

Site 53. Ardnehue Rd Land, Wantirna

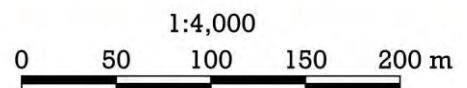
Regenerating native vegetation on swampy public land, largely earmarked for possible future road construction.

Summary of significant features:

- **State significance:** a patch of regrowth of the regionally-endangered Ecological Vegetation Class, Swampy Woodland – some of it in good ecological condition;
- **State significance:** populations of two plant species listed as Endangered in Victoria: the Bulging Fireweed (*Senecio campylocarpus*) and the spear-grass, *Austrostipa rudis* subspecies *australis*;
- **Locally significant:** viable populations of many locally-threatened plant species;
- **Locally significant:** the site makes a considerable contribution to the richness of flora in the Dandenong Creek habitat corridor, of which it is part.



Legend			
	Site 52		Properties
	Site 53		Site 58
	Site 100		



Boundaries

The site comprises the area outlined with blue dashes and labelled 'Site 53' on the aerial photograph above. The western, northern and southern boundaries follow property boundaries. The eastern edge of significant habitat is quite diffuse, e.g. a colony of a spear-grass listed as Endangered in Victoria is growing on the edge of a pine plantation. Therefore, the site's eastern boundary is placed somewhat arbitrarily. Compared with the previous (2010) edition of this report, the northern half of the eastern boundary has been moved 12 m eastward to encompass the spear-grass and some other native vegetation, increasing the area from 2.41 ha to 2.58 ha.

Land use & tenure

The land labelled above as VicRoads land was set aside for a realignment of Boronia Rd and an interchange between EastLink and the proposed Healesville Freeway. The central part of the site was deemed surplus to VicRoads's requirements and was therefore left as a Council reserve. Neither VicRoads or Council are using the land. Electricity transmission lines cross the site, requiring periodic heavy cutting of the vegetation.

Site description

This site is located 200 m east of the channel of Dandenong Creek. Most of it is on the creek's floodplain, with alluvial soil that has been deposited there during floods. The exception is the site's northeast corner, which rises 2 m higher than the opposite corner and has a clay loam colluvial soil. The water table comes to the surface in the site's southwestern half during wetter months, creating patches of seasonal and near-permanent wetland habitat.

At the time of the previous (2010) edition of this report, the site's vegetation was largely young regrowth scrub several metres tall with a small number of mature eucalypts and some feral pines that had spread from the adjacent pine plantation. Since then, lack of weed control led to a dense, 2 m-tall thicket of Gorse (*Ulex europaeus* – a serious, declared noxious weed) in the site's northern third (roughly) and dense scrub of deciduous trees in the southeastern quarter. The Gorse thicket burned in 2024, prompting copious germination of Gorse and fewer indigenous plants, including the Bulging Fireweed (*Senecio campylocarpus*, listed as Endangered in Victoria). The future of that area will depend critically on whether the legal obligation to control the Gorse is observed.

Just outside the burn area, at the edge of the pine plantation, the native vegetation is quite sparse but it includes a colony of the spear-grass, *Austrostipa rudis* subsp. *australis*, which is listed as Endangered in Victoria.

The Council land has clearly had a different history than the VicRoads land, as it retains more eucalypts and far more indigenous plant species. Quite a few of those species are rare throughout Melbourne's outer east, e.g. Pale Twig-rush (*Machaerina acuta*). The ground tends to have a substantial amount of surface water during wetter months, so the vegetation combines plant species of wetlands and swampy woodlands. The vegetation structure is scrub with emergent eucalypts.

The southern piece of VicRoads land includes a paperbark scrub in the site's southwest corner (including wetland habitat) and a scrub of small deciduous trees, perhaps willows. The identity of the deciduous trees could not be determined in the author's winter botanical surveys, as the trees were bare and access was limited by blackberries. Despite the weediness of this lot, there are uncommon indigenous species such as *Carex fascicularis*.

Relationship to other land

The site is part of the Dandenong Ck habitat corridor. Neighbouring areas of native vegetation are shown on the aerial photograph above.

Bioregion: Gippsland Plain

Habitat type

Regrowth of Swampy Woodland (EVC 937, **regionally Endangered**) and probably either Swampy Riparian Woodland (EVC 83, **regionally Endangered**) or Riparian Forest (EVC 18, **regionally Vulnerable**), covering approximately 2.3 ha in total, comprising 0.2 ha in good ecological condition (rating B) (on the Council property), 0.8 ha in fair ecological condition (rating C) and 1.3 ha in poor ecological condition (rating D) – not materially changed since the 2002 survey. These figures may change significantly as vegetation regenerates from the 2024 fire.

Canopy trees: In the southernmost lot, eucalypts are effectively absent and the canopy is formed variously by *Melaleuca ericifolia* or deciduous trees. Further north, the dominant eucalypts are variously *Eucalyptus viminalis* or *E. cephalocarpa*, with fewer *E. ovata*. These species may be in quite different proportions from their original state.

Sub-canopy trees: *Acacia mearnsii* is the dominant sub-canopy species except for the paperbark scrub in the site's southwest, where *Melaleuca ericifolia* dominates. *A. dealbata*, *A. melanoxylon* and *Exocarpos cupressiformis* are also present.

Shrubs: Mostly dense, dominated variously by *Bursaria spinosa*, *Coprosma quadrifida*, *Leptospermum scoparium*, *Ozothamnus ferrugineus* or *Prostanthera lasianthos*.

Vines: Very scarce or absent.

Ferns: Scarce: *Adiantum aethiopicum* was the only species found in August 2024 but very small numbers of five other species were seen in 2002: *Blechnum minus*, *Cyathea australis*, *Hypolepis rugosula*, *Histiopteris incisa* and *Lindsaea linearis*.

Groundcover: *Microlaena stipoides* and *Austrostipa rudis* dominate on the drier ground in the site's northeast, with abundant moss, *Acaena novae-zelandiae* and *Gonocarpus tetragynus*. These species are joined on the Council reserve by *Lomandra longifolia* and, in the wettest areas, water-loving species such as *Carex* and *Juncus*. *Lobelia anceps* and *Centella cordifolia* are abundant on the Council reserve.

Plant species

The following wild, indigenous plant species were observed during the author's brief inspection on 12th August 2024 or his full survey on 30th August 2002 (the only two sources of botanical information found in this study). Asterisks denote species only seen in 2002. Additional species would no doubt be detectable in summer. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; 'V'=Vulnerable; and 'N'=Near threatened. In addition, *Austrostipa rudis* subsp. *australis* and *Senecio campylocarpus* are listed as Endangered under Victorian law and the species with names in bold are rare throughout the Melbourne region. Of the species found in 2002, 47 were on the Council property, 28 to the north and 8 to the south.

Risk	Wild indigenous species	Risk	Wild indigenous species
	<u>Fern species</u>		<i>Dianella longifolia</i> var. <i>longifolia</i> , Pale Flax-lily
V	<i>Adiantum aethiopicum</i> , Common Maidenhair		<i>Dianella revoluta</i> , Black-anther Flax-lily
C	<i>Blechnum minus</i>, Soft Water-fern*		<i>Epilobium</i> cf. <i>billardioreanum</i> subsp. <i>intermedium</i> , a willow-herb
C	<i>Cyathea australis</i> , Rough Tree-fern*	E	<i>Eucalyptus cephalocarpa</i> , Mealy Stringybark
C	<i>Histiopteris incisa</i> , Bat's Wing Fern*	V	<i>Eucalyptus ovata</i> , Swamp Gum
C	<i>Hypolepis rugosula</i> , Ruddy Ground-fern*	C	<i>Eucalyptus viminalis</i> subsp. <i>viminalis</i> , Manna Gum
V	<i>Lindsaea linearis</i> , Screw Fern*		<i>Eucalyptus</i> hybrid
	<u>Flowering species</u>	V	<i>Exocarpos cupressiformis</i> , Cherry Ballart
	<i>Acacia dealbata</i> , Silver Wattle	V	<i>Glyceria australis</i> , Australian Sweet-grass
V	<i>Acacia mearnsii</i> , Black Wattle	C	<i>Gonocarpus micranthus</i>, Creeping Raspwort*
V	<i>Acacia melanoxylon</i> , Blackwood		<i>Gonocarpus tetragynus</i> , Common Raspwort
	<i>Acacia paradoxa</i> , Hedge Wattle*	C	<i>Goodenia humilis</i> , Swamp Goodenia*
V	<i>Acacia pycnantha</i> , Golden Wattle*		<i>Goodenia ovata</i> , Hop Goodenia
	<i>Acaena novae-zelandiae</i> , Bidgee-widgee	C	<i>Hypericum japonicum</i>, Matted St John's Wort*
N	<i>Alisma plantago-aquatica</i> , Water Plantain		<i>Isolepis inundata</i> , Swamp Club-rush*
V	<i>Austrostipa rudis</i> subsp. <i>australis</i>, Veined Spear-grass	C	<i>Isotoma ?fluviatilis</i>, Swamp Isotome*
	<i>Austrostipa rudis</i> subsp. <i>rudis</i> , Veined Spear-grass		<i>Juncus bufonius</i> , Toad Rush
	<i>Bursaria spinosa</i> , Sweet Bursaria	C	<i>Juncus fockei/holoschoenus</i> , a joint-leaf rush
	<i>Carex appressa</i> , Tall Sedge		<i>Juncus gregiflorus</i> , Green Rush
E	<i>Carex fascicularis</i> , Tassel Sedge		<i>Juncus pallidus</i> , Pale Rush*
E	<i>Centella cordifolia</i> , Centella	E	<i>Juncus pauciflorus</i> , Loose-flower Rush
V	<i>Coprosma quadrifida</i> , Prickly Currant-bush	E	<i>Juncus planifolius</i> , Broad-leaf Rush
C	<i>Cyperus ?lucidus</i>, Leafy Flat-sedge*	E	<i>Juncus procerus</i> , Tall Rush

Risk Wild indigenous species

- Juncus sarophorus*, Broom Rush
Lepidosperma elatius, Tall Sword-sedge
Lepidosperma gunnii, Slender Sword-sedge
C *Leptospermum continentale*, Prickly Tea-tree
Leptospermum scoparium, Manuka
E *Lobelia anceps*, Angled Lobelia
Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush
Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush
Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush
C ***Machaerina acuta*, Pale Twig-rush**
E *Melaleuca ericifolia*, Swamp Paperbark
Microlaena stipoides, Weeping Grass
Oxalis exilis/perennans, Wood-sorrel
V *Ozothamnus ferrugineus*, Tree Everlasting
Persicaria decipiens, Slender Knotweed
E *Poa tenera*, Slender Tussock-grass
Poranthera microphylla, Small Poranthera*
V *Prostanthera lasianthos*, Victorian Christmas-bush
C *Pterostylis pedunculata*, Maroonhood*
Rytidosperma racemosum, Clustered Wallaby-grass
E *Rytidosperma semiannulare*, Tasmanian Wallaby-grass*
Schoenus apogon, Common Bog-rush*
E *Senecio ?campylocarpus*, Bulging Fireweed
Senecio minimus, Shrubby Fireweed
V *Solanum laciniatum*, Large Kangaroo Apple*
Typha sp., Bulrush
E *Viola hederacea*, Ivy-leaf Violet*
V *Xanthosia dissecta*, Cut-leaf Xanthosia*

Introduced species

- Acacia baileyana*, Cootamundra Wattle
Anthoxanthum odoratum, Sweet Vernal-grass
Callitriche stagnalis, Pond (or Common) Water-starwort
Centaureum erythraea, Common Centaury*
Cirsium vulgare, Spear Thistle*
Cotoneaster pannosus, Cotoneaster*
Crataegus monogyna, Hawthorn
Cyperus eragrostis, Drain Flat-sedge
Ehrharta erecta, Panic Veldt-grass
Erica lusitanica, Spanish Heath*
Galium aparine, Cleavers*
Genista monspessulana, Montpellier Broom
Gladiolus undulatus, Wild Gladiolus
Hedera helix/hibernica, Ivy
Holcus lanatus, Yorkshire Fog
Hypericum tetrapterum, Square-stem St John's Wort
Hypochaeris radicata, Cat's Ear
Leontodon saxatilis, Lesser Hawkbit*
Lonicera japonica, Japanese Honeysuckle
Oxalis incarnata, Pale Wood-sorrel*
Pinus radiata, Monterey Pine
Pittosporum undulatum, Sweet Pittosporum
Prunella vulgaris, Self-heal*
Prunus cerasifera, Cherry-plum*
Ranunculus repens, Creeping Buttercup
Rubus anglocandicans, Blackberry
? *Salix* sp., unidentified because bare in winter
Solanum americanum, Glossy Nightshade*
Sonchus oleraceus, Sow-thistle*
Ulex europaeus, Gorse (Furze)
Watsonia meriana var. *bulbillifera*, Bulbil Watsonia

Notes concerning some of the significant plant species

Listed as Endangered under Victorian law

Austrostipa rudis subsp. *australis* (a subspecies of Veined Spear-grass) – a patch of at least fourteen plants was found in 2024 in the site's northeast, at the edge of the pine plantation. Only a small fraction of plants of this species are identifiable to subspecies level in August, so the fourteen that were seen are probably just a small fraction of the whole population.

Senecio ?campylocarpus (Bulging Fireweed) – at least four young plants were seen in 2024 within the area recently burnt, too small to be certain they are not the common species, *S. quadridentatus*.

Locally threatened

Blechnum minus (Soft Water-fern) – One individual was seen on the Council property in 2002.

Carex fascicularis (Tassel Sedge) – More than ten in the southwest corner of the Council property.

Cyperus ?lucidus (Leafy Flat-sedge) – At least several plants were recorded in 2002; not seen in 2024, perhaps due to similarity to *Carex* species in winter.

Gonocarpus micranthus (Creeping Raspwort) – Approximately ten scattered plants were found in 2002; not seen in 2024, perhaps due to brevity of the inspection or submergence of the plants.

Goodenia humilis (Swamp Goodenia) – One large colony was found in 2002; not seen in 2024, perhaps due to brevity of the inspection or submergence of the plants.

Histiopteris incisa (Bat's Wing Fern) – One patch was found in 2002; not seen in 2024. This short-lived species volunteers itself sporadically across the landscape, particularly in damp, shady, denuded ground. It tends to come and go at any one place.

Hypericum japonicum (Matted StJohn's Wort) – Seen on the Council property in 2002, where numbers would vary seasonally (so failure to detect it in winter 2024 is not surprising).

Hypolepis rugosula (Ruddy Ground-fern) – A single plant was found in 2002 but not in 2024. This species volunteers itself sporadically across the landscape.

?*Isotoma fluviatilis* (Swamp Isotome) – Scattered on the Council property; not seen in 2024, perhaps due to brevity of the inspection or submergence of the plants.

Juncus fockei/holoschoenus (a joint-leaf rush) – Fairly abundant in the Council reserve.

Lobelia anceps (Angled Lobelia) – Scattered thinly on the Council reserve

Machaerina acuta (Pale Twig-rush) – Scattered within the Council property.

Pterostylis pedunculata (Maroonhood) – Rather abundant in 2002 in the dense scrub beneath eucalypts in the Council reserve; not seen in winter 2024, perhaps due to brevity of the inspection.

Fauna habitat features

- Frogs breed in the wettest parts of the site's southern half;
- The scrub and other native vegetation were observed to be occupied by plenty of White-browed Scrubwrens and Superb Fairy-wrens;
- Many birds and insects would find abundant food when the paperbarks and tea-trees are in flower.

Significance ratings

This site is part of the Dandenong Creek flora and fauna corridor, which is of State significance. Of course, not every part of the corridor is as significant as every other part, so the following paragraphs describe the significant attributes of this particular site, as assessed against the Department of Energy, Environment & Climate Action's standard criteria (Amos 2004):

Ecological Integrity & Viability

The site adds to the Dandenong Creek corridor nearly 2½ ha of dense bushland of a kind that is scarce elsewhere in the corridor, thereby providing diversity of habitat. Its relationship to neighbouring bushland (see above) is also important as a 'stepping stone' for local fauna movements. It follows that the site is of **Local** significance under criterion 1.2.6 of Amos (2004).

Regionally Threatened Ecological Vegetation Class

At least 0.7 ha of the Council reserve easily meets the definition of a 'remnant patch' adopted by the standard criteria, i.e. a continuous area of at least 0.25 ha in which the native understorey cover is at least 10% throughout. That vegetation represents early developmental stages of a regionally-endangered EVC (Swampy Woodland) and perhaps some Swampy Riparian Woodland or Riparian Forest (both of which are also regionally threatened). According to Appendix 3 of *Victoria's Native Vegetation Management – a Framework for Action* (NRE 2002a), any remnant patch of an endangered EVC is of at least High conservation significance. This translates to **State** significance under criterion 3.2.3 of Amos (2004).

Threatened Plants

The Bulging Fireweed (*Senecio campylocarpus*) and the spear-grass, *Austrostipa rudis* subsp. *australis*, are listed under the *Flora and Fauna Guarantee Act* as Endangered in Victoria. They also occur interstate. Any known habitat for such a species (as at Site 53) meets criterion 3.1.2 for **State** significance.

Most of the site's many other locally-threatened plant species listed above have viable populations, thereby meeting criterion 3.1.5 for **Local** significance.

Threats

- Possible major road construction in the long term, as that is what the VicRoads land is set aside for;
- Vegetation cutting to provide clearance beneath the electricity transmission lines. Depending on the care that is taken, the cutting may have a serious or mild impact on the vegetation;
- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves, floods, fires and storms, as well as substantially lower rainfall (particularly in winter);

- Decline of tree health, partly due to the abovementioned droughts and storms;
- Displacement of indigenous flora and fauna by environmental weeds, exacerbated by debilitation of the native vegetation by the impacts of climate change. The most impactful species of environmental weeds in the wetlands appears to be Creeping Buttercup (*Ranunculus repens*). Elsewhere, the following are serious: Hawthorn (*Crataegus monogyna*), Japanese Honeysuckle (*Lonicera japonica*), Monterey Pine (*Pinus radiata*), Sweet Pittosporum (*Pittosporum undulatum*), Blackberry (*Rubus anglocandicans*) Gorse (*Ulex europaeus*) and the deciduous trees in the southeast, suspected to be willows;
- Loss or decline of plant species that have such small populations that they are vulnerable to inbreeding, poor reproductive success or chance events such as being struck by a falling tree limb.

Management

- Transmission line clearance should be done in accordance with a management plan that gives full regard to the significance of the vegetation and minimises the harm to the vegetation's ecology;
- The site needs and well deserves a greater effort at weed control in order to arrest the ongoing gradual ecological decline. By far the most urgent need is to control the dense seedlings of Gorse in the 2024 burn area;
- A summer botanical survey would probably find additional significant plant species and further individuals of the site's most threatened species, providing a basis for improved site management.

Strategic planning

- The previous (2010) edition of this report led its slightly smaller version of this site being covered by Schedule 2 of the Environmental Significance Overlay (ESO2). Since 2010, the main changes affecting the original basis for applying ESO2 are: (a) the discovery of two plant species listed as Endangered under Victorian law (the spear-grass and Bulging Fireweed); and (b) the site has been slightly expanded to include the spear-grass. In response to those changes, the only recommended amendment to the overlay is to change its boundary to match the one adopted here.

Information sources used in this assessment

- The 1998 'Scoresby Transport Corridor Environment Effects Statement', particularly Supplement Volume H: Flora and Fauna by Williams L.M., Yugovic J.V., McGuckin J., Humphrey P. and Larwill S. (1998);
- Detailed vegetation data and mapping for the first edition of this report. This included a list of indigenous and introduced plant species for each of the three parts of the site, compiled by Dr Lorimer over approximately two hours on 30th August 2002. Herbarium voucher specimens were taken of *Machaerina acuta* and *Hypolepis rugosula*;
- A fauna list for the whole site plus the adjoining Forest Lodge (see below), as observed incidentally during the 2002 vegetation survey;
- An inspection of the site by Dr Lorimer on 12th August 2024, recording and mapping indigenous plant species and noting other features relevant to this report;
- Records of flora and fauna observations stored in the Atlas of Living Australia;
- Aerial and satellite imagery from between 1946 and 2025;
- The Victorian Government's 'NatureKit' website;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.