Site 58. Dandenong Valley Parklands

A large area between Dandenong Ck and EastLink, containing parks, other public land and large private properties destined for public acquisition.

Summary of significant features:

- Nationally significant: a substantial population of the Yarra Gum (*Eucalyptus yarraensis*), which is Critically Endangered globally;
- State significance: a population of the spear-grass, *Austrostipa rudis* subspecies *australis* (subject to confirmation), which is listed as Endangered in Victoria;
- State significance: habitat used regularly by at least seven threatened bird species;
- State significance: extensive areas of several regionally-endangered vegetation types, though in mediocre ecological condition;
- Regionally significant: a riparian habitat corridor of regional importance, particularly for fish and flying fauna;
- Locally significant: viable populations of many plant species that are threatened with dying out in Knox.

Note

The amount of fieldwork conducted during this study to assess the Dandenong Valley Parklands was less intensive than for all other sites except Lysterfield Park. This is because the conservation and management of the Parklands and Lysterfield Park are largely within the jurisdiction of the State government and its agencies (particularly Parks Victoria). Also, permission was not obtained from some of the private landowners within the Parklands to inspect their properties.

Boundaries

The site comprises the four polygons with magenta outlines and hatching on the aerial photograph on the next page, totalling 541 ha. The polygons are dissected by Burwood Hwy, High Street Rd and Ferntree Gully Rd. The areas with orange outlines and shading are other sites from this report, as numbered.

Since the previous (2010) edition of this report, the site boundary has been revised to a significant degree as a result of vegetation removal, construction of the Dandenong Valley Wetlands, maturation of some areas of revegetation, and more thorough fieldwork.

The western boundary is the municipal boundary along Dandenong Creek, which is also the limit of this report's scope; otherwise, the site would straddle the creek. Different Victorian Government maps vary in their precise positioning of the municipal boundary, none of them precisely following the creek.

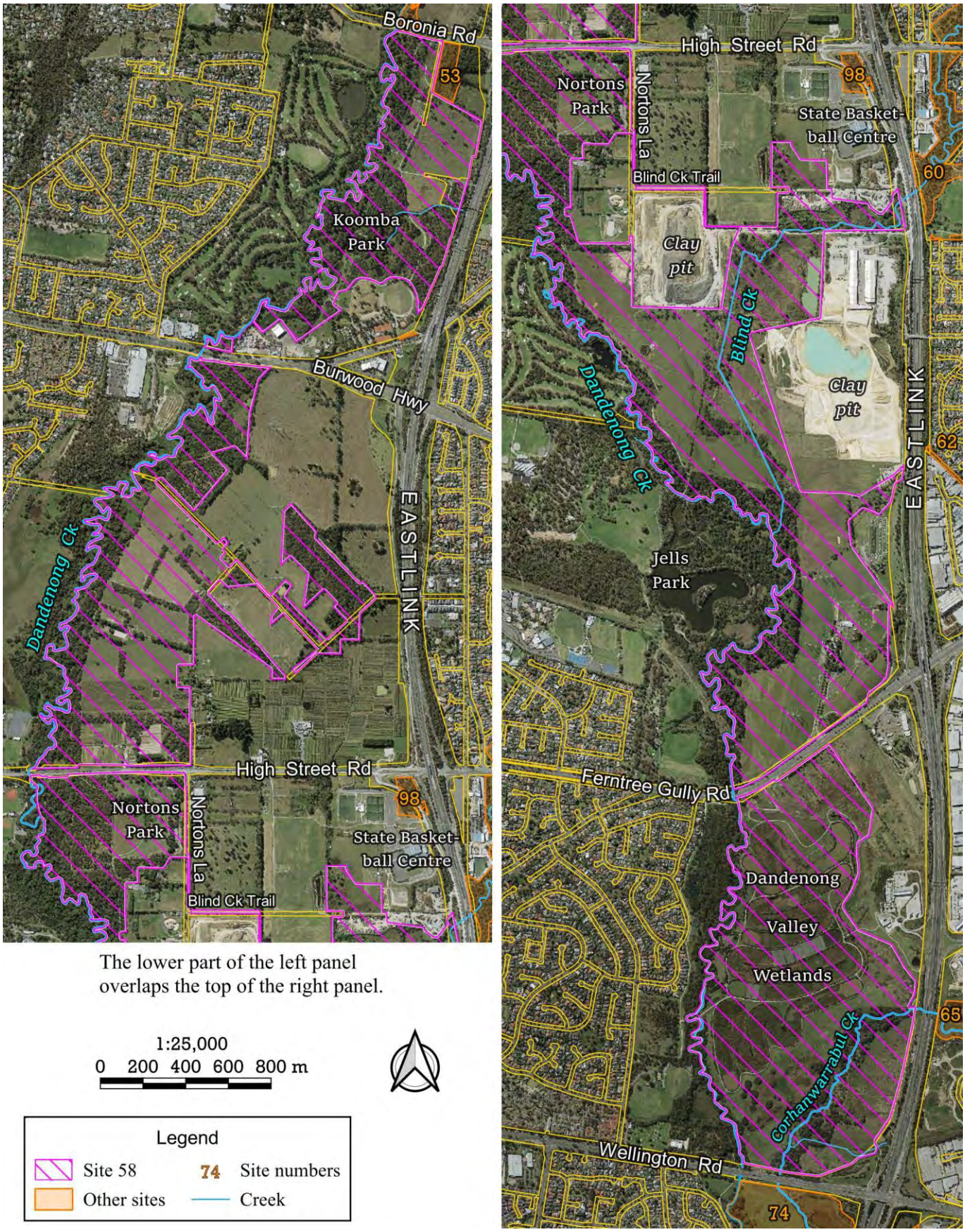
Land use & tenure

Includes: (a) parkland for recreation and nature conservation; (b) a disused Parks Victoria office; (c) proposed parkland on public and private land (vacant, quarry, farm and light industry); (d) a large stormwater treatment system called the Dandenong Valley Wetlands; (e) part of the Knox waste transfer station; and (f) road verges. The farmland includes horse agistment paddocks, the Chesterfield Farm tourist farm and private land covered by a Public Acquisition Overlay in the Knox Planning Scheme.

Site description

Dandenong Valley Parklands has mostly had a long history of farming (mainly grazing and orchards), and the remainder has been used for roads, clay quarrying and a municipal rubbish tip. Despite this, the Parklands retain some very high conservation values. Even some of the pasture that is being grazed today contains the nationally rare Yarra Gum (*Eucalyptus yarraensis*) and wetlands with plants that are rare or threatened in the Melbourne area. These wetlands within the pasture provide habitat for fauna, including waterbirds that are threatened globally.

The site delineated here includes most of the Parklands' areas of native vegetation that lie within Knox, on both public and private land (the latter being intended for public acquisition), as well as the stream channels of Dandenong Ck, Blind Ck and Corhanwarrabul Ck.



The lower part of the left panel overlaps the top of the right panel.

Within this site, Dandenong Creek and most of Corhanwarrabul Creek flow within their natural stream channels. Blind Creek's natural course has been replaced by a straightened channel through much of its passage through this site. Native fish are regularly recorded in all three creeks. The globally-endangered fish species, Dwarf

Galaxias, was present in the 1990s but it is believed to have died out in this catchment around the turn of the century. It may return, as the species has been re-introduced to the catchment in recent years.

A large part of the site is floodplain, with a shallow water table and deep alluvial soil subject to periodic inundation. Much of the remaining native vegetation on the floodplain south of Burwood Highway belongs to the Ecological Vegetation Class (EVC) called Floodplain Riparian Woodland, which is regionally-endangered. In other parts of the floodplain, there is a narrow band of Riparian Forest or Swampy Riparian Woodland beside the streams, flanked by Swampy Woodland. Natural and artificial wetlands are scattered widely across the floodplain and have predominantly native vegetation, even in the cases of disused clay pits and dams in grazed paddocks.

A few sections of the site – mainly in the vicinity of Bushy Park Lane, Axford Rd and the eastern edge of Nortons Park – extend into the more elevated ground east of the floodplain. These areas have pale clay loam topsoil and clay subsoil, derived from Upper Silurian and Lower Devonian sedimentary bedrock. The associated vegetation is of the regionally-endangered EVC, Valley Heathy Forest.

All but one of the EVCs in the site are regionally endangered. The exception is Riparian Forest, which is regionally vulnerable. The number of hectares of each EVC and the spectrum of ecological condition within each EVC could not be determined without more detailed fieldwork.

Some notable aspects of the site are as follows:

- The streams have no flow obstructions and – with the exception of Blind Creek – largely retain their natural channels, providing habitat for native aquatic fauna;
- There are numerous wetlands with native vegetation, frequented by a wealth of frogs and waterbirds (some of which are rare or threatened, such as egrets and Latham's Snipe), and evidently the smaller aquatic fauna that form the base of the aquatic food chain;
- Despite a long history of grazing and sometimes horticulture, the remnant forest and woodland vegetation almost all belongs to regionally-endangered EVCs and includes a large number of plant species;
- Some of the plant species are rare or threatened to various degrees and over various spatial scales, including a substantial contribution to the global population of the critically-endangered Yarra Gum (*Eucalyptus yarraensis*); and
- The Parklands includes habitat corridors along Dandenong Ck, Blind Ck and (probably to a lesser extent) Corhanwarrabul Ck.

Relationship to other land

One of the site's main ecological attributes is its role as an aquatic and terrestrial habitat corridor linked to other habitat downstream along Dandenong Ck (e.g. Site 74) and upstream along all three streams (e.g. Sites 26, 51–53, 59–61 and 65–66). The aerial photograph above helps to visualise some of these linkages. The ecological wellbeing of the Parklands significantly affects the other sites mentioned. Conversely, the ecological wellbeing of the other sites is likely to have a rather smaller effect on the Parklands.

While this report is confined to the Knox side of Dandenong Ck, there are similar connections on the other side of the creek and the site would be somewhat larger if ecological considerations were to prevail over the practicalities of the study area boundary.

The land use flanking the Parklands is so urbanised that it detracts from the Parklands' ecological function. On the other hand, some birds, bats and insects from the Parklands radiate to some degree into nearby residential neighbourhoods and parks, benefiting tree health and the wellbeing of people there.

Bioregion: Gippsland Plain

Habitat types

Stream Channel (No EVC number or conservation status available);

Wetland (EVC 74, **regionally Endangered**);

Floodplain Wetland Complex (EVC 172, **regionally Endangered**);

Floodplain Riparian Woodland (EVC 56, **regionally Endangered**);

Riparian Forest (EVC 18, **regionally Vulnerable**);

Swampy Riparian Woodland (EVC 83, **regionally Endangered**);

Swampy Woodland (EVC 937, **regionally Endangered**);

Valley Heathy Forest (EVC 127, **regionally Endangered**).

Plant species

The following indigenous plant species have been credibly recorded as growing wild within the site. Species not seen by the author in the three years to September 2024 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, *Eucalyptus yarraensis* is critically endangered globally and *Austrostipa rudis* subsp. *australis* is endangered in Victoria.

Indigenous mosses and liverworts
Bryum sp., Thread Moss
Campylopus introflexus, Heath Star Moss
Chiloscyphus semiteres, Green Worms
Eurhynchium praelongum, Common Feather-moss
Hypnum cupressiforme, Common Hypnum
Lunularia cruciata, Moonwort
Ricciocarpos natans, Fringed Heartwort
Sematophyllum homomallum, a moss
Thuidiopsis furfurosa, Golden Weft-moss

Risk	Wild indigenous vascular species
E	*Acacia aculeatissima*, Thin-leaf Wattle [1998]
	Acacia dealbata, Silver Wattle
V	*Acacia implexa*, Lightwood
V	*Acacia mearnsii*, Black Wattle
V	*Acacia melanoxylon*, Blackwood
E	*Acacia myrtifolia*, Myrtle Wattle [1989]
	Acacia paradoxa, Hedge Wattle
V	*Acacia pycnantha*, Golden Wattle
V	*Acacia verticillata*, Prickly Moses
V	*Acaena echinata*, Sheep's Burr
	Acaena novae-zelandiae, Bidgee-widgee
E	*Acrotriche serrulata*, Honey-pots
V	*Adiantum aethiopicum*, Common Maidenhair [1990]
N	*Alisma plantago-aquatica*, Water Plantain
V	*Allocasuarina littoralis*, Black Sheoak
V	*Alternanthera denticulata*, Lesser Joyweed
C	*Amyema pendula*, Drooping Mistletoe
E	*Amyema quandang*, Grey Mistletoe
	Anthosachne scabra, Common Wheat-grass [1997]
	Arthropodium strictum, Chocolate Lily
	Austrostipa pubinodis, Tall Spear-grass [2004]
V	*Austrostipa rudis* subsp. ?*australis*, Veined Spear-grass
	Austrostipa rudis subsp. *rudis*, Veined Spear-grass
V	*Azolla pinnata*, Ferny Azolla
V	*Azolla rubra*, Pacific Azolla
C	*Banksia marginata*, Silver Banksia [1984]
	Billardiera mutabilis, Common Apple-berry [2004]
N	*Bossiaea prostrata*, Creeping Bossiaea
V	*Brunonia australis*, Blue Pincushion [1997]
	Burchardia umbellata, Milkmaids
	Bursaria spinosa, Sweet Bursaria
	Caesia calliantha, Blue Grass-lily [1989]
V	*Caesia parviflora*, Pale Grass-lily
	Callistemon ?*sieberi*, River Bottlebrush (planted?) [2004]
	Carex appressa, Tall Sedge
	Carex breviculmis, Short-stem Sedge
E	*Carex fascicularis*, Tassel Sedge
E	*Carex gaudichaudiana*, Fen Sedge [2004]
	Carex inversa, Knob Sedge
	Cassinia aculeata, Common Cassinia
	Cassinia longifolia, Shiny Cassinia
E	*Cassytha melantha*, Coarse Dodder-laurel
E	*Cassytha pubescens*, Downy Dodder-laurel
E	*Centella cordifolia*, Centella
C	*Centipeda elatinoides*, Elatine Sneezeweed [1989]
	Chenopodium glaucum, Glaucous Goosefoot [2010]
C	*Chrysocephalum semipapposum*, Clustered Everlasting
V	*Clematis aristata*, Mountain Clematis [1990]
	Clematis decipiens, a small-leafed clematis
E	*Comesperma volubile*, Love Creeper [1990]
V	*Coprosma quadrifida*, Prickly Currant-bush
C	*Coronidium scorpioides*, Button Everlasting [1989]
C	*Correa reflexa* var. *reflexa*, Common Correa [1989]
	Crassula decumbens, Spreading Crassula
V	*Crassula helmsii*, Swamp Crassula
C	*Cyathea australis*, Rough Tree-fern [1990]
	Cycnogeton procerum, Water-ribbons
C	*Daviesia latifolia*, Hop Bitter-pea
C	*Daviesia leptophylla*, Narrow-leaf Bitter-pea [1990]
	Deyeuxia quadriseta, Reed Bent-grass [2000]
	Dianella longifolia var. *longifolia*, Pale Flax-lily

Risk	Wild indigenous vascular species
	Dianella revoluta, Black-anther Flax-lily
	Dichelachne rara, Common Plume-grass [1989]
	Dichondra repens, Kidney-weed
V	*Dillwynia cinerascens*, Grey Parrot-pea
V	*Drosera aberrans*, Scented Sundew [1990]
V	*Drosera auriculata*, Tall Sundew
N	*Drosera hookeri*, Branched Sundew [2000]
E	*Echinopogon ovatus*, Common Hedgehog-grass [1989]
	Einadia nutans, Nodding Saltbush [2010]
V	*Elatine gratioloides*, Waterwort [2004]
V	*Eleocharis acuta*, Common Spike-rush
E	*Eleocharis gracilis*, Slender Spike-rush [2005]
	Eleocharis sphacelata, Tall Spike-rush
C	*Epacris impressa*, Common Heath
V	*Epilobium billardiereanum* subsp. *cinereum*, Variable Willow-herb [2000]
	Epilobium hirtigerum, Hairy Willow-herb
	Eragrostis brownii, Common Love-grass [1997]
C	*Eucalyptus camaldulensis*, River Red-gum
E	*Eucalyptus cephalocarpa*, Mealy Stringybark
V	*Eucalyptus goniocalyx*, Bundy
C	*Eucalyptus macrorhyncha*, Red Stringybark
E	*Eucalyptus melliodora*, Yellow Box
E	*Eucalyptus obliqua*, Messmate Stringybark
V	*Eucalyptus ovata*, Swamp Gum
E	*Eucalyptus radiata*, Narrow-leaved Peppermint
C	*Eucalyptus viminalis* subsp. *viminalis*, Manna Gum
C	*Eucalyptus yarraensis*, Yarra Gum
E	*Euchiton involucratus*, Common Cudweed [1998]
V	*Exocarpos cupressiformis*, Cherry Ballart
C	*Gahnia radula*, Thatch Saw-sedge
V	*Glyceria australis*, Australian Sweet-grass [2004]
	Gonocarpus tetragynus, Common Raspwort
C	*Goodenia humilis*, Swamp Goodenia [2006]
	Goodenia ovata, Hop Goodenia
E	*Gynatrix pulchella*, Hemp Bush
C	*Haloragis heterophylla*, Varied Raspwort [1989]
E	*Hardenbergia violacea*, Purple Coral-pea
C	*Hibbertia australis*, Upright Guinea-flower [2000]
C	*Hovea heterophylla*, Common Hovea [2000]
	Hydrocotyle sp., Pennywort [2005]
E	*Hypericum gramineum*, Small St John's Wort [2004]
	Hypoxis hygrometrica, Golden Weather-glass [1998]
C	*Indigofera australis*, Austral Indigo
E	*Isolepis hookeriana*, Grassy Club-rush
	Isolepis inundata, Swamp Club-rush
	Juncus amabilis, Hollow Rush
C	*Juncus australis*, Austral Rush [2004]
	Juncus bufonius, Toad Rush
C	*Juncus fockei*, Slender Joint-leaf Rush

Risk	Wild indigenous vascular species
	Juncus gregiflorus, Green Rush
C	*Juncus holoschoenus*, Joint-leaf Rush
	Juncus pallidus, Pale Rush
E	*Juncus planifolius*, Broad-leaf Rush
E	*Juncus procerus*, Tall Rush
	Juncus sarophorus, Broom Rush
C	*Juncus vaginatus*, Clustered Rush [1986]
C	*Kennedia prostrata*, Running Postman [2000]
	Kunzea leptospermoides, Yarra Burgan
	Kunzea sp. (Upright form), Forest Burgan
	Lachnagrostis filiformis, Common Blown-grass [1992]
V	*Lagenophora sublyrata*, Slender Bottle-daisy [2000]
	Laphangium luteoalbum, Jersey cudweed [2022]
	Lemna disperma, Common Duckweed
	Lepidosperma gunnii, Slender Sword-sedge
V	*Lepidosperma laterale*, Variable Sword-sedge [1990]
C	*Leptorhynchos tenuifolius*, Wiry Buttons [2004]
C	*Leptospermum continentale*, Prickly Tea-tree
C	*Leptospermum lanigerum*, Woolly Tea-tree
	Leptospermum scoparium, Manuka
	Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush
	Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush
	Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush
C	*Lomandra multiflora*, Many-flowered Mat-rush [1989]
V	*Luzula meridionalis*, Common Woodrush [1989]
E	*Lycopus australis*, Australian Gipsywort
	Lythrum hyssopifolia, Lesser Loosestrife
C	*Machaerina arthrophylla*, Fine Twig-rush
E	*Melaleuca ericifolia*, Swamp Paperbark
V	*Melicytus dentatus*, Tree Violet
	Microlaena stipoides, Weeping Grass
V	*Microtis parviflora*, Slender Onion-orchid [2000]
C	*Myriophyllum crispatum*, Upright Water-milfoil
E	*Olearia lirata*, Snowy Daisy-bush (planted?)
V	*Opercularia ovata*, Broad-leaf Stinkweed
V	*Opercularia varia*, Variable Stinkweed
C	*Ottelia ovalifolia*, Swamp Lily [2005]
	Oxalis exilis/perennans, Wood-sorrel
V	*Ozothamnus ferrugineus*, Tree Everlasting
	Pandorea pandorana, Wonga Vine
C	*Patersonia occidentalis*, Long Purple-flag [2022]
	Persicaria decipiens, Slender Knotweed
E	*Persicaria lapathifolia*, Pale Knotweed
V	*Persicaria praetermissa*, Spotted Knotweed
E	*Persicaria subsessilis*, Hairy Knotweed
E	*Phragmites australis*, Common Reed
E	*Pimelea humilis*, Common Rice-flower
E	*Plantago varia*, Variable Plantain [2004]

Risk	Wild indigenous vascular species
E	*Platylobium obtusangulum*, Common Flat-pea
	Poa morrisii, Soft Tussock-grass
C	*Pomaderris racemosa*, Cluster Pomaderris (planted?)
	Poranthera microphylla, Small Poranthera
C	*Potamogeton cheesemanii*, Small-fruit Pondweed [2005]
E	*Potamogeton crispus*, Curly Pondweed
E	*Potamogeton ochreatus*, Blunt Pondweed [2005]
V	*Prostanthera lasianthos*, Victorian Christmas-bush
	Pteridium esculentum, Austral Bracken
C	*Ranunculus inundatus*, River Buttercup [2005]
C	*Ranunculus lappaceus*, Australian Buttercup [1990]
E	*Rubus parvifolius*, Small-leaf Bramble [1990]
C	*Rumex* ?*brownii*, Slender Dock [1989]
E	*Rytidosperma caespitosum*, Common Wallaby-grass [2005]
	Rytidosperma fulvum, Leafy Wallaby-grass
	Rytidosperma laeve, Smooth Wallaby-grass [2004]
E	*Rytidosperma pallidum*, Red-anther (or Silvertop) Wallaby-grass
	Rytidosperma penicillatum, Slender Wallaby-grass
	Rytidosperma pilosum, Velvet Wallaby-grass [2004]
	Rytidosperma racemosum, Clustered Wallaby-grass
	Rytidosperma setaceum, Bristly Wallaby-grass
	Rytidosperma tenuius, Purplish Wallaby-grass [2004]
	Schoenus apogon, Common Bog-rush
C	*Senecio* ?*linearifolius* var. *linearifolius*, Fireweed Groundsel [1990]
V	*Senecio glomeratus*, Annual Fireweed
	Senecio hispidulus, Rough Fireweed
	Senecio minimus, Shrubby Fireweed
V	*Senecio prenanthoides*, Common Fireweed [2000]
	Senecio quadridentatus, Cotton Fireweed
V	*Solanum laciniatum*, Large Kangaroo Apple [1992]
V	*Spirodela punctata*, Thin Duckweed [2004]
V	*Spyridium parvifolium*, Australian Dusty Miller
E	*Stackhousia monogyna/subterranea*, Candles [2000]
E	*Stylidium armeria*, Common Triggerplant [2000]
C	*Styphelia humifusa*, Cranberry Heath
C	*Tetratheca ciliata*, Pink-bells [1990]
E	*Thelymitra peniculata*, Trim Sun-orchid
	Themeda triandra, Kangaroo Grass
	Tricoryne elatior, Yellow Rush-lily
V	*Triglochin striata*, Streaked Arrow-grass [2006]
	Typha domingensis, Cumbungi
	Typha orientalis, Cumbungi
V	*Veronica gracilis*, Slender Speedwell
C	*Viminaria juncea*, Golden Spray [1989]
E	*Viola hederacea*, Ivy-leaf Violet
V	*Wolffia australiana*, Tiny Duckweed [2004]
E	*Wurmbea dioica*, Common Early Nancy [2000]
E	*Xanthorrhoea minor*, Small Grass-tree

Notes concerning some of the significant plant species

Listed as Critically Endangered under Victorian law

Eucalyptus yarraensis (Yarra Gum) – The dominant species, southwest of the State Basketball Centre and south of Boral's western clay pit; also at least two beside Nortons Lane, a few near the High Street Rd bridge, at least one beside the Blind Creek Trail and scattered elsewhere.

Listed as Endangered under Victorian law

Austrostipa rudis subsp. *australis* (a subspecies of Veined Spear-grass) – Plants at Robertson's (at the corner of High Street Rd and Bushy Park Lane) have the long glumes of this subspecies but there were no seeds present during this study's early-September 2024 survey to make a definite identification.

Locally threatened

Acacia aculeatissima (Thin-leaf Wattle) – Only a few plants seen by the author, beside and near High Street Rd.

Caesia calliantha (Blue Grass-lily) – Only recorded in 1989, somewhat questionably.

Callistemon ?*sieberi* (River Bottlebrush) – Two plants seen in 2004 near the Shepherd Rd footbridge.

Carex fascicularis (Tassel Sedge) – A rather large population at several locations.

Crassula helmsii (Swamp Crassula) – Common in wetlands, particularly toward Wellington Rd.

Drosera hookeri (Pale Sundew) – Localised in two patches of Valley Heathy Forest, but abundant there.

Eucalyptus camaldulensis (River Red Gum) – Three wild individuals grow southwest of the State Basketball Centre; The only other occurrence in Knox is beside Karoo Rd, Rowville.

Glyceria australis (Australian Sweet-grass) – Surprisingly uncommon. Discovered in 2004 in small numbers.

Gynatrix pulchella (Hemp Bush) – Scattered along Dandenong Ck.

Hypoxis hygrometrica var. *hygrometrica* (Golden Weather-glass) – Very scarce, found in Robinson's in 1998.

Isolepis hookeriana (Grassy Club-rush) – Numbers uncertain due to the species' cryptic, ephemeral ecology.

Juncus australis (Austral Rush) – Many discovered in 2004 near Wellington Rd.

Juncus holoschoenus (Joint-leaf Rush) – Found in moderate numbers in a few wetlands.

Kennedia prostrata (Running Postman) – Scarce and localised, but possibly present as soil-stored seed in more locations.

Lemna disperma (Common Duckweed) – Fairly common seasonally in wetlands.

Lycopus australis (Australian Gipsywort) – Many found in the Shepherds Bush area.

Melaleuca parvistaminea (Rough-barked Honey-myrtle) – Botanist W.M. Molyneux collected a herbarium specimen in 1990 (specimen number MEL 2011925) beside Ferntree Gully Rd (where no longer present). The species has been planted in Knox and has sometimes gone wild, which may have happened in this case.

Microtis parviflora (Slender Onion-orchid) – Few recorded, but possibly locally common in Valley Heathy Forest.

Myriophyllum crispatum (Upright Milfoil) – Moderate numbers found in 2004 near Wellington Rd and at Noonan's in 2024.

Ottelia ovalifolia (Swamp Lily) – Found in 2005 in several wetlands, mostly with more than just a few plants in each, but none could be found in winter or early spring, 2024.

Persicaria lapathifolia (Pale Knotweed) – Moderately common in good years in and around wetlands and stream channels.

Potamogeton crispus (Curly Pondweed) – Common in the creeks.

Spirodela punctata (Thin Duckweed) – Discovered during 2004 in moderate numbers in a few wetlands.

Styphelia humifusa (Cranberry Heath) – Two adjacent plants grow on the eastern verge of Nortons Lane. The closest record of this species in the past 30 years was 9 km away in Donvale in 2008.

Wolffia australiana (Tiny Duckweed) – Discovered during 2004 in moderate numbers in a few wetlands.

Wurmbea dioica (Common Early Nancy) – Scattered through patches of Valley Heathy Forest.

Fauna of special significance

Listed as Endangered under Commonwealth and Victorian law

Dwarf Galaxias. Found in December 1986 in a pool beside Corhanwarrabul Ck, not far north of Wellington Rd. The species was also recorded until 1998 on Blind Ck and it undoubtedly passed through Dandenong Valley Parklands because it must migrate between freshwater and the sea to complete its lifecycle. The species 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. The population in the Dandenong Creek catchment suffered a population crash during the Millennium Drought and it is believed that it died out. However, 600 individuals were released downstream of the Parklands in 2017 and about half that many in Heathmont in 2023. It is possible that the descendants of those fish will eventually reach the Parklands, where there are seasonal wetlands of the kind that are the species' critical habitat.

Listed as Vulnerable under Commonwealth law

Latham's Snipe: Seen frequently within the site, typically when disturbed within rushes.

Sharp-tailed Sandpiper: Seen frequently within the site.

Listed as Critically Endangered under Victorian law

Intermediate Egret: Seen occasionally within the site.

Listed as Endangered under Victorian law

Freckled Duck: Seen frequently within the site, e.g. at the Dandenong Valley Wetlands.

Little Egret: Seen occasionally.

Grey Goshawk: There are 76 records of this species from within the site.

Wood Sandpiper: Seen fairly frequently within the site.

Listed as Vulnerable under Victorian law

Blue-billed Duck: Seen regularly at the Dandenong Valley Wetlands.

Musk Duck: Seen occasionally at the Dandenong Valley Wetlands.

Australasian Shoveler: Seen frequently within the site, e.g. at the Dandenong Valley Wetlands.

Eastern Great Egret: There are 907 records of this species from within the site.

Powerful Owl: There are 845 records of this species from within the site.

Fauna habitat features

- There is aquatic habitat in the streams and wetlands, some with fringing native vegetation;
- Waterbirds forage and breed in the wetlands and rushland;
- Many large eucalypts have tree hollows that would make suitable locations for habitation by native birds, bats, possums and invertebrates;
- Patches of scrub and revegetation plots provide habitat for small insect-eating birds such as wrens;
- Some areas have logs and fallen branches that may provide cover for native reptiles and invertebrates;
- Fragmentation of the Parklands' native vegetation is to some degree offset by the diversity of habitat (forest, woodland, grassland, wetland, stream), 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.

Criterion 1.2.6 attributes **Regional** significance to any corridor that meets the description 'Important at regional scale (link within bioregion or catchment)'. This applies to the Dandenong Valley Parklands.

Regionally Threatened Ecological Vegetation Classes

Vegetation belonging to a threatened EVC is recognised as significant by the standard criteria only if it meets a specific definition of a 'remnant patch': a continuous area of at least 0.25 ha in which the cover of native understorey is at least 10% throughout. That definition applies to a number of the site's areas of the regionally-endangered EVCs Valley Heathy Forest, Swampy Woodland and Floodplain Riparian Woodland: (a) on the 'Capuchin Fathers' land; (b) at 'Noonan's'; (c) at 'Robertson's'; (d) on the southern cutting of High Street Rd and extending around the corner beside Nortons Lane; (e) southwest of Nortons Park; (f) the eastern verge of Nortons Lane, south of the pine windbreak; (g) beside the Blind Creek Trail near Nortons Lane; (h) southwest of the State Basketball Centre; (i) much of the riparian strip beside Dandenong Creek; and possibly elsewhere. As 'remnant patches' of endangered EVCs, their conservation significance ratings under Appendix 3 of *Victoria's Native Vegetation Management – a Framework for Action* (NRE 2002a) are at least 'High'. This translates to **State** significance under criterion 3.2.3 of Amos (2004).

Floodplain Wetland Complex is also regionally-endangered but floodplain wetlands are often naturally smaller than the 0.25 ha minimum to qualify as a 'remnant patch'. This seems to be an oversight. The Department of Energy, Environment and Climate Action has mostly not mapped such wetlands separately from the surrounding Floodplain Riparian Woodland. On that basis, the natural floodplain wetlands in the Dandenong Valley Parklands are of **State** significance, even those smaller than 0.25 ha.

Threatened Plants

Eucalyptus yarraensis is endemic to Victoria and is listed as Critically Endangered under Victorian law. The author estimates that more than half of the global population of this species would be in sites with smaller populations than the Dandenong Valley Parklands. It follows from criterion 3.1.2 that the Parklands' habitat for *Eucalyptus yarraensis* is of **National** significance. Note that it is the habitat that is significant, not just the area occupied by each tree individually.

It is quite likely that the identity of *Austrostipa rudis* subsp. *australis* will be confirmed for some of the spear-grasses at 'Robertsons', west of Bushy Park Lane near High Street Rd. That subspecies is listed under the

Flora and Fauna Guarantee Act as Endangered in Victoria. It also occurs interstate. Any known habitat for such a species meets criterion 3.1.2 for **State** significance.

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

Threatened Fauna

Latham's Snipe and Sharp-tailed Sandpiper are both recorded frequently in the site and both are listed as Vulnerable under federal legislation. Any known habitat of such species is of **State** significance unless it is an 'important site', which does not seem to apply in this case; otherwise, it would be of National significance.

The 'Fauna of special significance' section above includes five bird species that are listed as Critically Endangered or Endangered under Victorian law. None is endemic to Victoria and all are known to make use of the Dandenong Valley Parklands' habitat, including recently. Known habitat of such species is treated by criterion 3.1.2 as **State** significance.

There are also five bird species in the 'Fauna of special significance' section that are listed as Vulnerable under Victorian law and are known to make substantial use of the Parklands' habitat. None of those species are endemic to Victoria. This study is unable to determine whether the Parklands qualifies as an 'important site' for any of these species. If so, criterion 3.1.2 would recognise the habitat as State significance; otherwise, Regional.

Threats

- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves, floods 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. Many of the most prevalent introduced plant species cannot be controlled because they are largely the inevitable result of the history of environmental abuse of the site and its catchment, particularly on the floodplain. Those species include Angled Onion (*Allium triquetrum*), Kikuyu Grass (*Cenchrus clandestinus*), Couch (*Cynodon dactylon*), Cocksfoot (*Dactylis glomerata*), Japanese Honeysuckle (*Lonicera japonica*), Creeping Buttercup (*Ranunculus repens*), Wandering Trad (*Tradescantia albiflora*) and Panic Veldt-grass (*Ehrharta erecta*). Blackberry (*Rubus anglocandicans*), South African Daisy (*Senecio pterophorus*), Broom species (*Genista*) and Gorse (*Ulex europaeus*) are serious threats but more tractable than the other species just mentioned. Amazon Frogbit (*Limnobium laevigatum*, also known as Sponge Plant) has recently established in a newly-planted wetland immediately downstream of the Shepherds Rd footbridge over Dandenong Creek; It is rather intractable and is a very serious threat to wetlands throughout the region, as it could be spread by waterbirds;
- Carp;
- 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 its version of this site being covered by Schedule 2 of the Environmental Significance Overlay (ESO2), based on essentially the same biologically-significant features as discussed above but without as much detail and before the threat rating of some species was raised. The additional detail and higher threat ratings have heightened the rationale for applying ESO2. This study's additional fieldwork has allowed the site boundary to be refined and updated in response to changes in the habitat. It is recommended to amend the ESO2 boundary to match the one adopted here; No other change is needed.

Information sources used in this assessment

- *'Botanical Survey and Guidelines for the Management of Remnant Native Vegetation in the Dandenong Valley Metropolitan Park'* by R. Adams and D. Simmons for the Melbourne & Metropolitan Board of Works in 1989;
- The author's work in the Parklands for Parks Victoria during 1997–2001, which led to the following reports for Parks Victoria (all authored by Dr Lorimer):
  - 'Dandenong Valley Parklands - Flora Survey Prior to Ecological Burns' (1997);

- ‘Dandenong Valley Parklands - Flora Recovery after Ecological Burns’ (1999);
- ‘Plant Species List for Dandenong Valley Parklands’ (2000);
- ‘Dandenong Valley Parklands - Second Baseline Flora Survey for Fire Research’ (2000);
- ‘Dandenong Valley Parklands Ground Flora Survey, Revisited’ (2000); and
- ‘Dandenong Valley Parklands - Flora Recovery after Ecological Burns and Other Treatments’ (2001);

as well as the scientific paper, *‘Ecological burning trials in degraded open-forest remnants in Melbourne’*, presented to the Ecological Society of Australia’s annual conference in 2000.

The data generated from the above studies included updated plant lists for the Parklands as well as data from nine quadrats within Knox. To monitor the effects of fire and selective herbicide application, five of the quadrats have each been surveyed in three separate years (1997, 1998, 2000) and the other four quadrats were each surveyed in 1999 and 2000;

- References cited in the above documents, including plant species lists for the Parklands;
- A vegetation map showing EVCs and vegetation quality, and seven lists of plant species (indigenous and introduced) for different sections of High Street Rd within the site, observed by Dr Lorimer on 11th–17th September 1997, as described in the report, *‘A Survey and Management Plan for Significant Vegetation of Roadsides in Knox’* by G.S. Lorimer for Knox City Council (May 1998, 137 pp.);
- The equivalent of one full day of vegetation survey by Dr Lorimer, on foot and by bicycle, within the parklands from Wellington Rd to Burwood Hwy in January 2004, and close to Boronia Rd on 30/8/02. The purpose was to determine appropriate site boundaries, update old plant lists, check the EVCs that had been mapped by the forerunner of the Department of Energy, Environment & Climate Action (which are inaccurate), check for rare flora or fauna and provide a stronger basis for the treatment of this site in the first edition of this report;
- Inspections of roadside vegetation along Ferntree Gully Rd in late 2003 and winter 2024, seeking *Eucalyptus yarraensis* and *Melaleuca parvistaminea* (in vain);
- The 1998 *‘Scoresby Transport Corridor Environment Effects Statement’*, including 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 Koomba Park is labelled as ‘Site 4’;
- A report, *‘Assessment of Native Vegetation on the Mitcham to Frankston Freeway Alignment in Knox’*, by Dr Lorimer in July 2003 for Knox City Council;
- The report, *‘Birds of the Dandenong Valley Parklands – An Annotated Checklist’* by careful observer, Ren Millsom, who has surveyed birds in the valley for many years, plus updated verbal information from Mr Millsom;
- Inexhaustive botanical surveys of the site by Dr Lorimer over August to October 2024, compiling a series of lists of wild, indigenous plant species and checking for changes in features relevant to this report compared with pre-existing information;
- Records of flora and fauna observations stored in the Atlas of Living Australia (noting that most records of indigenous plants in iNaturalist are of planted plants, and quadrat data mapped as being from near High Street Rd in 1990 is quite misleading in location and the species recorded);
- 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.