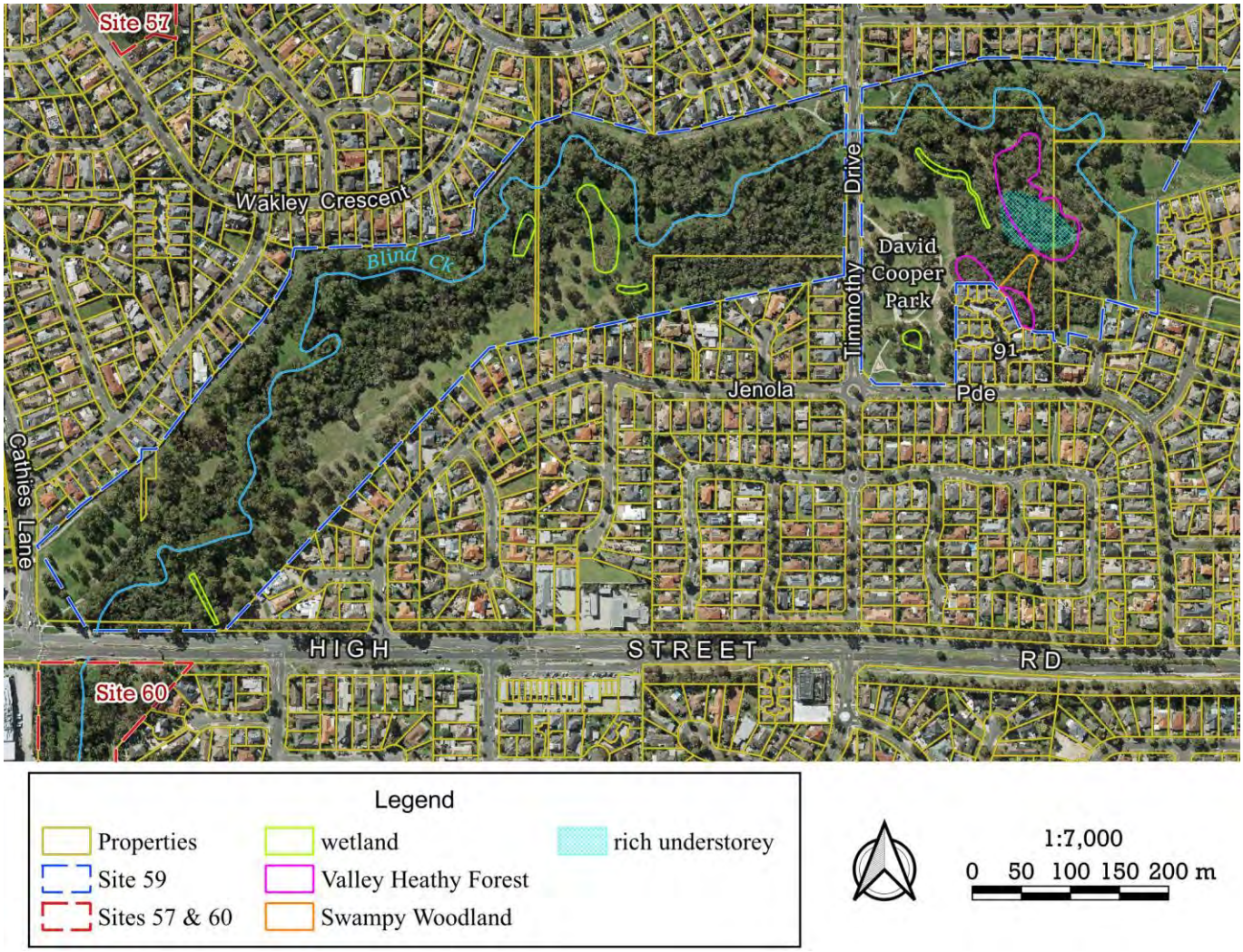
Site 59. Timmothy Drive Bushland, Wantirna South

Vegetated corridor of Blind Creek upstream of High Street Rd.

Summary of significant features:

- State significance: 5 ha or more of regionally-endangered vegetation types – some of it in good ecological condition;
- Locally significant: viable populations of many locally-threatened plant species;
- Locally significant: the site is a major node 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 site comprises the two segments outlined with blue dashes on the aerial photograph – one each side of Timmothy Drive. The border follows property boundaries or straight lines ending at property corners except along part of the frontage to High Street Road. The only change since the previous (2010) edition of this report is refinement of the boundary along the back fences of 91 Jenola Pde. (The land had just been subdivided at the time and the new cadastre was not yet available.) Note that the site includes expanses of open grass that are slashed regularly and support little if any indigenous flora. Those expanses are included because: (a) management of the native vegetation has to be integrated with the open grassed areas; (b) the open areas provide potential for expanding the native vegetation; and (c) it is preferable for boundaries of sites and their planning overlays to coincide with cadastral boundaries where practical.

Land use & tenure: Reserve, variously for drainage, recreation, nature conservation or (beside High Street Rd) the verge of a main road.

Site description

This 25.3-hectare site is an area of broad floodplain along Blind Creek, at elevations of 59–64 m. There are small strips along the northern boundary with pale clay loam topsoil and clay subsoil, derived from the underlying Lower Devonian siltstones of the Melbourne (formerly Dargile) formation. The rest of the site is covered with alluvium that has been deposited during floods. The presence of Valley Heathy Forest (mapped above) suggests that the alluvium may be quite shallow in those areas.

The creek still takes its natural, meandering course through the site (except the easternmost 100 m), unlike most of Knox's creeks.

A 1979 aerial photograph shows most of the site to have been occupied by pasture, orchards, sewage treatment ponds and a farm dam. A 20-metre-wide strip along the left bank of Blind Creek was just grass (presumably for flood management), as were parts of the right bank. There were patches of young regrowth, with very few tree crowns exceeding 10 m diameter except for an outlier of 15 m in the area marked as 'rich understorey' on the aerial photograph above. That marked area and its immediate surroundings formed one of only two areas showing much understorey (patchy though it was). The other such area was in the site's northeast corner and its understorey was cleared sometime since 1979.

Today, a mixture of natural regrowth and planting has resulted in trees with crowns of 20 m diameter being scattered liberally across most of the site except David Cooper Park. Swamp Paperbarks (*Melaleuca ericifolia*) have spread greatly by suckering, forming extensive thickets (e.g. immediately west of Timmothy Drive). The area marked above as 'rich understorey' is the only area that retains a range of species of wildflowers, grasses, shrubs and climbers, though quite a few species have died out there over the past quarter-century. The wetlands marked on the aerial photograph above are dominated by the hardy, indigenous plant species, Tall Sedge (*Carex appressa*) and/or Slender Knotweed (*Persicaria decipiens*).

Elsewhere in the site, as is usual beside streams in urban or agricultural landscapes, certain indigenous species of trees and shrubs are persisting among the eucalypts (e.g. Silver Wattle *Acacia dealbata* and Prickly Currant-bush *Coprosma quadrifida*) but the groundcover has almost no indigenous component; Instead, there is a dense layer of Kikuyu Grass (*Cenchrus clandestinus*), Couch (*Cynodon dactylon*), Cocksfoot (*Dactylis glomerata*), Wandering Trad (*Tradescantia albiflora*), hybrid bindweeds (*Calystegia*), Panic Veldt-grass (*Ehrharta erecta*) and (in season) Angled Onion (*Allium triquetrum*).

Relationship to other land

The site is part of the Blind Creek habitat corridor, which continues on the southern side of High Street Rd with the Cathies Lane Bushland (Site 60). Upstream, from Timmothy Drive bushland to Burwood Hwy, Blind Creek has been replaced by an urban floodway lined with a somewhat patchy corridor of planted trees. A 140-metre-long stretch of habitat – including the natural course of Blind Creek – is situated at Collier Reserve (part of Site 33) on the northwest corner of Burwood Hwy and Stud Rd. Those main roads and the Westfield Knox shopping centre present major barriers to most wildlife that might otherwise move along the creek corridor between the Timmothy Drive bushland and Lewis Park.

Despite those barriers, highly mobile birds such as ibis and cockatoos can be seen moving along the corridor. Some birds, bats and insects are likely to move between the Timmothy Drive Bushland, the Cathies Lane Bushland area (Site 60), the Coppelia St Bushland (Site 61), the Cathies Lane road reservation (Site 62) and Redcourt Reserve (Site 63). Eastlink represents a barrier against movement to and from the Dandenong Valley Parklands (Site 58).

Some insects and birds such as rosellas no doubt move between the Timmothy Drive bushland and Flamingo Reserve (Site 56, 300 m away) and, to a lesser extent, the tiny patch of vegetation at Wakley Reserve (Site 57, 400 m away).

Blind Creek flows above ground (not in a pipe) between the Timmothy Drive bushland and the creek's confluence with Dandenong Creek, although three-quarters of it is in a straightened ditch. By contrast, much of Blind Creek upstream of the Timmothy Drive bushland has been replaced by an urban floodway, which is much less conducive to movement of stream fauna such as fish. All but one local species of native fish must migrate between freshwater and saltwater during their lifecycle, so they are very sensitive to barriers against their movement. That

helps to explain why the rare Dwarf Galaxias has not been recorded further upstream from the Timmothy Drive bushland.

Bioregion: Gippsland Plain.

Habitat types

Perennial Stream (No EVC number). Flora includes *Cycnogeton procerum* and *Potamogeton ochreatus*.

Swamp Scrub (EVC 53, **regionally Endangered**): Most or all of the Swamp Scrub is regrowth from former Swampy Riparian Woodland or Swampy Woodland. Total area estimated in 2003 to be 30.4 ha. Ecological condition is approximately 90% fair (rating C) and the remainder poor (rating D).

Canopy trees: Dense *Melaleuca ericifolia* with occasional emergent *Eucalyptus ovata* and *Acacias.*

Shrubs: Sparse, including *Coprosma quadrifida, Goodenia ovata* and occasionally *Bursaria spinosa*. Until at least 2002, there was also *Senecio minimus, Ozothamnus ferrugineus* and *Acacia verticillata.*

Vines: The indigenous *Cassytha pubescens* is sparse; the weed Japanese Honeysuckle is serious in places.

Ferns: none.

Groundcover: Sparse patches of *Juncus, Isolepis* and grasses. The character species *Triglochin striatum* and *Lobelia anceps* are present but very scarce.

Wetland (EVC 74, **regionally Endangered**): Dominated by *Carex appressa, Persicaria decipiens* and/or *Juncus* species and introduced species, all in fair ecological condition (rating C).

Swampy Riparian Woodland (EVC 83, **regionally Endangered**): Total area estimated in 2003 to be 0.7 ha, but this may include some Swampy Woodland due to the confounding influences of past clearing. Ecological condition is approximately 10% rating B (good), 40% rating C (fair) and 20% rating D (poor).

Canopy trees: Dominated by *Eucalyptus ovata*, also with some *E. viminalis* and *E. cephalocarpa*.

Sub-canopy trees: *Acacia melanoxylon* and *Melaleuca ericifolia* are abundant (forming a dense scrub in regrowth patches), with fewer *A. mearnsii* and *Exocarpos cupressiformis*.

Shrubs: *Bursaria spinosa, Coprosma quadrifida, Goodenia ovata, Gynatrix pulchella* and *Ozothamnus ferrugineus.*

Vines: Native vines are scarce but the introduced Japanese Honeysuckle is abundant in places.

Ferns: none.

Groundcover: *Acaena novae-zelandiae, Alternanthera denticulata, Dianella revoluta, Epacris impressa, Gonocarpus tetragynus, Juncus* species, *Lomandra longifolia, Microlaena stipoides, Phragmites australis, Austrostipa rudis, Themeda triandra*. *Gahnia radula* is scarce.

Valley Heathy Forest (EVC 127, **regionally Endangered**): 0.7 ha in total, comprising approximately 0.4 ha in good ecological condition (rating B), 0.2 ha in fair ecological condition (rating C) and 0.1 ha in poor ecological condition (rating D).

Canopy trees: Dominated by *Eucalyptus cephalocarpa*, with fewer *E. radiata* and scarce *E. melliodora*.

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

Shrubs: A mostly dense and prickly layer approximately 2–3 m deep, with *Bursaria spinosa*, *Acacia paradoxa, Leptospermum scoparium, Spyridium parvifolium, Goodenia ovata* and *Platylobium obtusangulum*.

Vines: *Cassytha melantha* and *Cassytha pubescens* are both scattered. The light twiner *Billardiera mutabilis* is fairly abundant.

Ferns: None.

Groundcover: A layer typically 20–30 cm deep with a foliage cover of approximately 70%. Dominated by grasses (including *Austrostipa rudis, Themeda triandra*, *Rytidosperma pallidum, Poa morrisii*, *Microlaena stipoides*) with abundant *Lomandra filiformis* and *L. longifolia*. *Xanthorrhoea minor* is scarce but was previously fairly abundant. *Gahnia radula* was not found. Other character species are *Arthropodium strictum, Bossiaea prostrata, Burchardia umbellata, Caesia parviflora, Dianella revoluta, Drosera aberrans, Hibbertia australis, Lepidosperma gunnii, L. laterale, Tricoryne elatior* and *Veronica gracilis*.

Swampy Woodland (EVC 937, **regionally Endangered**): Estimated to occupy 0.1 ha but with high uncertainty because past clearing and ongoing slashing obscure the distinction from Swampy Riparian Woodland.

Approximately three-quarters of the total is in fair ecological condition (rating C) and the remainder is in poor ecological condition (rating D).

Canopy trees: Dominated by fairly sparse *Eucalyptus ovata*, with fewer *E. cephalocarpa*.

Sub-canopy trees: *Acacia mearnsii* and *Melaleuca ericifolia* are fairly abundant.

Shrubs: The main species are *Bursaria spinosa*, *Coprosma quadrifida* and *Goodenia ovata*.

Vines: *Cassytha pubescens*.

Ferns: None.

Groundcover: *Austrostipa rudis, Eragrostis brownii, Gonocarpus tetragynus, Juncus* species, *Lepidosperma elatius, Lomandra longifolia* subsp. *longifolia, Lythrum hyssopifolia, Microlaena stipoides, Microtis* ?*parviflora*, *Phragmites australis* and *Thelymitra* ?*peniculata*. *Thelionema caespitosum* was present in 1997.

Plant species

The following list contains the wild plant species that have been reliably recorded in the Timmothy Drive bushland. Asterisks indicate records in a plant list claimed in the Victorian Biodiversity Atlas to be from Steve Mueck on 17/10/03 but that (with very few exceptions) matches the observations of Lynlee Smith on 18/1/02, as reported in a Biosis Pty Ltd report in March 2002. That report included many cautions about the study and the list contains some clear errors (omitted here), so asterisked entries below should be treated with caution. Otherwise, those species not seen by the author in his brief inspections of the site on 24/8/24 and 21/11/24 are indicated by superscripts showing the year of the most recent record. The column headed 'Risk' indicates the indigenous vascular species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; 'V'=Vulnerable and 'N'=Near threatened. In addition, species with names in bold are regionally rare.

Indigenous mosses and liverworts

Campylopus introflexus, Heath Star Moss
Chiloscyphus semiteres, Green Worms
Eurhynchium praelongum, Common Feather-moss
Rosulabryum billarderi, Common Thread-moss
Thuidiopsis furfurosa, Golden Weft-moss

Risk	Wild indigenous vascular species
V	*Acacia mearnsii*, Black Wattle
V	*Acacia melanoxylon*, Blackwood
	Acacia paradoxa, Hedge Wattle
V	*Acacia verticillata*, Prickly Moses [2003]
	Acaena novae-zelandiae, Bidgee-widgee [2003]
E	*Acrotriche serrulata*, Honey-pots
N	*Alisma plantago-aquatica*, Water Plantain [1997]
V	*Alternanthera denticulata*, Lesser Joyweed [2003]
C	*Amyema pendula*, Drooping Mistletoe [1997]
	Arthropodium strictum, Chocolate Lily
	Austrostipa pubinodis, Tall Spear-grass*
	Austrostipa rudis subsp. *rudis*, Veined Spear-grass
	Billardiera mutabilis, Common Apple-berry
N	*Bossiaea prostrata*, Creeping Bossiaea [2003]
	Burchardia umbellata, Milkmaids
	Bursaria spinosa, Sweet Bursaria
V	*Caesia parviflora*, Pale Grass-lily [2016]
	Carex appressa, Tall Sedge
E	*Carex fascicularis*, Tassel Sedge [1997]
	Carex inversa, Knob Sedge*
	Cassinia longifolia, Shiny Cassinia
E	*Cassytha melantha*, Coarse Dodder-laurel
E	*Cassytha pubescens*, Downy Dodder-laurel
E	*Centella cordifolia*, Centella
	Clematis decipiens, a small-leafed clematis
V	*Coprosma quadrifida*, Prickly Currant-bush
	Crassula decumbens, Spreading Crassula [2003]
	Cycnogeton procerum, Water-ribbons
	Deyeuxia quadriseta, Reed Bent-grass [2003]
	Dianella longifolia var. *longifolia*, Pale Flax-lily (planted?)
	Dianella revoluta, Black-anther Flax-lily
V	*Dillwynia cinerascens*, Grey Parrot-pea
V	*Drosera aberrans*, Scented Sundew [2016]
V	*Drosera auriculata*, Tall Sundew [2003]
N	*Drosera hookeri*, Branched Sundew*
V	*Eleocharis acuta*, Common Spike-rush [2003]
C	*Epacris impressa*, Common Heath [2003]
V	*Epilobium* cf. *billardiereanum* subsp. *intermedium*, a willow-herb
	Epilobium hirtigerum, Hairy Willow-herb [1997]
	Eragrostis brownii, Common Love-grass [2003]
E	*Eucalyptus cephalocarpa*, Mealy Stringybark
E	*Eucalyptus melliodora*, Yellow Box [2003]
V	*Eucalyptus ovata*, Swamp Gum
E	*Eucalyptus radiata*, Narrow-leaved Peppermint [2003]
C	*Eucalyptus viminalis* subsp. *viminalis*, Manna Gum
	Euchiton japonicus, Creeping Cudweed*
V	*Exocarpos cupressiformis*, Cherry Ballart
C	*Gahnia radula*, Thatch Saw-sedge
	Gonocarpus tetragynus, Common Raspwort
C	***Goodenia humilis*, Swamp Goodenia***
	Goodenia ovata, Hop Goodenia

Risk	Wild indigenous vascular species
E	*Gynatrix pulchella*, Hemp Bush [1997]
C	*Hakea nodosa*, Yellow Hakea [2003]
C	*Hibbertia australis*, Upright Guinea-flower
E	*Hypericum gramineum*, Small St John's Wort [2003]
E	*Isolepis cernua*, Nodding Club-rush*
E	*Isolepis hookeriana*, Grassy Club-rush*
	Isolepis inundata, Swamp Club-rush [2003]
C	*Isolepis marginata*, Little Club-rush [2003]
C	*Juncus fockei/holoschoenus*, a joint-leaf rush
	Juncus amabilis, Hollow Rush
	Juncus bufonius, Toad Rush [2003]
	Juncus gregiflorus, Green Rush
	Juncus pallidus, Pale Rush
E	*Juncus pauciflorus*, Loose-flower Rush*
E	*Juncus planifolius*, Broad-leaf Rush [2003]
E	*Juncus procerus*, Tall Rush
	Juncus sarophorus, Broom Rush
E	*Juncus subsecundus*, Finger Rush
	Kunzea leptospermoides, Yarra Burgan
V	*Lagenophora sublyrata*, Slender Bottle-daisy [2003]
	Lemna disperma, Common Duckweed [1997]
	Lepidosperma elatius, Tall Sword-sedge [2003]
C	*Lepidosperma filiforme*, Common Rapier-sedge [2003]
	Lepidosperma gunnii, Slender Sword-sedge
V	*Lepidosperma laterale*, Variable Sword-sedge
C	*Leptospermum continentale*, Prickly Tea-tree [2003]
	Leptospermum scoparium, Manuka
E	*Lobelia anceps*, Angled Lobelia [2003]
	Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush
	Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush
	Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush
	Lythrum hyssopifolia, Lesser Loosestrife [2003]
E	*Melaleuca ericifolia*, Swamp Paperbark
	Microlaena stipoides, Weeping Grass
V	*Microtis parviflora*, Slender Onion-orchid
V	*Opercularia ovata*, Broad-leaf Stinkweed*
V	*Opercularia varia*, Variable Stinkweed*
C	*Ornduffia reniformis*, Running Marsh-flower [2003]
	Oxalis exilis/perennans, Wood-sorrel [2003]
V	*Ozothamnus ferrugineus*, Tree Everlasting [2003]
	Persicaria decipiens, Slender Knotweed
E	*Persicaria hydropiper*, Water-pepper [1997]
E	*Persicaria lapathifolia*, Pale Knotweed [1997]
E	*Phragmites australis*, Common Reed
E	*Pimelea humilis*, Common Rice-flower*
E	***Platylobium infecundum*, a flat-pea***
E	*Platylobium obtusangulum*, Common Flat-pea
	Poa morrisii, Soft Tussock-grass
V	*Pomaderris aspera*, Hazel Pomaderris (planted?)
	Poranthera microphylla, Small Poranthera [2003]
E	*Potamogeton ochreatus*, Blunt Pondweed [1997]
	Pteridium esculentum, Austral Bracken
	Rytidosperma fulvum, Leafy Wallaby-grass
E	*Rytidosperma pallidum*, Red-anther (or Silvertop) Wallaby-grass
	Rytidosperma penicillatum, Slender Wallaby-grass [2003]
	Rytidosperma racemosum, Clustered Wallaby-grass [1997]
E	*Rytidosperma semiannulare*, Tasmanian Wallaby-grass [2003]
	Rytidosperma setaceum, Bristly Wallaby-grass [2003]
	Rytidosperma tenuius, Purplish Wallaby-grass
	Schoenus apogon, Common Bog-rush
	Senecio hispidulus, Rough Fireweed*
	Senecio minimus, Shrubby Fireweed [2003]
	Senecio quadridentatus, Cotton Fireweed [2021]
V	*Solanum laciniatum*, Large Kangaroo Apple [2003]
C	***Sphaerolobium minus*, Globe-pea***
V	*Spyridium parvifolium*, Australian Dusty Miller
E	*Stylidium armeria*, Common Triggerplant [2002]
C	***Stylidium despectum*, Hundreds and Thousands***
X	***Thelionema caespitosum*, Tufted Blue-lily** [1997]
E	*Thelymitra peniculata*, Trim Sun-orchid
C	***Thelymitra rubra*, Salmon Sun-orchid***
	Themeda triandra, Kangaroo Grass [2003]
	Tricoryne elatior, Yellow Rush-lily
V	*Triglochin striata*, Streaked Arrow-grass [2003]
	Typha orientalis, Cumbungi [1997]
V	*Veronica gracilis*, Slender Speedwell [2003]
E	*Viola hederacea*, Ivy-leaf Violet [2003]
E	*Xanthorrhoea minor*, Small Grass-tree
V	*Xanthosia dissecta*, Cut-leaf Xanthosia [2003]

Introduced species

Acacia longifolia subsp. *longifolia*, Sallow Wattle
Acer negundo, Box Elder [1997]
Acetosella vulgaris, Sheep Sorrel*
Agrostis capillaris, Brown-top Bent [2003]
Allium triquetrum, Angled Onion [2023]
Alopecurus geniculatus, Marsh Fox-tail*
Anthoxanthum odoratum, Sweet Vernal-grass [2003]
Arctotheca calendula, Cape Weed*
Atriplex prostrata, Hastate Orache*
Avena barbata, Bearded Oat*
Bellis perennis, English Daisy [2022]
Billardiera fusiformis, Bluebell Creeper*
Briza minor, Lesser Quaking-grass*
Bromus catharticus, Prairie Grass

Introduced species

Bromus diandrus, Great Brome [2003]
Callitriche stagnalis, Pond (or Common) Water-starwort
Calystegia silvatica, Greater Bindweed [2003]
Cardamine flexuosa, Wood Bitter-cress [2003]
Cassinia sifton, Sifton Bush
Cenchrus clandestinus, Kikuyu Grass
Centaurium erythraea, Common Centaury [2003]
Cerastium glomeratum s.l., Common Mouse-ear Chickweed*
Cicendia quadrangularis, Square Cicendia*
Cirsium vulgare, Spear Thistle
Conium maculatum, Hemlock*
Cordyline australis, New Zealand Cabbage Tree [1997]
Correa glabra, Rock Correa (planted?)
Correa hybrids (planted?)
Cortaderia selloana, Pampas Grass [2003]
Cotula coronopifolia, Water Buttons*
Crataegus monogyna, Hawthorn [1997]
Crepis capillaris, Smooth Hawksbeard*
Crocosmia × *crocosmiiflora*, Montbretia*
Cynodon dactylon, Couch
Cyperus eragrostis, Drain Flat-sedge
Cytisus scoparius, English Broom [1997]
Dactylis glomerata, Cocksfoot
Daucus carota, Carrot
Delairea odorata, Cape Ivy [1997]
Ehrharta erecta, Panic Veldt-grass
Ehrharta longiflora, Annual Veldt-grass
Erica lusitanica, Spanish Heath [1997]
Erigeron sumatrensis, Fleabane [2003]
Festuca arundinacea, Tall Fescue [2003]
Foeniculum vulgare, Fennel [2003]
Fraxinus angustifolia, Desert Ash [2003]
Fumaria sp., an unidentified fumitory [2003]
Galium aparine, Cleavers [2021]
Genista monspessulana, Montpellier Broom [2003]
Geranium dissectum, Cut-leaf Crane's-bill*
Grevillea robusta, Southern Silky Oak [2013]
Helminthotheca echioides, Ox-tongue [2003]
Holcus lanatus, Yorkshire Fog [2003]
Hypochaeris radicata, Cat's Ear [2022]
Juncus articulatus, Jointed Rush [2003]
Juncus pallescens, a rush [1997]
Lactuca serriola, Prickly Lettuce*
Leontodon saxatilis, Lesser Hawkbit*
Lolium perenne, Perennial Rye-grass*

Introduced species

Lolium rigidum, Wimmera Rye-grass*
Lonicera japonica, Japanese Honeysuckle [2003]
Lotus subbiflorus, Hairy Bird's-foot Trefoil*
Lysimachia arvensis, Pimpernel*
Malva parviflora, Small-flowered Mallow [2021]
Medicago polymorpha, Burr Medic
Medicago sativa, Alfalfa, Lucerne*
?*Mentha* × *piperita*, Peppermint or Lemon Mint [1997]
Oxalis incarnata, Pale Wood-sorrel [2021]
Oxalis pes-caprae, Soursob [2021]
Pandorea pandorana, Wonga Vine
Paspalum dilatatum, Paspalum
Paspalum distichum, Water Couch [1997]
Phalaris aquatica, Toowoomba Canary-grass [2003]
Pittosporum undulatum, Sweet Pittosporum
Plantago lanceolata, Ribwort [2003]
Plantago major, Greater Plantain*
Poa trivialis, Rough Meadow-grass*
Prunella vulgaris, Self-heal*
Prunus cerasifera, Cherry-plum*
Ranunculus repens, Creeping Buttercup
Raphanus raphanistrum, Wild Radish*
Romulea rosea, Common Onion-grass
Rorippa palustris, Yellow Marsh-cress
Rosa rubiginosa, Sweet Briar*
Rubus anglocandicans, Blackberry
Rumex crispus, Curled Dock [2003]
Rumex obtusifolius, Broad-leaf Dock [2021]
Salix cinerea, Grey Sallow [1997]
Solanum mauritianum, Tobacco-bush
Solanum nigrum, Black Nightshade [2023]
Solanum pseudocapsicum, Madeira Winter-cherry
Sonchus asper, Rough Sow-thistle*
Sonchus oleraceus, Sow-thistle [2003]
Stellaria media, Chickweed*
Symphyotrichum subulatum, Aster-weed [2003]
Taraxacum sect. *Taraxacum*, Garden Dandelion
Tradescantia fluminensis, Wandering Trad
Trifolium repens, White Clover [2022]
Tropaeolum majus, Nasturtium
Ulex europaeus, Gorse (Furze) [2003]
Vicia sativa, Common Vetch*
Vicia sp., a Vetch [2003]
Vinca major, Blue Periwinkle [2021]
Viola odorata, Common Violet*
Vulpia bromoides, Squirrel-tail Fescue [2003]
Zantedeschia aethiopica, White Arum Lily [2021]

Notes concerning some of the locally-threatened plant species

Carex fascicularis (Tassel Sedge) – In 1997, three plants were seen in a wetland 100 m ESE of the Timmothy Drive bridge.

Eucalyptus fulgens (Green Scentbark) – Listed by Biosis Pty Ltd in their 2002 report for land north of 91 Jenola Pde but this record is not credible as the site is far outside the species' range and such an obvious species would have been detected in other botanical surveys of that land.

Goodenia humilis (Swamp Goodenia) – Listed by Biosis Pty Ltd in their 2002 report for land north of 91 Jenola Pde but the list is not entirely reliable and none of the other thorough surveys of that area have found the species.

Gynatrix pulchella (Hemp Bush) – Recorded behind 94 Wakley Cres by H. Moss in 1997 – probably only 1 or 2 individuals.

Hakea nodosa (Yellow Hakea) – One plant found from 1997 to 2003 to the north of 91 Jenola Pde.

Hibbertia australis (Upright Guinea-flower) – Seven were counted in the area mapped above as 'rich understorey' during the inexhaustive 2024 site inspection – one of the largest remaining populations in Knox.

Isolepis hookeriana (Grassy Club-rush) – Recorded at 91 Jenola Pde by Biosis Pty Ltd in 2002.

Isolepis marginata (Little Club-rush) – In 2003, rather abundant and widespread north of 91 Jenola Pde.

Lemna disperma (Common Duckweed) – A population was recorded beside High Street Rd in 1997; likely to reappear from time to time.

Lepidosperma filiforme (Common Rapier-sedge) – Unknown numbers recorded north of 91 Jenola Pde in 1996 and 2002; not found in thorough surveys in 2003 or since.

Ornduffia reniformis (Running Marsh-flower) – One plant found in 2003 north of 91 Jenola Pde.

Persicaria lapathifolia (Pale Knotweed) – Recorded in 1997 by H. Moss in Swamp Scrub, both sides of Timmothy Dr; likely to reappear from time to time following floods.

Platylobium infecundum (a flat-pea) – Listed by Biosis Pty Ltd in their 2002 report for land north of 91 Jenola Pde but the list is not entirely reliable and none of the other thorough surveys of that area have found the species.

Sphaerolobium minus (Globe-pea) – Listed by Biosis Pty Ltd in their 2002 report for land north of 91 Jenola Pde but the list is not entirely reliable and none of the other thorough surveys of that area have found the species.

Spyridium parvifolium (Australian Dusty Miller) – Present north of 91 Jenola Pde: twelve in 2003 and three in 2024; others recorded just downstream of Timmothy Drive by H. Moss in 1997.

Stylidium despectum (Hundreds and Thousands) – Listed by Steve Mueck in 2003 for land north of 91 Jenola Pde but the list is not entirely reliable and none of the other thorough surveys of that area have found the species.

Thelionema caespitosum (Tufted Blue-lily) – Unknown numbers recorded north of 91 Jenola Pde by H. Moss in 1997.

Thelymitra rubra (Salmon Sun-orchid) – Listed by Steve Mueck in 2003 for land north of 91 Jenola Pde but the list is not entirely reliable and none of the other thorough surveys of that area have found the species.

Triglochin striatum (Streaked Arrow-grass) – At least one patch seen in 2003 north of 91 Jenola Pde.

Fauna of special significance

Although the plant species just listed are significant, none approaches the significance of 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*. 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.

Fish expert, John McGuckin, found Dwarf Galaxias in 1995 in the small dam in what is now David Cooper Park (but was a paddock at the time). His subsequent surveys followed a period when the dam dried out completely, and no Dwarf Galaxias were found. He has also looked in vain in the linear wetland to the north-northeast of there. He also says that Peter Unmack found Dwarf Galaxias about 50 m upstream of the Timmothy Drive bridge in 1998.

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 Mr 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 Timmothy Drive Bushland.

This study found no significant records of terrestrial fauna from this site.

Fauna habitat features

- There is a substantial stretch of creek still flowing in its natural bed and unimpeded in its flow to Dandenong Ck and beyond;
- The site is an ecological stepping-stone or (for some species) a terminal node on the Blind Creek habitat corridor;
- Collectively, the patches of native vegetation represent a substantial sized area of woodland, scrub and wetland, some of which is in good ecological condition;
- The wetlands are good habitat for frogs and some native invertebrates, as well as offering potential for Dwarf Galaxias to recolonise;
- The scrub provides good habitat for small insect-eating birds;
- There are some large trees with hollows but they are rather low in density.

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 this site.

Criterion 1.2.6 accords **Local** significance to sites that fit the description, 'Important at local scale - Link between individual remnant habitat blocks or within subcatchment'. This applies to the Timmothy Drive bushland's role for fish, birds, invertebrates and perhaps Water Rats that move along the Blind Creek corridor.

Threatened Vegetation Types

Five hectares or more 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. 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

The 2002 record of *Platylobium infecundum* is here regarded as too dubious to be regarded as adequate evidence of a significant natural asset; otherwise, any known habitat of such a critically endangered species qualifies as Nationally significant under criterion 3.1.2.

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 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*), Creeping Buttercup (*Ranunculus repens*), Wandering Trad (*Tradescantia albiflora*), hybrid bindweeds (*Calystegia*) and Panic Veldt-grass (*Ehrharta erecta*);
- Vegetation damage by construction of BMX tracks, cubby houses or similar projects;
- Slashing or mowing of native understorey north of 91 Jenola Pde at the wrong time, frequency or height;
- 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 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 State biological significance, importance to a waterway, the presence of threatened EVCs that were (at the time) predominantly on private land, and the potential for residential subdivision to adversely affect the natural assets. Since 2010, the only material change affecting the original basis for applying ESO2 is that the land is now all public. While the prospect of subdivision no longer exists, ESO2 remains appropriate for the other abovementioned reasons. Therefore, the only recommended amendment to the overlay is to slightly refine its boundary at the northern end of 91 Jenola Pde to follow the property boundary. (The overlay boundary was delineated before the cadastre was finalised for subdivision of 91 Jenola Pde but was always intended to follow the fenceline.)

Information sources used in this assessment

- A detailed vegetation assessment of the site (minus David Cooper Park) by Helen Moss and Dr Lorimer, as reported by Reid J.C., Moss H. and Lorimer G.S. (1997), *'Vegetation Survey of Linear Reserves – A Management Strategy for Riparian and Flood Plain Vegetation'*, for Knox City Council. The work included vegetation mapping (including vegetation types and significant plant species), compilation of a plant list for each of the site's EVCs, an assessment of fauna habitat and recommendations for management;
- Similar data, maps and associated documentation from Dr Lorimer in September 1997 for the roadside of High Street Rd, as reported by Lorimer G.S. (1998), *'A Survey and Management Strategy for Significant Roadsides in Knox'*, for Knox City Council;
- For the land north of 91 Jenola Pde, detailed vegetation data, mapping and a habitat score for Valley Heathy Forest, compiled by Dr Lorimer over approximately seven hours on 4th–7th October 2003 for the first edition of this report. Five lists of indigenous and introduced plant species were compiled for separate areas;
- A report by Dr Lorimer titled *'Assessment of Native Vegetation at 91 Jenola Parade, Wantirna South'*, dated 29th December 2003;
- Incidental observations of birds and frogs while the above data was being gathered;
- A basic report on flora and fauna north of 91 Jenola Pde (wrongly identified in the report as 90 Jenola Pde), produced by Biosis Pty Ltd (their project no. 2375). Note that 91 Jenola Pde extended to Blind Creek at the time. The report includes many caveats and contains obvious errors. A plant list in the Victorian Biodiversity Atlas contains a very slightly expanded version of the report's plant list but with the attribution and date changed from Lynlee Smith on 18/1/02 to Steve Mueck on 17/10/03. It appears only the few additions were from Mueck or on the later date;
- A site inspection by Dr Lorimer on 10/3/08 to update the above information where appropriate, with particular attention to recent residential development requiring amendment of the site boundary used in the first edition of this report;
- A brief inspection of land north of 91 Jenola Pde by Dr Lorimer on 13th June 2016, recording and mapping some scarce species and BMX track damage;
- An inexhaustive botanical survey of the site over 1¾ hours by Dr Lorimer on 24th August 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 (noting that most plant records from iNaturalist are of planted plants);
- 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.