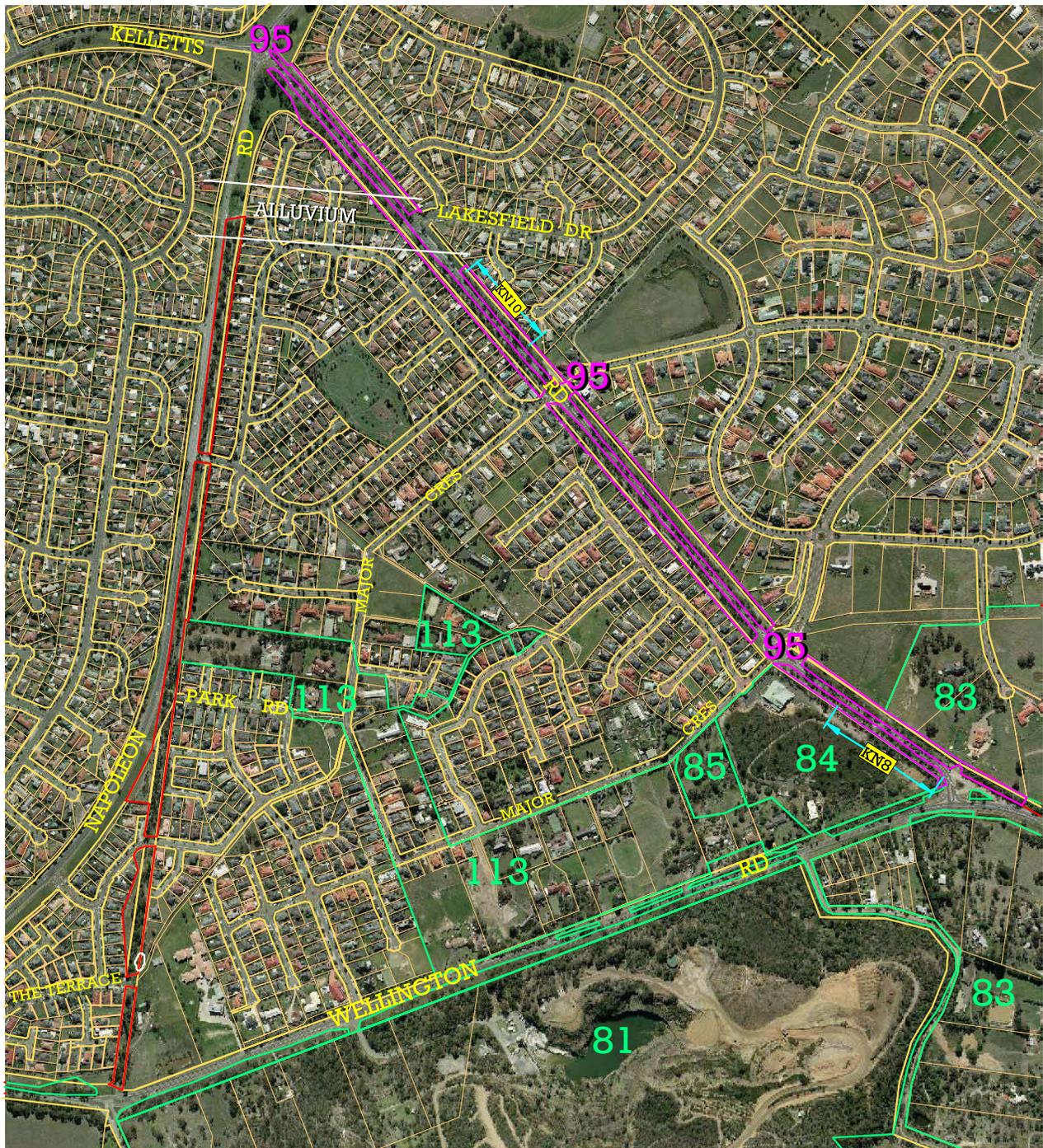


Site 94. Napoleon Rd Roadside, Rowville

Road verge and unused road reservation totalling 1.5 lineal kilometres. Melway maps 73 and 82.

Site Significance Level: *State*

- Nearly all the native vegetation belongs to the endangered Ecological Vegetation Class, Valley Heathy Forest;
- The site is a linear oasis of native vegetation in a heavily urbanised neighbourhood;
- The vegetation is ecologically stable or improving in condition through Council action, but some species still have too few individuals for long-term viability in the absence of intervention.



Scale 1:10,000
0 100 200 300 400m

KN8 and KN10 refer to signposted
'Significant Roadside' in Site 95.

The aerial photograph was taken in April 2003.

Document Revision 2.0, 28 June 2010

Boundaries

The four sections of this site are outlined in red on the aerial photograph, totalling 3.81 ha. Other sites are outlined in magenta or green; Magenta outlines represent the Kelletts Rd site (Site 95, p. 481). The alluvial corridor of Corhanwarrabul Ck (now piped) is between the two white lines west of Lakesfield Drive. Where the edge of the Napoleon Rd site follows the road's gutter, it is not intended to enclose any part of the gutter that is subject to periodic grading. However, great care should be taken when grading not to damage the plant that appears to be a specimen of the nationally rare Matted Flax-lily (*Dianella amoena*), which abuts the gutter.

Land use & tenure: Road verge and unused road reservation.

Site description

This linear site extends from the lower slope of the Lysterfield Hills in the south, almost to Corhanwarrabul Ck at the northern tip. It follows the original alignment intended for Napoleon Rd, but the present route of Napoleon Rd diverges to the west, south of Park Rd. The state of the vegetation south of Park Rd indicates that this segment of the site was previously used as a road or track with pasture beside it. Today, that segment functions as a linear park, as well as providing driveway access to an adjoining farmlet.

The southern end of the site, near Wellington Rd, has an elevation of approximately 115 m and a north-facing slope of 10% grade. It lies on soil that has slipped or washed downhill from the Lysterfield Hills (called colluvium), providing the deep soil required by the Yellow Box trees (*Eucalyptus melliodora*) that are abundant there. The pre-European vegetation would probably have been Valley Grassy Forest, but there is negligible native understorey left to confirm this.

Within approximately 100m north of Wellington Rd, the depth of the colluvium becomes shallow and the native vegetation becomes identifiably Valley Heathy Forest, which is endangered nationally. The transition to Valley Heathy Forest represents the transition from the Highlands Southern Fall bioregion to the Gippsland Plain bioregion.

From that transition northward, the slope becomes shallow and faces northwest. The lowest point is at the northern end of the site, just south of the Corhanwarrabul Ck drain, at an elevation of 70 m. Valley Heathy Forest extends north to within approximately 60m of the site's northern end, where there are vestiges of Swampy Riparian Complex growing in shallow alluvium.

A minor drainage line crosses the site where it passes The Terrace. There is a small rushland there (i.e. a wetland dominated by rushes) outlined in white on the aerial photograph.

Overall, the site has a good canopy of eucalypts (particularly Mealy Stringybark, *Eucalyptus cephalocarpa*) and numerous small trees such as Blackwood (*Acacia melanoxylon*) and Cherry Ballart (*Exocarpos cupressiformis*). There are also areas of dense regrowth of Sweet Bursaria (*Bursaria spinosa*) and Hedge Wattle (*Acacia paradoxa*). The site's native ground flora is mostly sparse and the ecological condition of the vegetation is poor (rating D) throughout. Only forty naturally occurring indigenous plant species were recorded.

Knox City Council is capitalising on the good tree canopy and patches of dense shrubs by progressively planting indigenous ground flora and additional shrubs, while keeping weeds under control. These activities have been concentrated in the vicinity of Park Rd.

Surprisingly, despite the serious degradation of the ground flora, there remains a flax-lily plant that appears to be *Dianella amoena*, which is listed as nationally endangered under the *Environment Protection and Biodiversity Conservation Act 1999*. The identity is yet to be confirmed. It is so close to the road that a grader has exposed its roots. The small number of sites in the world where *Dianella amoena* still occurs are mostly degraded and typically contain only one or very few individuals, as in this case.

Relationship to other land

Some species of birds and insects are likely to move between this site, Kelletts Rd (Site 95) and the more expansive habitat in the Lysterfield Hills (Sites 81 and 82). Some of these fauna would carry pollen, which would reduce the risk of inbreeding of some plants within the site.

Bioregion: Gippsland Plain except for the southernmost 100 m (approximately), which is in the Highlands Southern Fall bioregion.

Habitat types

Valley Grassy Forest (EVC 47, **regionally Vulnerable**): Only a tiny, vestigial patch at the site's southern extremity.

Wetland (EVC 74, **regionally Endangered**): 350 m² in area (half inside and half outside the site – see the white ellipse near The Terrace on the aerial photograph). The ecological condition is poor (rating D). 4 indigenous plant species were found.

Trees, vines, shrubs and ferns: Absent.

Semi-aquatic flora: Densely covered by a mixture of *Juncus amabilis*, *J. gregiflorus*, *J. sarophorus* and smaller numbers of *J. pallidus*. No other indigenous species were found.

Valley Heathy Forest (EVC 127, **Endangered):** Estimated to occupy 1.4 ha with native understorey, all in poor ecological condition (rating D). 38 indigenous plant species were found.

Canopy trees: Dominated by *Eucalyptus cephalocarpa*, *E. radiata* and *E. obliqua*, with small numbers of *E. goniocalyx*.

Lower trees: Dominated by *Acacia melanoxylon* and *Exocarpos cupressiformis*.

Shrubs: Sparse due to past clearing in some of the site, but dense in areas of regrowth that are dominated by *Bursaria spinosa* and *Acacia paradoxa*. Other species are very scarce.

Vines: There are small numbers of the light twiner, *Billardiera mutabilis*.

Ferns: None found.

Ground flora: Weeds, and particularly Panic Veldt-grass (*Ehrharta erecta*) dominate the ground flora of much of the site. Areas that retain a substantial amount of indigenous ground flora are dominated variously by *Gahnia radula*, *Microlaena stipoides*, *Austrostipa rudis* or *Poa morrisii*. There are also substantial amounts of *Rytidosperma racemosum*.

Swampy Riparian Complex (EVC 126, **regionally Endangered):** Within the corridor between the two white lines to the left of Lakesfield Dr on the aerial photograph. Estimated as 0.06 ha of canopy (but with scant native understorey), all in very poor ecological condition (rating D). 3 indigenous plant species were found.

Canopy trees: A pure stand of *Eucalyptus ovata*.

Lower trees: *Acacia melanoxylon*.

Shrubs, vines and ferns: None.

Ground flora: Overwhelmingly weeds, mown regularly. The only indigenous ground flora species found was the hardy grass, *Microlaena stipoides*.

Plant species

The following plant species were observed by the author on 5th June 2002. Additional species would no doubt be detectable in other seasons. 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, *Dianella amoena* is endangered nationally and *Pultenaea pedunculata* is rare throughout the Melbourne region.

Risk	Indigenous Species	Risk	Indigenous Species
V	<i>Acacia implexa</i>		<i>Goodenia ovata</i>
V	<i>Acacia mearnsii</i>		<i>Juncus amabilis</i>
V	<i>Acacia melanoxylon</i>		<i>Juncus gregiflorus</i>
	<i>Acacia paradoxa</i>		<i>Juncus pallidus</i>
V	<i>Acacia verticillata</i> (wild & planted)		<i>Juncus sarophorus</i>
	<i>Acaena novae-zelandiae</i>	E	<i>Juncus subsecundus</i>
V	<i>Allocasuarina littoralis</i> (wild & planted)		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>
C	<i>Amyema pendula</i>		<i>Lomandra filiformis</i> subsp. <i>filiformis</i>
	<i>Austrostipa rudis</i> subsp. <i>rudis</i>		<i>Lomandra longifolia</i> (wild & planted)
	<i>Billardiera mutabilis</i>	E	<i>Melaleuca ericifolia</i>
	<i>Bursaria spinosa</i>		<i>Microlaena stipoides</i>
C	<i>Chrysocephalum semipapposum</i> (planted)		<i>Oxalis exilis/perennans</i>
	<i>Dianella admixta</i>	E	<i>Poa labillardierei</i> (planted)
C	<i>Dianella ?amoena</i>		<i>Poa morrisii</i>
V	<i>Dianella longifolia</i> s.l. (wild & planted)		<i>Poranthera microphylla</i>
V	<i>Eucalyptus cephalocarpa</i>	C	<i>Pultenaea pedunculata</i>
	<i>Eucalyptus goniocalyx</i>		<i>Rytidosperma racemosum</i>
V	<i>Eucalyptus melliodora</i> (wild & planted)	E	<i>Rytidosperma semiannulare</i>
V	<i>Eucalyptus ovata</i>		<i>Rytidosperma setaceum</i> (planted)
E	<i>Eucalyptus radiata</i>		<i>Senecio quadridentatus</i>
V	<i>Exocarpos cupressiformis</i>	V	<i>Solanum laciniatum</i> (planted)
	<i>Gahnia radula</i>		<i>Themeda triandra</i>
	<i>Gonocarpus tetragynus</i>		

Introduced Species

<i>Agrostis capillaris</i>	<i>Cynodon dactylon</i>	<i>Paspalum dilatatum</i>
<i>Allium triquetrum</i>	<i>Cyperus eragrostis</i>	<i>Pennisetum clandestinum</i>
<i>Anthoxanthum odoratum</i>	<i>Dactylis glomerata</i>	<i>Phalaris aquatica</i>
<i>Arctotheca calendula</i>	<i>Ehrharta erecta</i>	<i>Ranunculus repens</i>
<i>Asparagus asparagoides</i>	<i>Galium aparine</i>	<i>Romulea rosea</i>
<i>Aster subulatus</i>	<i>Genista monspessulana</i>	<i>Rubus anglocandicans</i>
<i>Bromus catharticus</i>	<i>Hedera helix</i>	<i>Sporobolus africanus</i>
<i>Chrysanthemoides monilifera monilifera</i>	<i>Helminthotheca echioides</i>	<i>Ulex europaeus</i>
<i>Cirsium vulgare</i>	<i>Holcus lanatus</i>	<i>Zantedeschia aethiopica</i>
<i>Crataegus monogyna</i>	<i>Hypochoeris radicata</i>	

Notes concerning two of the locally threatened plant species

Dianella amoena (Matted Flax-lily). A solitary specimen was found by the road edge just outside the southwest corner of an area protected by bollards, slightly north of Bark Av. It had been slashed and it was sprouting where its rhizomes had been severed by a grader blade.

Pultenaea pedunculata (Matted Bush-pea). One patch measuring approximately 1 m² is protected by bollards just north of Bark Av. Another patch died in (or about) 2000.

Fauna of special significance

Uncommon in the Melbourne region

Musk Lorikeet. A flock was seen during the site survey.

Uncommon in Knox

Imperial White Butterfly. A colony was found on a Drooping Mistletoe (*Amyema pendulum*). This butterfly species has become uncommon in Knox, probably because of the dearth of the necessary host mistletoes.

Fauna habitat features

- The larger Swamp Gums and Bundies have hollows that would suit habitation by native birds, bats, possums or insects. This is probably also true of some Mealy Stringybarks, but no hollows were seen;
- The prickly shrub layer in parts of the site, particularly just northwest of Dorrigo Drive, could provide protection for small native birds. Even the very serious environmental weed, Hawthorn, may have some habitat value in this respect. Removal of Hawthorn should therefore be done progressively, accompanied by planting of prickly indigenous species as replacements.

Significance ratings

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

Endangered Ecological Vegetation Class

Valley Heathy Forest is nationally endangered. It follows from Appendix 3 of *Victoria's Native Vegetation Management - a Framework for Action* (NRE 2002a) that the site's native vegetation is necessarily of at least High conservation significance. This, in turn, gives the site **State** significance under criterion 3.2.3 of Amos (2004).

Rare or Threatened Flora

Until a positive identification can be obtained for the plant believed to be *Dianella amoena*, it should be treated as if the identification is correct. Criterion 3.1.1 recognises any habitat for such a nationally listed threatened species as being of **State** significance if the number of individuals is less than 1% of the global population (as in this case). One might normally downgrade this rating for a single, highly isolated individual plant, but it should not happen in this case because the total global population of the species comprises mostly isolated individuals and tiny groups.

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

Threats

- The *Dianella amoena* is at risk from damage by graders or slashers and will need continuing protection;
- Invasion by environmental weeds, of which the only ones rated Serious are Panic Veldt-grass (*Ehrharta erecta*) and Creeping Buttercup (*Ranunculus repens*);
- Loss or decline of plant species whose populations are so small and isolated that they are vulnerable to inbreeding, poor reproductive success or elimination by incidents such as disease or mower damage. This applies to *Acaena novae-zelandiae*, *Dianella amoena*, *Dianella admixta* and *Pultenaea pedunculata*.

Management issues

- Positive identification and protection of the nationally listed *Dianella amoena* plant is a matter of **national importance**. The plant's wellbeing should be checked regularly (e.g. monthly) so that immediate action can be taken in the event of damage. If the identity is confirmed, the plant must form part of the national recovery plan for the species, which is being prepared by the Federal Department of Environment and Heritage. The plant should be checked in summer for seed (which would be self-pollinated), and any seed should be collected and kept for use as part of the recovery plan;
- Approximately two plants of *Pultenaea pedunculata* propagated from the Ferntree Gully population (in Site 88) should be planted near the one in this site, to facilitate outbreeding and increase the numbers.

Administration matters

- Arrangements should be made for a botanist to confirm the identity of the plant believed to be *Dianella amoena*, to be done in late spring (e.g. November);
- The Planning Scheme zoning south of Park Rd is Residential 1 Zone (R1Z). The rest is zoned Road Zone Category 1 (RDZ1) except for two narrow strips of tree reserves that are zoned Public Park and Recreation Zone (PPRZ);
- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of the endangered Valley Heathy Forest and the rare species present;
- The southern half of the site is covered by the existing Vegetation Protection Overlay Schedule 1 of the Knox Planning Scheme. The northern half appears to have been omitted by mistake, since the northern end of the overlay area coincides with the edge of a planning scheme map.

Information sources used in this assessment

- A site survey by Dr Lorimer taking 2½ hours on 5/6/02 following this study's standard procedures discussed in Section 2.4 of Volume 1. This included:
 - Compilation of lists of indigenous and introduced plants for each of five parts of the site;
 - A description of the vegetation's structural and floristic composition within each of the parts;
 - Documentation of the vegetation's ecological condition;
 - Documentation of rare species populations;
 - Incidental observations of fauna; and
 - Checks for fauna habitat, ecological threats and management issues.
- 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.