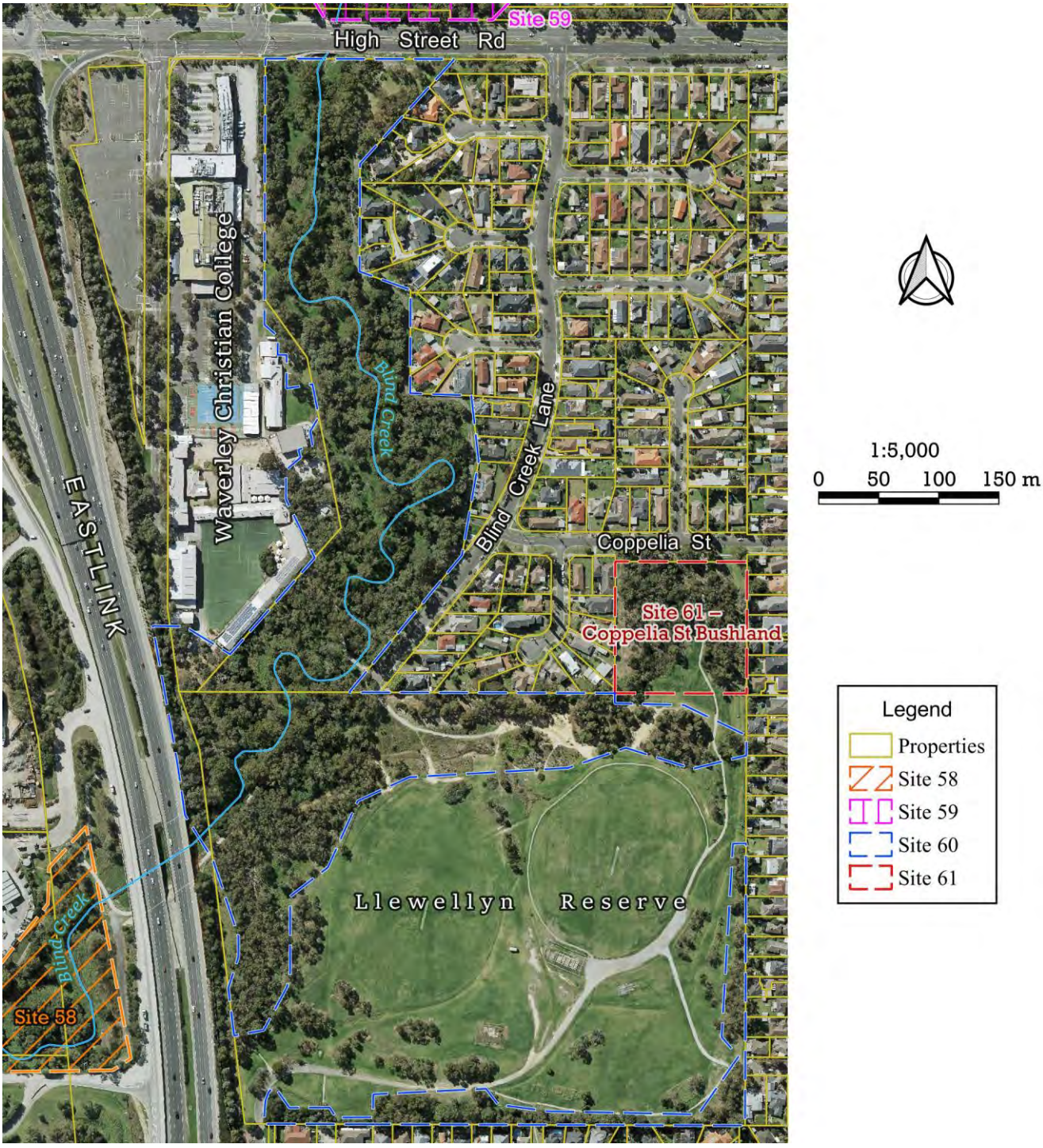
Site 60. Blind Creek Lane Bushland & Llewellyn Reserve, Wantirna South

Parkland with native vegetation along Blind Ck and in the adjoining Llewellyn Reserve.

Summary of significant features:

- State significance: patches of regionally-endangered vegetation types;
- Locally significant: viable populations of many locally-threatened plant species;
- Locally significant: riparian habitat on the Blind Creek habitat corridor;
- The globally-endangered fish species, Dwarf Galaxias, was present until at least 1998 but probably not now.



Boundaries

The two parts that make up this 12.0 ha site are outlined with blue dashes on the aerial photograph on the previous page: a larger part along Blind Ck and a narrow strip along the southern and eastern edges of Llewellyn Reserve.

The construction of Eastlink in 2007 caused a significant reduction in the site's southwestern extent between the first and second editions of this report. The second (2010) edition referred to regenerating native vegetation to the north of the ovals at Llewellyn Reserve. That regrowth has since grown considerably and its extent has become clear, leading this edition to adjust the site boundary in that area. The site boundary along Llewellyn Reserve's southern periphery has been altered slightly in response to changes in the vegetation, including recent revegetation. Elsewhere, the site has contracted in several places due to loss of native vegetation.

Land use & tenure: Mostly Council reserve, also part of the Waverley Christian Fellowship and College.

Site description

This site includes a band of vegetation along Blind Creek, as well as peripheral strips of Llewellyn Reserve that have regrowth of native vegetation, supplemented by planting.

Blind Ck retains its natural course from 120 m south of High Street Rd until 55 m upstream (northeast) of EastLink. There are indigenous plants scattered all along the stream channel, including species that are permanently submerged (in whole or in part) or frequently immersed at times of high water. The other native vegetation in this site comprises the regionally-endangered vegetation types, Swampy Riparian Woodland (EVC 83), Swampy Woodland (EVC 937), Valley Heathy Forest (EVC 127) and Wetland (EVC 74).

Swampy Riparian Woodland occurs in patches within a band along the creek. Swampy Woodland flanks the Swampy Riparian Woodland, giving way to Valley Heathy Forest at higher elevations along the southern and eastern edges of Llewellyn Reserve.

The understorey of the Swampy Riparian Woodland has been decimated by a history of clearing and grazing. A 1979 aerial photograph shows that a 20-metre-wide strip along the right (western) bank of Blind Creek had hardly any vegetation – even grass – presumably maintained that way to minimise impedance to floodwater. For a distance of roughly 100 m from High Street Rd, there was only a few percent cover of plants taller than grass. Elsewhere in the site (other than Llewellyn Reserve), there were a few vegetated wetlands (still present today) and a patchy, sparse tree cover. Very few trees had crown diameters reaching 10 m. Today, there is considerably more tree cover (of eucalypts and paperbarks), with many eucalypt crowns over 15 m diameter.

Because of the history of clearing and grazing, indigenous shrubs are much sparser than a natural state and there is very little indigenous groundcover except in the wetlands and surrounding the ovals in Llewellyn Reserve. The introduced species, Kikuyu Grass (*Cenchrus clandestinus*), Creeping Buttercup (*Ranunculus repens*) and Wandering Trad (*Tradescantia albiflora*), form a dense carpet within the Swampy Riparian Woodland. Around the turn of this century, even the canopy trees on the floodplain were under stress due to the smothering effects of the introduced vines, Japanese Honeysuckle (*Lonicera japonica*) and Greater Bindweed (*Calystegia silvatica*), which had climbed over 10 m high. Council put a lot of effort into removing these vine weeds and has brought them under control.

The areas of wetland and Swampy Woodland are in somewhat better ecological condition. The most ecologically intact area of Swampy Woodland is close to EastLink, southeast of Blind Creek. It retains predominantly native plants in all vegetation strata but it is at serious risk from increasing cover of environmental weeds such as Gorse (*Ulex europaeus*) and Kikuyu Grass.

Despite the site's lower-than-natural tree density, a highlight of this site is its diversity of native birds, including species that are uncommon in suburban Melbourne. This was concluded independently by the present author and by Biosis Pty Ltd in their 1998 investigation for the Environment Effects Statement for what became EastLink. The location on the Blind Creek habitat corridor is the explanation for the diversity of birdlife. It is unclear to what degree EastLink now impedes wildlife movement.

What is now Llewellyn Reserve was a clay quarry until around 1974 when it became a municipal rubbish tip. A 1992 aerial photograph shows that the tip had been capped with clay, the two ovals had been created and part of a waste transfer station was operating to the north of the ovals. As a result of the rubbish tip and its clay capping, the ovals and the similarly bright green areas of lawn on the aerial photograph above are elevated well above the natural ground level except in the southeast corner. That elevated expanse is surrounded by batters that slope to

the natural ground level around the reserve's boundary. Drains have been dug below the northwest batter. Despite all the earthworks, indigenous plants have regenerated naturally on the batters and in the drains, particularly since the author first inspected the site in early 1997. Some of the regrowth has arisen from seeds or other propagules in the clay fill (e.g. *Gahnia radula* and various wattle species) and others have arrived via birds or wind (e.g. *Exocarpos cupressiformis* and abundant sun-orchids). Council has also planted indigenous species, mainly along the site's southern boundary. The plantings make it difficult to be sure whether a few species are present partly or solely as planted plants or their descendants.

Relationship to other land

As noted above, the site's diverse birdlife can be attributed to movements along the Blind Ck habitat corridor. Insects, frogs and bats may also use the corridor. The ecological functioning of the habitat corridor relies on the native vegetation upstream and downstream of the site in question, particularly the Timmothy Drive Bushland (Site 59) upstream and through the Dandenong Valley Parklands (Site 58) downstream.

Fish in Blind Ck are similarly reliant on the condition of the stream and its fringing vegetation, upstream and downstream.

Exchange of pollen and seeds by birds and insects moving along the corridor have probably minimised inbreeding problems that affect more isolated patches of urban bushland. However, this effect may have been significantly diminished by construction of EastLink.

Bioregion: Gippsland Plain

Habitat types

Perennial Stream (No EVC number). 5 aquatic flora species found: *Juncus gregiflorus, Persicaria hydropiper, Potamogeton crispus, Potamogeton ochreatus* and *Cycnogeton procerum*.

Wetland (EVC 74, **regionally Endangered**) in eight patches: Estimated in 1997 to occupy 0.50 ha in total, comprising 0.14 ha in good ecological condition (rating B), 0.34 ha in fair ecological condition (rating C) and 0.02 ha in poor ecological condition (rating D).

Trees, vines and ferns: Absent.

Shrubs: Sparse *Melaleuca ericifolia* extends into some of the wetlands.

Aquatic and semi-aquatic flora: The fully aquatic species, *Cycnogeton procerum* and *Potamogeton crispus*, are present in some of the wetlands, but most of the species are amphibious. Four species of *Juncus* and five species of *Persicaria* are prominent among the dominant species, sometimes accompanied by *Carex* species or *Eleocharis acuta.*

Swampy Riparian Woodland (EVC 83, **regionally Endangered**) in numerous patches: Estimated in 1997 to occupy 3.0 ha in total, comprising 1.0 ha in fair ecological condition (rating C) and 2.0 ha in poor ecological condition (rating D).

Canopy trees: Dominated by *Eucalyptus ovata,* with fewer *E. viminalis* subsp. *viminalis*.

Sub-canopy trees: Dominated variously by *Acacia melanoxylon, A. mearnsii* and *Melaleuca ericifolia*. The first of these has formed patches of scrub where it has regenerated naturally after soil disturbance.

Shrubs: *Bursaria spinosa*, *Coprosma quadrifida* and *Goodenia ovata* are most abundant. There are two plants of the ecological indicator, *Leptospermum lanigerum.*

Vines: The only native climber is the parasite, *Cassytha pubescens*, but introduced vines have been rampant and could recolonise the area.

Ferns: *Pteridium esculentum* is scarce.

Groundcover: The indigenous groundcover is decimated, reduced to patches of *Phragmites australis* and sparsely-scattered plants.

Swampy Woodland (EVC 937, **regionally Endangered**): Estimated in 1997 to occupy 2.6 ha in area, comprising 0.10 ha in good ecological condition (rating B), 1.2 ha in fair ecological condition (rating C) and 1.3 ha in poor ecological condition (rating D).

Canopy trees: *Eucalyptus ovata* and *E. cephalocarpa*.

Sub-canopy trees: *Acacia melanoxylon, A. mearnsii, Exocarpos cupressiformis* and *Melaleuca ericifolia*.

Shrubs: The main species are *Acacia verticillata, Bursaria spinosa, Goodenia ovata* and *Platylobium obtusifolium*.

Vines: *Billardiera mutabilis* and *Cassytha pubescens*.

Ferns: *Pteridium esculentum* is scarce.

Groundcover: Densely grassy, with eleven species of native grass recorded as well as three types of *Lomandra* and substantial numbers of *Lepidosperma gunnii*. The most abundant grasses are *Microlaena stipoides, Eragrostis brownii, Austrostipa rudis* and *Themeda triandra*. There is also a thin scattering of *Juncus* species. *Gahnia radula* is present but abnormally scarce. Non-grassy species are seriously depleted and the most abundant one is *Gonocarpus tetragynus*. The ecological indicator species, *Senecio minimus*, is present, along with *Centella cordifolia*, and *Rytidosperma semiannulare* detected during the most thorough botanical survey (in 1997).

Valley Heathy Forest (EVC 127, **regionally Endangered**): Estimated as 1–1½ ha in area, mostly in fair ecological condition (rating C).

Canopy trees: Dominated by *Eucalyptus cephalocarpa* and fewer *E. obliqua, E. radiata* and *E. ovata*.

Sub-canopy trees: *Acacia melanoxylon, A. mearnsii, Exocarpos cupressiformis*.

Shrubs: Depleted by past clearing, leaving little other than *Bursaria spinosa* and *Goodenia ovata*.

Vines: *Billardiera mutabilis*.

Groundcover: Grassy. The most abundant graminoids are *Microlaena stipoides, Austrostipa rudis, Rytidosperma setaceum, Themeda triandra* and *Lomandra filiformis*. Other species include *Gonocarpus tetragynus*, *Microtis* ?*parviflora*, *Opercularia varia* and abundant *Thelymitra peniculata*.

Plant species

The following plant species have been reliably recorded as growing wild within Site 60 during the author's surveys in 1997 or 2024. Asterisks indicate indigenous species recorded only in 1997, when Site 60 extended across what is now EastLink; Some of those species were probably eliminated by EastLink. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; 'V'=Vulnerable; 'N'=Near threatened.

Indigenous mosses and liverworts
Barbula calycina, a moss
Campylopus introflexus, Heath Star Moss
Chiloscyphus semiteres, Green Worms
Eurhynchium praelongum, Common Feather-moss
Hypnum cupressiforme, Common Hypnum
Lunularia cruciata, Moonwort
Sematophyllum homomallum, a moss

Risk	Wild indigenous vascular species
	Acacia dealbata, Silver Wattle
V	*Acacia implexa*, Lightwood
V	*Acacia mearnsii*, Black Wattle
V	*Acacia melanoxylon*, Blackwood
	Acacia paradoxa, Hedge Wattle
V	*Acacia verticillata*, Prickly Moses
	Acaena novae-zelandiae, Bidgee-widgee*
E	*Acrotriche serrulata*, Honey-pots*
N	*Alisma plantago-aquatica*, Water Plantain
V	*Alternanthera denticulata*, Lesser Joyweed*
C	*Amyema pendula*, Drooping Mistletoe*
	Austrostipa rudis subsp. *rudis*, Veined Spear-grass
	Billardiera mutabilis, Common Apple-berry*
N	*Bossiaea prostrata*, Creeping Bossiaea
	Bursaria spinosa, Sweet Bursaria

Risk	Wild indigenous vascular species
	Carex appressa, Tall Sedge
	Carex breviculmis, Short-stem Sedge
E	*Carex fascicularis*, Tassel Sedge
E	*Carex gaudichaudiana*, Fen Sedge
E	*Cassytha pubescens*, Downy Dodder-laurel
E	*Centella cordifolia*, Centella*
V	*Coprosma quadrifida*, Prickly Currant-bush
	Cycnogeton procerum, Water-ribbons*
	Deyeuxia quadriseta, Reed Bent-grass*
	Dianella revoluta, Black-anther Flax-lily*
V	*Eleocharis acuta*, Common Spike-rush*
C	*Epacris impressa*, Common Heath*
	Epilobium cf. *billardiereanum* subsp. *intermedium*, a willow-herb
	Epilobium hirtigerum, Hairy Willow-herb
	Eragrostis brownii, Common Love-grass*
E	*Eucalyptus cephalocarpa*, Mealy Stringybark
E	*Eucalyptus obliqua*, Messmate Stringybark*
V	*Eucalyptus ovata*, Swamp Gum
E	*Eucalyptus radiata*, Narrow-leaved Peppermint
C	*Eucalyptus viminalis* subsp. *viminalis*, Manna Gum
V	*Exocarpos cupressiformis*, Cherry Ballart
C	*Gahnia radula*, Thatch Saw-sedge
C	*Geranium* ?sp. 5, Naked Crane's-bill

Risk	Wild indigenous vascular species
	Gonocarpus tetragynus, Common Raspwort
	Goodenia ovata, Hop Goodenia (wild & planted)
E	*Gynatrix pulchella*, Hemp Bush*
C	*Hakea nodosa*, Yellow Hakea*
E	*Hypericum gramineum*, Small St John's Wort
	Isolepis inundata, Swamp Club-rush*
	Juncus amabilis, Hollow Rush
	Juncus bufonius, Toad Rush*
	Juncus gregiflorus, Green Rush
	Juncus pallidus, Pale Rush
E	*Juncus procerus*, Tall Rush*
	Juncus sarophorus, Broom Rush
	Kunzea sp. (Upright form), Forest Burgan
	Lachnagrostis filiformis, Common Blown-grass*
	Lepidosperma gunnii, Slender Sword-sedge
C	*Leptospermum continentale*, Prickly Tea-tree
C	*Leptospermum lanigerum*, Woolly Tea-tree
	Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush
	Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush*
	Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush (wild & planted)
E	*Melaleuca ericifolia*, Swamp Paperbark
	Microlaena stipoides, Weeping Grass
V	*Microtis* ?*parviflora*, Slender Onion-orchid
V	*Opercularia varia*, Variable Stinkweed
	Oxalis exilis/perennans, Wood-sorrel
V	*Ozothamnus ferrugineus*, Tree Everlasting
	Persicaria decipiens, Slender Knotweed
E	*Persicaria hydropiper*, Water-pepper*
E	*Persicaria lapathifolia*, Pale Knotweed*
V	*Persicaria praetermissa*, Spotted Knotweed
E	*Persicaria subsessilis*, Hairy Knotweed*
E	*Phragmites australis*, Common Reed
E	*Platylobium obtusangulum*, Common Flat-pea
	Poa morrisii, Soft Tussock-grass*
E	*Potamogeton crispus*, Curly Pondweed*
E	*Potamogeton ochreatus*, Blunt Pondweed*
	Pteridium esculentum, Austral Bracken
	Rytidosperma fulvum, Leafy Wallaby-grass
	Rytidosperma penicillatum, Slender Wallaby-grass*
	Rytidosperma racemosum, Clustered Wallaby-grass
E	*Rytidosperma semiannulare*, Tasmanian Wallaby-grass*
	Rytidosperma setaceum, Bristly Wallaby-grass*
	Schoenus apogon, Common Bog-rush
	Senecio hispidulus, Rough Fireweed*
	Senecio minimus, Shrubby Fireweed
	Senecio quadridentatus, Cotton Fireweed
V	*Solanum laciniatum*, Large Kangaroo Apple*
V	*Spyridium parvifolium*, Australian Dusty Miller*
E	*Thelymitra peniculata*, Trim Sun-orchid
	Themeda triandra, Kangaroo Grass
	Tricoryne elatior, Yellow Rush-lily
V	*Triglochin striata* (flat leaf variant), Streaked Arrow-grass*
	Typha orientalis, Cumbungi
V	*Veronica gracilis*, Slender Speedwell*
E	*Xanthorrhoea minor*, Small Grass-tree*

Introduced species
Acacia longifolia subsp. *longifolia*, Sallow Wattle
Acer negundo, Box Elder
Agrostis capillaris, Brown-top Bent
Allium triquetrum, Angled Onion
Anthoxanthum odoratum, Sweet Vernal-grass
Atriplex prostrata, Hastate Orache
Billardiera fusiformis, Bluebell Creeper
Bromus catharticus, Prairie Grass
Bromus diandrus, Great Brome
Callitriche stagnalis, Pond Water-starwort
Calystegia silvatica, Greater Bindweed
Cassinia sifton, Sifton Bush
Cenchrus clandestinus, Kikuyu Grass
Centaurium erythraea, Common Centaury
Cirsium vulgare, Spear Thistle
Clematis decipiens, a small-leafed clematis
Cotoneaster glaucophyllus, Cotoneaster
Cotula coronopifolia, Water Buttons
Crocosmia × *crocosmiiflora*, Montbretia
Cynodon dactylon, Couch
Cyperus eragrostis, Drain Flat-sedge
Cytisus scoparius, English Broom
Dactylis glomerata, Cocksfoot
Delairea odorata, Cape Ivy
Dianella cv., a flax-lily cultivar (wild and planted)
Echinochloa crus-galli, Common Barnyard Grass
Ehrharta erecta, Panic Veldt-grass
Erica lusitanica, Spanish Heath
Erigeron sumatrensis, Fleabane
Foeniculum vulgare, Fennel
Fraxinus angustifolia, Desert Ash
Fumaria sp., a fumitory
Galium aparine, Cleavers
Geranium dissectum, Cut-leaf Crane's-bill
Hedera helix/hibernica, Ivy
Helminthotheca echioides, Ox-tongue
Holcus lanatus, Yorkshire Fog
Hyacinthoides hispanica, Spanish Bluebell
Hypochaeris radicata, Cat's Ear
Juncus articulatus, Jointed Rush
Juncus pallescens, a rush
Leontodon saxatilis, Lesser Hawkbit
Linum trigynum, French Flax
Lolium perenne, Perennial Rye-grass

Introduced species

Lonicera japonica, Japanese Honeysuckle
Lotus subbiflorus, Hairy Bird's-foot Trefoil
Mentha sp., a mint
Modiola caroliniana, Carolina Mallow
Myosotis sylvatica, Wood Forget-me-not
Oxalis ?*incarnata*, a wood-sorrel
Oxalis pes-caprae, Soursob
Paspalum dilatatum, Paspalum
Paspalum distichum, Water Couch
Phalaris aquatica, Toowoomba Canary-grass
Pittosporum undulatum, Sweet Pittosporum
Plantago lanceolata, Ribwort
Plantago major, Greater Plantain
Prunella vulgaris, Self-heal
Prunus cerasifera, Cherry-plum
Pseudoscleropodium purum, Neat Feather-moss
Ranunculus repens, Creeping Buttercup

Introduced species

Raphanus ?*raphanistrum*, Wild Radish
Rorippa palustris, Yellow Marsh-cress
Rosa rubiginosa, Sweet Briar
Rubus anglocandicans, Blackberry
Rumex crispus, Curled Dock
Rumex obtusifolius, Broad-leaf Dock
Schoenoplectus tabernaemontani, River Club-rush
Solanum nigrum, Black Nightshade
Solanum pseudocapsicum, Madeira Winter-cherry
Sonchus oleraceus, Sow-thistle
Symphyotrichum subulatum, Aster-weed
Tradescantia fluminensis, Wandering Trad
Trifolium repens, White Clover
Ulex europaeus, Gorse (Furze)
Vicia sativa, Common Vetch
Vulpia bromoides, Squirrel-tail Fescue
Watsonia meriana var. *bulbillifera*, Bulbil Watsonia

Notes concerning some of the locally-threatened plant species

Carex fascicularis (Tassel Sedge) – Only a few plants were found in 1997 but many in 2024.

Carex gaudichaudiana (Fen Sedge) – One patch was found, perhaps a single plant, in both 1997 and 2024.

Gynatrix pulchella (Hemp Bush) – Two plants were found in 1997, none in 2024.

Hakea nodosa (Yellow Hakea) – Three plants were found in 1997, none in 2024.

Leptospermum lanigerum (Woolly Tea-tree) – A single plant was found in 1997, two in 2024.

Persicaria lapathifolia (Pale Knotweed) – Found in wetland and on the stream bank in 1997, numbers not recorded. This species is perhaps not indigenous. It appears sporadically in many wetlands and streams.

Persicaria praetermissa (Spotted Knotweed) – Dominant or co-dominant in two wetlands.

Persicaria subsessilis (Hairy Knotweed) – Many plants were found in a single wetland in 1997. Non-detection in 2024 could be due to the much less thorough survey.

Potamogeton crispus (Curly Pondweed) – Many plants were found all along the creek in 1997 but the creek water was too high and turbid to see any in 2024.

Spyridium parvifolium (Australian Dusty Miller) – A single plant was found in 1997, at a location that is now occupied by EastLink.

Triglochin striatum (Streaked Arrow-grass) – Found in two wetlands in 1997, number of individuals indeterminate. Non-detection in 2024 could be due to the much less thorough survey and deeper water.

Fauna of special significance

None of the plant species just listed are anywhere near as significant as the Dwarf Galaxias, a tiny native fish that is listed as Endangered under the federal *Environment Protection and Biodiversity Conservation Act 1999* and the Victorian *Flora and Fauna Guarantee Act 1988*. In the 1990s, the species was recorded 1 km upstream of Site 60 as well as downstream, and it undoubtedly passed through the site because its lifecycle requires migration between freshwater and the sea. The fish generally favours off-stream wetlands with warm, still water and dense vegetation but it moves into streams at times of flood and then migrates around catchments.

More recent studies indicate that the natural Dwarf Galaxias population in the Dandenong Creek catchment has probably died out. Introduced fish and drainage works are implicated in the loss, according to piscatologist, John McGuckin.

However, 600 individuals were released in Rowville in 2017 and about half that many in Heathmont in 2023. It is possible that the descendants of these fish may eventually reach the Blind Creek Lane Bushland.

During his 2024 site inspection, the author saw two Buff-banded Rails – a species that is uncommon in Knox. Otherwise, this study found no significant records of terrestrial fauna from this site.

Fauna habitat features

- In faunal surveys prior to construction of EastLink, the site's tree canopy was seen to support a high density of native birds for suburbia, including such species as White-Browed Tree-Creeper. No survey has been done since EastLink to see whether bird diversity has fallen;
- Some of the mature trees are old enough and large enough to have hollows that could be used by native fauna for nesting or roosting;
- A relatively high density and diversity of shrubs in Llewellyn Reserve near EastLink significantly improves the habitat for native invertebrates and birds, including White-Browed Scrubwrens. The prickliness of many of the shrubs helps protect birds from cats;
- The stream and wetlands are used extensively by frogs, ducks, other waterbirds and aquatic invertebrates;
- Fish migrate up and down Blind Ck through this site;
- The creek channel and floodplain provide habitat for Buff-banded Rails;
- Fragmentation of the native vegetation is to some degree offset by the diversity of habitat (scrubby to open, aquatic to dry), which is beneficial to some native fauna.

Significance ratings

The following is an assessment of the site's biological significance against the Department of Energy, Environment & Climate Action's standard criteria (Amos 2004).

Ecological Integrity and Viability

Criterion 1.1.1 attributes **Local** significance to 'All parts of riparian systems with riparian vegetation present', which applies to parts of this site.

Endangered Vegetation Types

At least three parts of the site meet the definition of a 'remnant patch' adopted by the standard criteria, i.e. at least 0.25 ha in which the cover of native understorey is at least 10% throughout. Those parts are: (a) in a band close to EastLink, in the site's southwest; (b) north of the ovals; and (c) on the left bank of Blind Ck near its northernmost bend. All the site's native vegetation belongs to EVCs that are regionally endangered, which means that any 'remnant patch' of it is of 'High' or 'Very High' conservation significance under Appendix 3 of *'Victoria's Native Vegetation Management – A Framework for Action'* (NRE 2002a). Standard criterion 3.2.3 translates this to **State** significance.

Threatened Plants

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

Threats

- 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 prevalent environmental weeds cannot be controlled because they are largely the inevitable result of urbanisation of the catchment and the history of abuse of the floodplain. Those species include Angled Onion (*Allium triquetrum*), Kikuyu Grass (*Cenchrus clandestinus*), Couch (*Cynodon dactylon*), Cocksfoot (*Dactylis glomerata*), Wandering Trad (*Tradescantia albiflora*) and Creeping Buttercup (*Ranunculus repens*). Away from the floodplain (in Llewellyn Reserve), environmental weeds like Gorse (*Ulex europaea*) and Sallow Wattle (*Acacia longifolia* subsp. *longifolia*) are more tractable;
- Continuation of vegetation damage by construction of BMX tracks;
- Continuing 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 BMX bike or falling tree limb.

Strategic planning

- The previous (2010) edition of this report led to this site being covered by Schedule 2 of the Environmental Significance Overlay (ESO2). The reasons given for applying the overlay were the same matters of biological

significance listed above with the heading 'Biological significance ratings'. Since 2010, the only material change affecting the original basis for applying ESO2 is that the site boundary has been slightly refined within Llewellyn Reserve. Therefore, the only recommended amendment to the overlay is to match its boundary to 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), in which part of this site is labelled as 'Site 6';
- Site surveys by Dr Lorimer and John Reid on 25/3/97 and by Dr Lorimer on 23/4/97 and 25/4/97. These were for the two reports, *'A Management Plan for Cathies Lane Bushland, Wantirna South'* (Lorimer 1997) and *'Vegetation Survey of Linear Reserves – A Management Strategy for Riparian and Flood Plain Vegetation'* (Reid, Moss & Lorimer 1997) for Knox City Council. These studies included:
  - Compilation of lists of indigenous and introduced plants within each of sixteen parts of the site;
  - Detailed mapping and documentation of rare species populations and the ecological condition of the vegetation;
  - A description of the vegetation's structural and floristic composition;
  - Compilation of detailed data from a quadrat;
  - Incidental fauna observations;
  - Checks for fauna habitat, ecological threats and management issues; and
  - Recommendations for the care and maintenance of the vegetation, including weed control;
- A re-inspection of the part of the site that has since been excised because EastLink has been built over it. The re-inspection was conducted by Dr Lorimer on 14/1/04 to update the above information for the first edition of this report and fill any gaps in the data;
- Another re-inspection by Dr Lorimer on 10/3/08 to update the above information in response to construction of EastLink;
- An inexhaustive botanical survey of the site over 1¾ hours by Dr Lorimer on 3rd September 2024, compiling a list of wild, indigenous plant species and checking for changes in features relevant to this report compared with pre-existing information;
- Information about Dwarf Galaxias verbally from fish expert, John McGuckin (Streamline Research Pty Ltd), in October 2003, as well as from the following documents:

  Coleman R., Butcher J., McLean J., Shipp A. and Weeks A. (2018). Habitat improvement and creation for threatened dwarf galaxias (*Galaxiella pusilla*) along the Dandenong Creek corridor. In *'Proceedings of the 9th Australian Stream Management Conference*, Hobart, Tasmania, pp. 744–751;

  'Conservation Advice for *Galaxiella pusilla* (dwarf galaxias)' by the Aust Govt Dept of Climate Change, Energy, the Environment and Water (2023);
- 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.