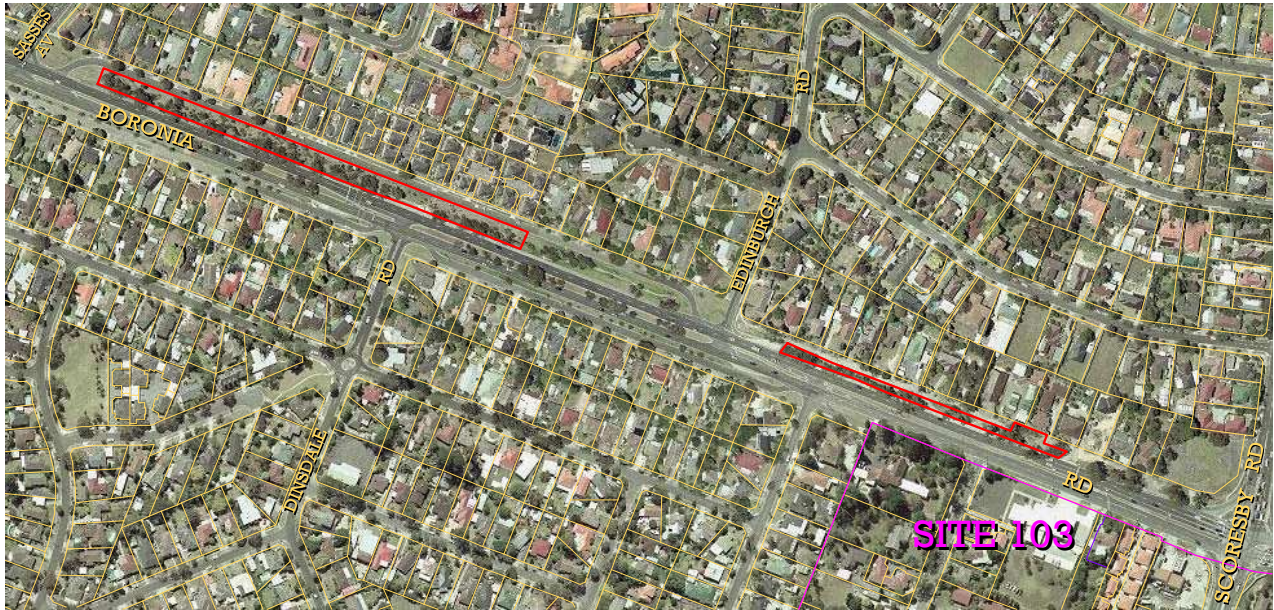


Site 90. Boronia Rd Roadside, Boronia

Three sections of road verge, of lengths 350 m, 230 m and 800 m. Melway ref. 64 D8 to J9.

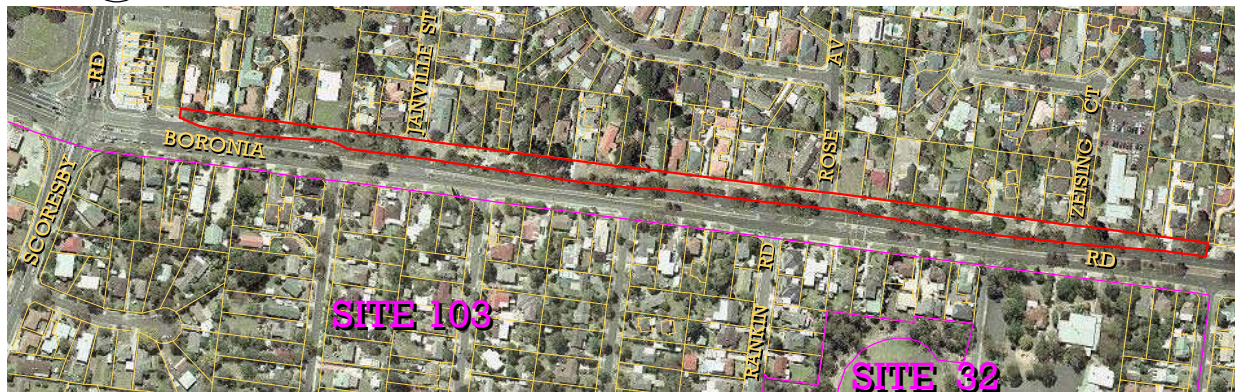
Site Significance Level: **State** west of Edinburgh Rd and **Local** east of Edinburgh Rd.

- The native vegetation belongs to the endangered EVC, Valley Heathy Forest;
- Small parts of the site are in good ecological condition.



0 100 200 300 400m

Aerial photographs taken February 2007



Aerial photographs

The two aerial photographs overlap slightly, with the intersection of Boronia Rd and Scoresby Rd seen in the southeast corner of the upper photograph and the northwest corner of the lower photograph. Site 90's three sections are outlined in red and neighbouring sites are outlined and labelled in magenta. Site 32 (St Joseph's College) is embedded within Site 103.

Boundaries

The two sections on the upper aerial photograph extend between the gutter of Boronia Rd and the edge of the adjacent service roads (but not enclosing the part of the gutter that is subject to periodic grading). The section on the lower aerial photograph extends between the property boundary and the kerb of Boronia Rd. The section west of Edinburgh Rd measures 0.49 ha, the section just east of Edinburgh Rd measures 0.17 ha and the section east of Scoresby Rd measures 1.09 ha.

Land use & tenure: Verges of a secondary road.

Site description

This site is situated in undulating terrain, at elevations from 90m in the west to 126 m in the east. There is a low ridge just east of Edinburgh Rd. The natural slope is typically 8%, but all three sections of the site include sections with very steep road cuttings. The soil is shallow, poorly draining, pale loam over clay subsoil, derived from decomposition of the underlying Lower Devonian sedimentary rocks of the Humevale formation.

Knox City Council has designated the section of the site west of Edinburgh Rd as Significant Roadside KN3. There are remnant indigenous trees scattered along Boronia Rd from Sasses Av to the Boronia shopping centre, but this site encompasses the sections with native understorey and better habitat for a wider range of species.

Three sections of the site can be identified with noticeably different topography, vegetation composition and ecological condition:

- West of Dinsdale Rd: the lowest section with the shallowest slope, and with a tree canopy dominated by Mealy Stringybark (*Eucalyptus cephalocarpa*) and Narrow-leafed Peppermint (*Eucalyptus radiata*). There is a central strip typically 5m wide that is in fair ecological condition (rating C) and the rest is almost all in poor ecological condition;
- Between Dinsdale Rd and Edinburgh Rd: a rise with a steep, vegetated cutting and native vegetation above it, dominated by Bundy (*Eucalyptus goniocalyx*) and mostly in good ecological condition (rating B);
- Between Edinburgh Rd and Scoresby Rd: elevated well above the road surface with a high cutting, its vegetation dominated by Bundy and Red Stringybark (*Eucalyptus macrorhyncha*), all in poor ecological condition (rating D) due to damaging practices such as dumping of garden waste and planting of environmental weeds;
- East of Scoresby Rd, where the undulations are more gentle and the native vegetation has mostly a long history of mowing, leaving a good cover of remnant eucalypts but patchy understorey. The vegetation's ecological condition in this stretch is poor (rating D) other than on the nature strips of 209, 219, 247 and 249 Boronia Rd, where there are patches in fair ecological condition (condition C). (209 Boronia Rd is the Uniting Church.) The patch outside 247 & 249 Boronia Rd includes the locally threatened plant species, *Acacia aculeatissima*.

Relationship to other land

As seen on the aerial photographs above, parts of this site are separated from Site 32 and Site 103 only by the width of Boronia Rd. Many birds and insects are likely to cross between these sites, representing a strong ecological connection. An example would be the Crimson Rosellas found nesting near the pedestrian crossing at Dinsdale Rd. These, and some other birds and insects, probably also include the Blind Creek corridor (Site 33) in their home ranges.

Bioregion: Gippsland Plain

Habitat types

Valley Heathy Forest (EVC 127, Endangered): The section west of Edinburgh Rd is estimated to have 0.35 ha of native understorey, comprising 0.015 ha in good ecological condition (rating B), 0.17 ha in fair ecological condition (rating C) and 0.165 ha in poor ecological condition (rating D). The section between Edinburgh Rd and Scoresby Rd is estimated to have 0.11 ha of native understorey, all in poor ecological condition (rating D). The section further to the east is estimated to have 0.59 ha of native understorey, comprising 0.04 ha in fair ecological condition (rating C) and 0.55 ha in poor ecological condition (rating D).

Canopy trees: Dominated by *Eucalyptus cephalocarpa* and *E. radiata* west of Dinsdale Rd, *E. goniocalyx* between there and Edinburgh Rd, a mixture of *E. goniocalyx* and *E. macrorhyncha* east of Edinburgh Rd, and *E. obliqua* east of Scoresby Rd.

Lower trees: Dominated by *Acacia mearnsii* and *Acacia melanoxylon*, with scarce *Exocarpos cupressiformis*.

Shrubs: Dominated by abundant *Bursaria spinosa*. *Goodenia ovata* is the next most abundant species. Other species include *Ozothamnus ferrugineus*, *Cassinia aculeata*, *Olearia lirata*, *Leptospermum continentale*, *Daviesia latifolia*, *Daviesia leptophylla*, *Dillwynia cinerascens* and *Epacris impressa*.

Vines: The light twiner, *Billardiera mutabilis*, is abundant.

Ferns: None.

Ground flora: Densely grassy, dominated variously by *Microlaena stipoides*, *Austrostipa rudis*, *Poa morrisii*, *Rytidosperma racemosum* or *Gahnia radula*. There are also substantial patches dominated by *Rytidosperma pallidum* or *Platylobium formosum* or *Dianella admixta*. Other species that are abundant in numbers but not dominant in foliage cover include *Arthropodium strictum*, *Gonocarpus tetragynus*, *Leptorhynchos tenuifolius*, *Lomandra filiformis* and *Poranthera microphylla*. *Acacia aculeatissima*, *Goodenia lanata*, *Platylobium formosum* and *Xanthorrhoea minor* are very scarce but good ecological indicators.

Plant species

The following plant species were observed by the author on 15/8/02 and/or 27/3/08, as indicated in the 'Year' column. Additional species would probably be detectable in other seasons. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox with 'E'=Endangered and 'V'=Vulnerable.

Risk	Indigenous Species	Year	Risk	Indigenous Species	Year
E	<i>Acacia aculeatissima</i>	2008		<i>Goodenia lanata</i>	2008
V	<i>Acacia implexa</i>	2002		<i>Goodenia ovata</i>	2008
V	<i>Acacia mearnsii</i>	2008	V	<i>Hardenbergia violacea</i>	2002
V	<i>Acacia melanoxylon</i> (wild & planted)	2008		<i>Juncus pallidus</i>	2002
E	<i>Acacia pycnantha</i>	2008		<i>Lachnagrostis filiformis</i>	2002
	<i>Acrotriche serrulata</i>	2002	V	<i>Leptorhynchos tenuifolius</i>	2002
V	<i>Allocasuarina littoralis</i> (planted)	2002		<i>Leptospermum continentale</i>	2002
	<i>Arthropodium strictum</i>	2002		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	2008
	<i>Austrostipa pubinodis</i>	2002		<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	2008
	<i>Austrostipa rudis</i> subsp. <i>rudis</i>	2002		<i>Lomandra longifolia</i>	2008
	<i>Billardiera mutabilis</i>	2002	V	<i>Lythrum hyssopifolia</i>	2002
	<i>Bossiaea prostrata</i>	2002		<i>Microlaena stipoides</i>	2008
	<i>Bursaria spinosa</i>	2008	V	<i>Olearia lirata</i>	2002
	<i>Carex breviculmis</i>	2008	V	<i>Opercularia varia</i>	2002
	<i>Cassinia aculeata</i>	2002		<i>Oxalis exilis/perennans</i>	2002
V	<i>Comesperma volubile</i>	2002	E	<i>Ozothamnus ferrugineus</i>	2002
E	<i>Daviesia latifolia</i>	2002	V	<i>Platylobium formosum</i>	2008
E	<i>Daviesia leptophylla</i>	2002		<i>Poa morrisii</i>	2008
	<i>Dianella admixta</i>	2008		<i>Poranthera microphylla</i>	2002
V	<i>Dillwynia cinerascens</i>	2002		<i>Rytidosperma pallidum</i>	2002
V	<i>Epacris impressa</i>	2002		<i>Rytidosperma racemosum</i>	2008
	<i>Epilobium ?hirtigerum</i>	2002		<i>Rytidosperma setaceum</i>	2008
V	<i>Eucalyptus cephalocarpa</i>	2008		<i>Rytidosperma tenuius</i>	2008
	<i>Eucalyptus goniocalyx</i>	2008		<i>Schoenus apogon</i>	2002
E	<i>Eucalyptus macrorhyncha</i>	2008		<i>Senecio hispidulus</i>	2008
V	<i>Eucalyptus obliqua</i>	2008		<i>Senecio quadridentatus</i>	2008
V	<i>Eucalyptus ovata</i>	2008		<i>Themeda triandra</i>	2002
E	<i>Eucalyptus radiata</i>	2008	V	<i>Veronica gracilis</i>	2002
V	<i>Exocarpos cupressiformis</i>	2008	E	<i>Viola hederacea</i>	2002
	<i>Gahnia radula</i>	2008	V	<i>Xanthorrhoea minor</i>	2008
	<i>Gonocarpus tetragynus</i>	2008			

Introduced Species

<i>Agapanthus praecox</i>	<i>Dactylis glomerata</i>	<i>Paspalum dilatatum</i>
<i>Agrostis capillaris</i>	<i>Ehrharta erecta</i>	<i>Plantago lanceolata</i>
<i>Anthoxanthum odoratum</i>	<i>Hypochoeris radicata</i>	<i>Romulea rosea</i>
<i>Briza maxima</i>	<i>Linum trigynum</i>	<i>Sporobolus africanus</i>
<i>Centaurium erythraea</i>	<i>Oxalis pes-caprae</i>	

Notes concerning two of the locally threatened plant species

Acacia aculeatissima (Thin-leaf Wattle). Three plants: One beside the kerb, 5 m west of the pedestrian crossing near Dinsdale Rd and two on the nature strip of 249 Boronia Rd.

Daviesia leptophylla (Narrow-leaf Bitter-pea). A single plant was found east of Edinburgh Rd.

Fauna of special significance

None detected.

Fauna habitat features

- Some trees have hollows that would suit habitation by native birds, bats, possums or insects. Crimson Rosellas were observed emerging from one hollow near the pedestrian crossing close to Dinsdale Rd;
- The grassy ground flora probably provides food for butterfly caterpillars, but mowing would destroy a substantial proportion of these.

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 and Viability

Taking into account the discussion under the heading 'Relationship to other land' above, this site (or at least, those parts east of Edinburgh Rd) represents an ecological 'stepping stone'. Criterion 1.2.6 (Amos 2004) attributes **Local** significance to stepping-stones like this which can be described as 'Important at local scale - Link between individual remnant habitat blocks or within subcatchment'.

Endangered Ecological Vegetation Class

Valley Heathy Forest is 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. Criterion 3.2.3 of Amos (2004) assigns **State** significance to any site containing a 'remnant patch' of vegetation that is of at least High conservation significance due to the presence of a threatened EVC. The only part of the site that clearly qualified as a remnant patch (and hence of State significance) when surveyed was the segment west of Edinburgh Rd. The rest of the site is so interrupted by driveways and small patches of non-native vegetation that it is questionable whether any of it can be deemed a remnant patch, although ecological restoration could change this situation.

Rare or Threatened Flora

Some of the locally threatened plant species listed above have viable populations (in combination with nearby native vegetation), thereby meeting criterion 3.1.5 for a site of **Local** significance.

Threats

- Invasion by environmental weeds, of which the following are the worst:
 - Very serious: Brown-top Bent (*Agrostis capillaris*), Large Quaking-grass (*Briza maxima*), Cocksfoot (*Dactylis glomerata*), Panic Veldt-grass (*Ehrharta erecta*), Cat's Ear (*Hypochoeris radicata*), Ribwort (*Plantago lanceolata*) and Common Onion-grass (*Romulea rosea*);
 - Serious: Sweet Vernal-grass (*Anthoxanthum odoratum*), Centaury (*Centaureum erythraea*), Soursob (*Oxalis pes-caprae*), Paspalum (*Paspalum dilatatum*) and Indian Rat's-tail Grass (*Sporobolus indicus* var. *capensis*);
- Overly frequent mowing of native ground flora and seedlings;
- Dumping of garden waste;
- Digging and planting of environmental weeds by neighbours, particularly between Edinburgh Rd and Scoresby Rd;
- Tree removal for safety, between Edinburgh Rd and Scoresby Rd;
- Loss or decline of plant species whose populations are so small that they are vulnerable to inbreeding, poor reproductive success or elimination by incidents such as disease or mower damage.

Management issues

- Frequent mowing of exotic grass and weeds is desirable, but should not encroach into areas with substantial native ground flora. A skilled mower operator may be required to recognise the appropriate limits;
- Large Quaking-grass (*Briza maxima*) in the area west of Dinsdale Rd should be sprayed in late July or early August with the minimum recommended dose of a grass-specific herbicide such as Fusilade®;
- *Epacris impressa* is in decline, with several seen dead west of Edinburgh Rd and only two left alive. This could be due to drought or an early sign of *Phytophthora cinnamomi* root rot. The segment west of Edinburgh Rd should be monitored for other signs of damage, such as tree dieback;
- *Epacris impressa* and other species that are present in dangerously small numbers should be helped by planting additional specimens.

Administration matters

- The Planning Scheme zoning is Road Zone Category 1 (RDZ1);
- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of the endangered EVC;
- This site is not covered by any of the existing Vegetation Protection Overlay Schedules of the Knox Planning Scheme.

Information sources used in this assessment

- Site surveys by Dr Lorimer on 15/8/02 (west of Scoresby Rd) and 27/3/08 (east of Scoresby Rd) 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 six parts of the site;
 - A description of the vegetation's structural and floristic composition;
 - Determination of the vegetation's ecological condition in each part of the site;
 - Documentation of rare species populations;
 - Incidental observations of fauna; and
 - Checks for fauna habitat, ecological threats and management issues.
- 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.