Other segments of the boundary generally follow cadastral boundaries, except that one property is dissected to exclude the southernmost shop building in the shopping centre. The whole site occupies 5.34 ha.

**Note:** Permission was not obtained to enter the private properties, so the site was inspected from public land, assisted by aerial photographs. Some native ground flora would have gone undetected.

**Land use & tenure:** Private residential properties and road verge. The westernmost residence is on the same lot as the southernmost shop in the shopping centre (which is excluded from the site).

## Site description

The site is located on sheltered, gently sloping land near the base of the northeastern flank of Chandlers Hill in the Dandenong Ranges, at an approximate elevation of 180 m. The western two-thirds (or so) of the site has shallow loam over clay subsoil, derived from decay of the underlying Mt Evelyn rhyodacite formation (part of the Mt Dandenong volcanic flows). The remainder of the site, toward Wicks Reserve, is covered with soil and rock that slipped downhill from Chandlers Hill long ago, derived from a mixture of Mt Evelyn rhyodacite, Kalorama rhyodacite and the tuff at the interface between the two. This transported soil has almost filled a drainage line, and there is probably a substantial subsoil flow of water through it.

The site supports a fair to good cover of remnant trees, with understorey vegetation generally varying in accordance with levels of residential development and physical disturbances.

The highest quality areas of native vegetation that could be seen during the inspection were at the rear of 1,337 Mountain Hwy and the rear of 24 Basin-Olinda Rd adjacent to Wicks Reserve (marked on the aerial photograph). Indigenous ground layer vegetation appears relatively intact in these areas despite previous clearing and mowing.

Indigenous understorey vegetation is substantially depleted in areas immediately surrounding residences (generally maintained as garden areas and mown lawn). Small pockets of understorey vegetation may occur in parts of residential properties that could not be seen during the inspection of the area for this report.

The density of remnant flora (particularly trees) in this site no doubt contributes greatly to the rich birdlife found in the neighbourhood, including at the neighbouring shopping centre and civic buildings. This adds to the amenity of the area.

## Relationship to other land

The site abuts the western edge of significant remnant vegetation and habitat within Wicks Reserve (Site 15). Extensive remnant forest vegetation and wildlife habitat also occurs within the Dandenong Ranges National Park, whose closest point is 500m to the south.

Other residential properties in the surrounding area support a fair to good cover of remnant trees and some indigenous understorey vegetation, although generally less extensive and diverse than properties within this site. Most nearby roadsides, including Mountain Hwy, also retain some native tree cover and occasional patches of native understorey. The density of remnant trees in the area facilitates movement of native birds, insects and pollen around the neighbourhood. This is evidenced by the abundance of Australian King-parrots, which are regarded as an uncommon species in the region generally (LCC 1991).

The site effectively extends the habitat of Wicks Reserve and the National Park, to the benefit of both the fauna and the amenity of the area.

**Bioregion:** Highlands Southern Fall

## Habitat types

Note that the data below may not adequately represent parts of the site that could not be seen during the site inspection because permission was not obtained to enter private property.

**Herb-rich Foothill Forest** (EVC 23, conservation status rated 'Least Concern' in the bioregion). 1.5 ha in total, of which it is estimated that 0.5 ha is in fair ecological condition (rating C) and 1 ha is in poor ecological condition (rating D). 37 indigenous plant species were detected, and more would no doubt be found if the private properties were inspected from within.

**Canopy trees:** A good cover of *Eucalyptus obliqua* up to 30m tall (mainly 50-80 years old). Moderate foliage dieback is apparent.

**Lower trees:** Patches of *Acacia melanoxylon* and *Exocarpos cupressiformis*.

**Shrubs:** Patchy shrub layer, including *Leptospermum scoparium*, *Bursaria spinosa*, *Ozothamnus ferrugineus*, *Goodenia ovata*, *Epacris impressa* and *Coprosma quadrifida*. Some clearing of shrub layer vegetation has previously occurred.

**Vines:** Some *Billardiera mutabilis*.

**Ferns:** Some *Pteridium esculentum* and (characteristically) *Lindsaea linearis*, plus a few small specimens of *Cyathea australis*.

**Ground flora:** Supports a fair cover and diversity of indigenous sedges and herbs that have persisted despite mowing activities, including *Gahnia radula*, *Goodenia lanata*, *Bossiaea prostrata*, *Stylidium graminifolium*, *Dianella tasmanica*, *Poa tenera*, *Tetrarrhena juncea*, *Viola hederacea* and (in damper areas near Wicks Reserve) *Patersonia occidentalis*, *Gonocarpus humilis* and *Centella cordifolia*. Terrestrial orchids and lilies potentially occur in some locations.

Grassy Forest (EVC 128, **regionally Vulnerable**). Estimated as 2,500 m<sup>2</sup> in fair ecological condition (rating C) and 8,500 m<sup>2</sup> in poor ecological condition (rating D). 35 indigenous plant species were detected, and more would no doubt be found if the private properties were inspected from within.

Canopy trees: Dominated by *Eucalyptus obliqua*, *E. radiata*, *E. macrorhyncha* and *E. goniocalyx*. A good cover of remnant trees up to 25m tall (mainly 50-80 years old). Moderate foliage dieback is apparent.

Lower trees: A few scattered specimens of *Acacia melanoxylon* and *Exocarpos cupressiformis*.

Shrubs: Scattered thinly, including *Bursaria spinosa*, *Exocarpos strictus*, *Acacia stricta*, *Goodenia ovata* and *Coprosma quadrifida*. Most shrub layer vegetation has previously been cleared.

Vines: Some *Hardenbergia violacea*, *Clematis aristata* and *Billardiera mutabilis*.

Ferns: A small amount of *Pteridium esculentum*.

Ground flora: Dominated by a good cover of indigenous grasses that have persisted despite mowing activities, including *Themeda triandra*, *Rytidosperma pallidum*, *Microlaena stipoides*, *Rytidosperma penicillatum*, *Poa morrisii* and *Austrostipa rudis*. The characteristic creeper, *Platylobium formosum* is present. Indigenous herbs are scattered within less-disturbed areas, including *Drosera peltata* and *Viola hederacea*. Terrestrial orchids and lilies potentially occur in some locations.

Swampy Woodland (EVC 937, **regionally Vulnerable**). Roughly 1,000 m<sup>2</sup>, all in poor ecological condition (rating D).

Canopy trees: Small numbers of *Eucalyptus ovata*.

Understorey: Very much reduced from its natural cover. The species belonging to this EVC cannot be well distinguished from those of the surrounding EVCs, because of the likelihood of intergradation of the EVCs in such a small area.

### Plant species

The following plant species were observed in the years indicated. 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, *Plantago debilis* is rare throughout the Melbourne region. Without permission to access the properties, the list is bound to be incomplete.

Risk	Indigenous Species	Year	Risk	Indigenous Species	Year
V	<i>Acacia melanoxylon</i>	2002		<i>Goodenia lanata</i>	2002
E	<i>Acacia stricta</i>	1997		<i>Goodenia ovata</i>	2002
V	<i>Acacia verticillata</i>	2002	V	<i>Hardenbergia violacea</i>	1997
	<i>Acaena novae-zelandiae</i>	2002	V	<i>Hydrocotyle hirta</i>	2002
	<i>Austrostipa rudis</i> subsp. <i>rudis</i>	2002		<i>Lepidosperma elatius/laterale</i>	2002
	<i>Billardiera mutabilis</i>	2002		<i>Leptospermum continentale</i>	2002
	<i>Bossiæa prostrata</i>	2002	V	<i>Lindsaea linearis</i>	2002
	<i>Burchardia umbellata</i>	2002		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	2002
	<i>Bursaria spinosa</i>	2002		<i>Lomandra longifolia</i>	1997
	<i>Carex breviculmis</i>	1997		<i>Microlaena stipoides</i>	2002
E	<i>Centella cordifolia</i>	2002		<i>Oxalis exilis/perennans</i>	2002
V	<i>Clematis aristata</i>	2002	E	<i>Ozothamnus ferrugineus</i>	2002
V	<i>Coprosma quadrifida</i>	2002	C	<i>Patersonia ?occidentalis</i>	2002
E	<i>Cyathea australis</i>	2002	C	<b><i>Plantago debilis</i></b>	2002
V	<i>Dianella tasmanica</i>	2002	V	<i>Platylobium formosum</i>	2002
	<i>Dichondra repens</i>	2002		<i>Poa morrisii</i>	1997
V	<i>Drosera peltata</i>	2002	E	<i>Poa tenera</i>	2002
V	<i>Epacris impressa</i>	2002	E	<i>Prostanthera lasianthos</i>	2002
	<i>Eucalyptus goniocalyx</i>	2002		<i>Pteridium esculentum</i>	2002
E	<i>Eucalyptus macrorhyncha</i>	2002	V	<i>Pultenaea gunnii</i>	2002
V	<i>Eucalyptus obliqua</i>	2002		<i>Rytidosperma pallidum</i>	2002
V	<i>Eucalyptus ovata</i>	2002		<i>Rytidosperma penicillatum</i>	2002
E	<i>Eucalyptus radiata</i>	2002		<i>Rytidosperma racemosum</i>	1997
V	<i>Exocarpos cupressiformis</i>	2002	E	<i>Stylidium armeria/graminifolium</i>	2002
E	<i>Exocarpos strictus</i>	1997		<i>Tetrarrhena juncea</i>	2002
	<i>Gahnia radula</i>	2002		<i>Themeda triandra</i>	2002
E	<i>Gonocarpus humilis</i>	2002	E	<i>Viola hederacea</i>	2002
	<i>Gonocarpus tetragynus</i>	2002			

### Introduced Species

<i>Acacia baileyana</i>	<i>Galium aparine</i>	<i>Prunella vulgaris</i>
<i>Agapanthus praecox</i>	<i>Genista linifolia</i>	<i>Prunus cerasifera</i>
<i>Allium triquetrum</i>	<i>Genista monspessulana</i>	<i>Romulea rosea</i>
<i>Anthoxanthum odoratum</i>	<i>Hedera helix</i>	<i>Rubus anglocandicans</i>
<i>Briza maxima</i>	<i>Lonicera japonica</i>	<i>Trifolium repens</i>
<i>Cirsium vulgare</i>	<i>Oxalis incarnata</i>	<i>Vinca major</i>
<i>Crocosmia × crocosmiiflora</i>	<i>Pinus radiata</i>	<i>Watsonia meriana</i> var. <i>bulbillifera</i>
<i>Dactylis glomerata</i>	<i>Pittosporum undulatum</i>	

### Fauna of special significance

Uncommon in the Melbourne region

*Alisterus scapularis* (Australian King-parrot). Rather abundant in this neighbourhood.

Uncommon in Knox

*Oriolus sagittatus* (Olive-backed Oriole).

Other significant forest birds occurring within the nearby Dandenong Ranges National Park and Wicks Reserve are likely to be frequent visitors.

### Fauna habitat features

The cover of remnant trees extending throughout most of the site provides good habitat for birds and possums. Ground-dwelling fauna (particularly small mammals & lizards) and butterflies occurring in adjoining forest within Wicks Reserve are also likely to visit the site.

### 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 adjoins more extensive habitat within Wicks Reserve, Site 18 and the Dandenong Ranges National Park. The total area exceeds 100 ha, thereby giving the site **Local** conservation significance under criterion 1.1.2 of Amos (2004).

#### *Regionally Vulnerable Ecological Vegetation Classes*

According to the criteria of 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), vegetation belonging to a regionally vulnerable EVC (including Grassy Forest) has a conservation significance rating of Medium to Very High, depending on their habitat score (Volume 1, Section 2.4.4). The most intact Grassy Forest vegetation in this site would probably have a habitat score of approximately 0.3, if it were to be measured, and this would put the conservation significance on the cusp between Medium or High according to the Framework. As a consequence, the significance level under criterion 3.2.3 is on the cusp between **Regional** and **State**. To determine the significance more precisely would require a detailed inspection of the various properties to determine the area of most intact vegetation and then obtain its habitat score in accordance with the Framework.

Swampy Woodland is also listed as regionally vulnerable, but the quality of the vegetation within this EVC is poorer than the Grassy Forest and its extent is smaller. Therefore, the presence of the Swampy Woodland does not determine the site's significance rating.

#### *Rare or Threatened Plants*

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 environmental weeds, particularly Sweet Pittosporum (*Pittosporum undulatum*), which is rated as 'Serious' according to the scale in Section 2.4.3 of Volume 1;
- Loss of native trees and understorey vegetation associated with residential development;
- Dieback of remnant trees associated with altered drainage patterns (likely to be exacerbated by the ongoing establishment of buildings and other hard surfaces);
- Clearing and mowing of understorey vegetation for fire protection or garden establishment;
- The introduction and spread of weeds from residential gardens and through physical disturbances;
- Competition of indigenous ground flora with exotic grasses and herbs.

**Management issues**

- It would be environmentally very desirable to remove at least the female Sweet Pittosporums to reduce their spread.
- Remnant trees and understorey should be protected in any future development, including preventing alterations in drainage patterns that would potentially affect nearby vegetation.
- The present frequency and timing of mowing in most properties could be improved to reduce landowners' workload and favour wildflowers and wildlife. The optimum regimen varies according to the weed species present in each area.
- Landowners should not cultivate environmental weed species.

**Administration matters**

- As discussed above, the site should be administered almost the same as if it were definitely of State significance, based on the Precautionary Principle.
- This site is suited to inclusion under the proposed ESO2 overlay because it is of Regional or State significance under current criteria and it contains a viable remnant of a regionally threatened EVC.
- The site is protected under the existing Vegetation Protection Overlay Schedule 1 and Significant Landscape Overlay Schedule 2 of the Knox Planning Scheme;
- Council should make the significance of the site known to its users and to those who manage its vegetation.
- The apparently imminent development of land adjacent to Wicks Reserve is likely to require attention to adequately address potential environmental impacts.

**Information sources used in this assessment**

- Surveys of the private properties undertaken during this study by Rik Brown (5/9/02 & 11/9/02), including compilation of lists of indigenous and introduced plant species, incidental fauna observations and vegetation mapping/descriptions according to the procedures discussed in Section 2.4 of Volume 1. Note that visibility of vegetation on some residential properties was limited during field surveys;
- Survey of roadside vegetation by Dr Lorimer on 12/9/97 for the report, '*A Survey and Management Plan for Significant Vegetation of Roadsides in Knox*' (by G.S. Lorimer for Knox City Council, May 1998, 137 pp.);
- Aerial photography from 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.