Site 15a. Wicks Reserve, The Basin

Council reserve with picnic facilities and lawns in a bushland environment with rich birdlife.

Summary of significant features:

- Nationally significant: regular usage of the habitat by the listed migratory bird species, Rufous Fantail;
- Nationally significant: an abundance of the flat-pea, *Platylobium infecundum*, which is Critically Endangered globally;
- State significance: fairly intact examples of the regionally vulnerable vegetation types, Grassy Forest and Swampy Woodland;
- Regionally significant: a good (if deteriorating) patch of the regionally depleted vegetation type, Wet Heathland – the only occurrence in Knox;
- Regionally significant: apparently high-quality habitat for the listed vulnerable species, Powerful Owl and Yellow-bellied Glider, which are known to occur in close proximity;
- Locally significant: scores of plant species that are threatened with dying out in Knox, of which twelve are rare or threatened throughout the Melbourne area and six are found nowhere else in Knox;
- Locally significant: a breeding population of the Swordgrass Brown butterfly, which is locally rare;
- There is excellent birdlife.

Boundaries

This 5.23 ha site is outlined with blue dashes on the aerial photograph on the next page. It includes all of Wicks Reserve (4.42 ha), the adjoining roadside along Basin-Olinda Rd and to the centreline of Wicks Rd.

Land use & tenure: Council reserves, roadsides and to the centreline of Wicks Rd (to include the overhanging tree canopy between this site and Site 15b). Wicks Reserve has a car park, picnic shelters, barbecues, public toilets, park benches, a playground and lawns, all in a bushland setting.

Site description

This site is at the foot of a north-facing slope of the Dandenong Ranges, with the edge of the floodplain of Dobson Creek along the northern margin. Elevations vary from 158 m to 178 m. The natural slope is less than 5% near Basin-Olinda Rd and approximately 10% in the rest of Wicks Reserve.

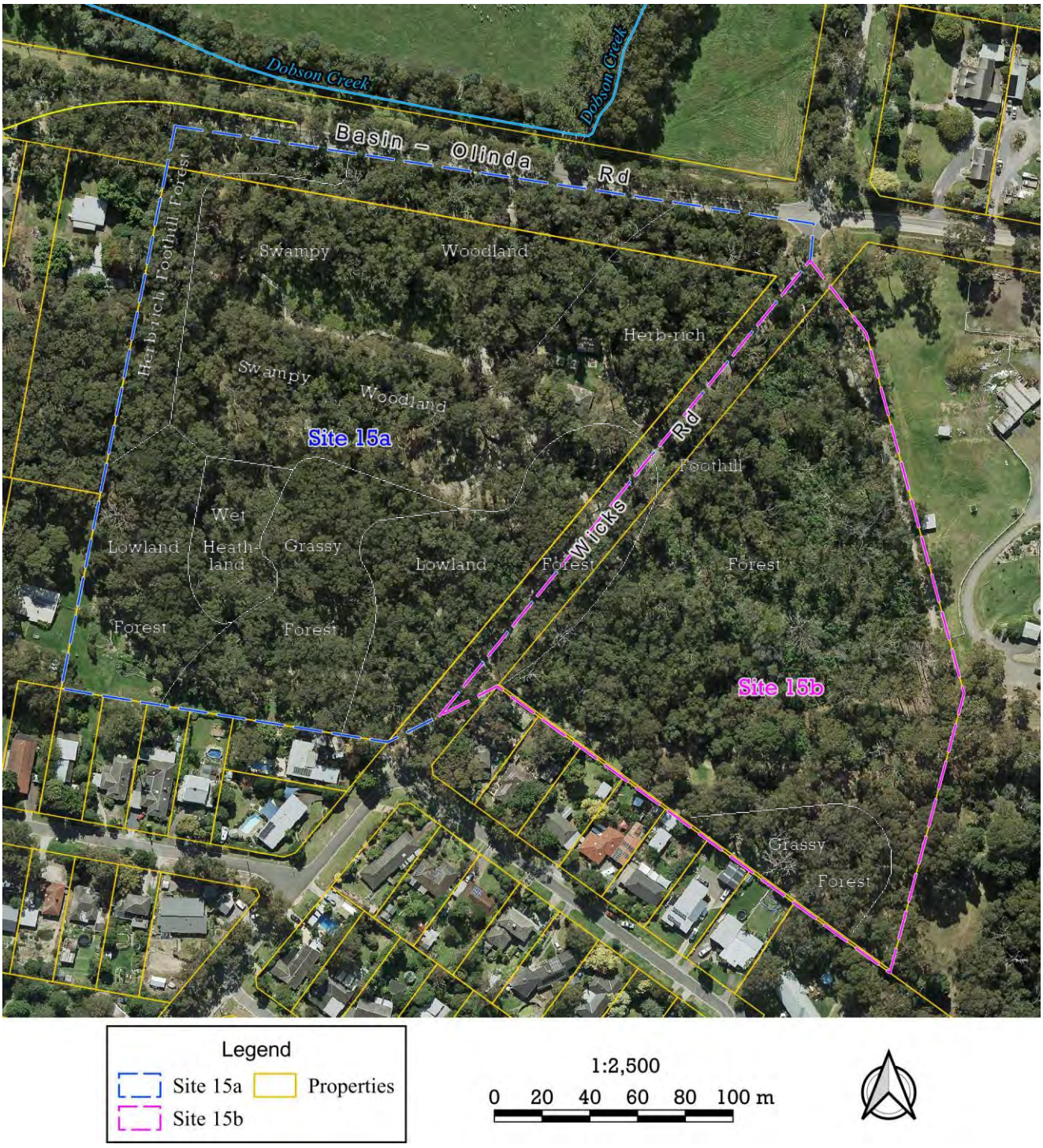
The site's bedrock is the Kalorama Rhyodacite formation, which is part of the Dandenong Ranges volcanic group. This weathers to an acidic, yellowish clay loam soil but this has been buried in two places:

- Shallow alluvium has been deposited in the northernmost 30–50 m of the site; and
- Soil and rock have slipped downhill to fill an ancient gully that ran north-northeast through the area marked as Wet Heathland on the aerial photograph on the next page. (This is inferred by the author from geological maps, topographic maps, soil moisture levels and vegetation.)

Groundwater seeping out of the soil deposited in the ancient gully has given rise to the Wet Heathland, a unique occurrence in Knox. Wet Heathland would once have continued further north prior to the clearing of a swathe through the vegetation (now partly under revegetation). There are many plant species within and close to the Wet Heathland that are very rare or absent in the rest of Knox.

There are many patches and strips of land within the reserve that have been cleared for tracks, pipes, former pony club facilities, a stormwater bioinfiltration system (the 'Ferdinand von Mueller Rain Garden') and recreational facilities. Most of the site must have been denuded of trees many years ago, judging from the paucity of large, old trees. A substantial proportion of the land has regenerated naturally, while other areas are under revegetation. A few planted native and exotic ornamental species persist around the reserve and there are even some planted bottlebrushes in the otherwise-natural Wet Heathland.

The history of clearing, excavation, gardening, revegetation and natural regeneration confounds the delineation of vegetation types near the centre of Wicks Reserve. A canopy of Swamp Gums (*Eucalyptus ovata*) is usually associated in Knox with the Ecological Vegetation Classes called Swampy Woodland or Swampy Riparian Woodland but the excellent regenerative capacity of this species has allowed it to proliferate vigorously in areas where it would once have been very scarce or absent.



Despite the history of clearing, the vegetation retains a very high number of indigenous plant species for such an area, and many of them are rare or threatened in Knox or more widely. Certain weed species such as brooms had become well established by the 1990s but Council has brought them under control except for Pale Wood-sorrel (*Oxalis incarnata*).

Botanical surveys of Wicks Reserve have been conducted many times, beginning with Paget (1985, in the pony club days) and continuing to this study in 2024. The present author has collected data specifically for the purpose of monitoring changes to vegetation composition and populations of significant species at intervals between 1997 and 2024. This has provided an excellent insight into ecological processes and human impacts, including the following:

Historical clearing of the catchment and draining of the land by the stormwater system has caused great debilitation of the habitat of Wicks Reserve through drying of the soil. Much of the vegetation and its many rare plant species are dependent on seepage, whose source has been intercepted by drains such as road gutters. The Wet

Heathland has been particularly affected. During the Millennium Drought, many indigenous plant species in the reserve died out or were decimated and have not regenerated. The rarest species, including several not known anywhere else in Knox, were worst affected. While anthropogenic climate change may have contributed to the severity and duration of the drought, the effects just described are largely attributable to the stormwater drainage system.

The Ferdinand von Mueller Rain Garden was constructed in 2010 to ameliorate the impacts of the stormwater system on vegetation and on flooding and erosion along Dobson Creek.

Relationship to other land

Wicks Reserve and Wicks East Nature Reserve (Site 15b) function ecologically almost as a unit, with extensive flow of wildlife, seeds, pollen and spores between them. They represent a core of high-quality habitat surrounded by lower-quality habitat.

From Wicks Reserve and Wicks East Nature Reserve, there is a continuous canopy of remnant eucalypts (with various degrees of associated native understorey) that extends into the Dandenong Ranges National Park via Site 18. The national park and Site 18 are of National significance for their native vegetation and wildlife. Wicks Reserve and Wicks East Nature Reserve undoubtedly function ecologically as extensions to the habitat of Site 18 and the national park, with extensive traffic of fauna, seeds and pollen between the sites. This explains why the site is so good for birdwatching.

Site 14, to the west of Wicks Reserve, provides a small extension to the reserve's habitat, but the habitat in Site 14 is inferior because the canopy is more fragmented and the understorey is decimated or absent from most of the area.

There is even less habitat to the south of Wicks Reserve, but still enough to entice some birdlife such as Australian King-Parrots out of the aforementioned sites and into residential and civic areas where they contribute to the natural atmosphere of life in The Basin. Unfortunately, some of the residences neighbouring the reserve harbour environmental weeds that spread into the reserves – particularly Sweet Pittosporum.

Bioregion: Highlands Southern Fall

Habitat types

Wet Heathland (EVC 8, **regionally Depleted**): Estimated to cover 1,800 m², equally divided between ecological condition ratings A and B (i.e. very good and good). 56 indigenous plant species were found by the author since 2002, including a few that may be interpreted as outliers from the adjacent Lowland Forest.

Eucalypts: Sparse, young *Eucalyptus ovata*, not forming a canopy.

Sub-canopy trees: Small numbers of *Acacia melanoxylon* and *Pomaderris aspera*.

Shrubs: Varying greatly in density from dense scrub to very open (since decimation during the Millennium Drought); Dominated by *Leptospermum scoparium* 3–4 m tall. There are also scattered *Allocasuarina paludosa, Epacris impressa, Goodenia ovata* and *Pultenaea gunnii*. *Hakea nodosa* and *Polyscias sambucifolia* are scarce.

Vines: Represented only by *Billardiera mutabilis* and very sparse *Cassytha pubescens*.

Scramblers: *Empodisma minus* is dense (though less so than before the Millennium Drought) and *Tetrarrhena juncea* is abundant. *Lobelia anceps* is also present.

Ferns: *Lindsaea linearis* is abundant. There are patches of *Adiantum aethiopicum* and a few *Cyathea australis*. The fern ally, *Selaginella uliginosa*, is now scarce, having been present in substantial numbers prior to the Millennium Drought.

Groundcover: Very dense outside the patches of scrub (particularly due to the scramblers just mentioned) and less dense where the scrub blocks out the sunlight. Sedges are well represented, including *Gahnia radula, Gahnia sieberiana, Lepidosperma filiforme, Schoenus apogon* and *Tetraria capillaris*. The characteristic species, *Centella cordifolia, Cryptostylis subulata, Drosera pygmaea, Gonocarpus micranthus, Lobelia anceps* and *Patersonia occidentalis* are (or were once) all present. Grasses are scarce, and include *Eragrostis brownii, Hemarthria uncinata, Poa tenera, Tetrarrhena juncea*, plus occasional outliers of species such as *Deyeuxia quadriseta* from the adjacent Lowland Forest.

Lowland Forest (EVC 16, conservation status rated 'Least Concern' in the bioregion): Estimated to cover 1.2 ha, comprising 1.1 ha in good ecological condition (rating B) and 0.1 ha in fair ecological condition (rating C). 72 indigenous plant species have been recorded by the author.

Dominant canopy trees: *Eucalyptus obliqua* with far fewer *E. ovata*.

Dominant sub-canopy trees: *Acacia melanoxylon* and *Exocarpos cupressiformis*, moderately dense.

Shrubs: Moderately dense and fairly rich in species prior to the Millennium Drought, now much less so. *Goodenia ovata* is most abundant. Formerly conspicuous species are *Allocasuarina paludosa, Coprosma quadrifida, Epacris impressa, Kunzea leptospermoides, Leptospermum scoparium, Ozothamnus ferrugineus, Polyscias sambucifolia* and *Pultenaea gunnii*. *Bursaria spinosa* is present but sparse. The usual abundance of members of the Protea family is missing, the only representation being three *Hakea ulicina* plants at the interface with Grassy Forest.

Vines: *Billardiera mutabilis* and *Pandorea pandorana* are fairly abundant.

Ferns: There are patches of *Pteridium esculentum* but the overall average foliage cover is small. *Lindsaea linearis* is present, a characteristic species for Lowland Forest. *Cyathea australis* is sparse.

Groundcover: Very dense, tangled and knee-deep, not tussocky. Rather heathy with *Gahnia radula* and *Tetrarrhena juncea* dominant; formerly also with patches of dense *Empodisma minus*. The following species are abundant but with too little foliage cover to be dominant: *Burchardia umbellata, Gahnia sieberiana, Gonocarpus tetragynus, Poa tenera, Austrostipa rudis, Stylidium armeria* and *Viola hederacea*. Less abundant species that are good ecological indicators but were decimated or eliminated by the Millennium Drought include *Centella cordifolia, Cryptostylis leptochila, Cryptostylis subulata, Selaginella uliginosa, Tetraria capillaris* and *Xanthorrhoea minor*.

Herb-rich Foothill Forest (EVC 23, conservation status rated 'Least Concern' in the bioregion), tending toward Damp Forest at the foot of the slope: Estimated to cover 0.5 ha. 100 indigenous plant species have been recorded by the author.

Canopy trees: Dominated by *Eucalyptus obliqua* and *E. ovata*, the latter quite possibly a result of the more vigorous regenerative capacity of that species following clearing.

Sub-canopy trees: Rather dense, dominated by *Acacia melanoxylon* and a smaller number of *Exocarpos cupressiformis*. *Acacia dealbata* is present but sparse.

Shrubs: Moderately dense and rather rich in species. Dominated by *Coprosma quadrifida, Olearia lirata* and *Polyscias sambucifolia*. Other shrubs include *Acacia verticillata, Cassinia aculeata, Epacris impressa, Goodenia ovata, Leptospermum scoparium, Ozothamnus ferrugineus, Prostanthera lasianthos* and *Pultenaea gunnii*. Other shrub species occur in small numbers. The presence of *Cassinia trinerva* and *Olearia argophylla* reflects the tendency toward Damp Forest in the wettest areas and the close proximity to fully developed Damp Forest on Dobson Creek in Site 18.

Vines: *Pandorea pandorana* is abundant. There are also substantial numbers of *Billardiera mutabilis, Clematis aristata* and *Glycine clandestina*.

Ferns: Patches of *Pteridium esculentum* are widespread. Patches of *Calochlaena dubia* and occasional small *Cyathea australis* are scattered at the foot of the slope.

Groundcover: Very variable in density due to different stages of recovery from clearing. Aside from the ferns, the groundcover is dominated by *Dianella tasmanica* and *Poa ensiformis*. The following species are abundant but with too little foliage cover to be dominant: *Gahnia radula, Austrostipa rudis, Tetrarrhena juncea, Themeda triandra* and *Viola hederacea*.

Grassy Forest (EVC 128, **regionally Vulnerable**): Estimated to cover 0.6 ha, comprising 0.5 ha in good ecological condition (rating B) and 0.1 ha in fair ecological condition (rating C).

Dominant canopy trees: *Eucalyptus obliqua, E. macrorhyncha* and *E. radiata*. *Eucalyptus ovata* is sparingly present due to proximity of other EVCs.

Dominant sub-canopy trees: *Acacia melanoxylon* is abundant and *Exocarpos cupressiformis* somewhat less so.

Shrubs: Mostly rather sparse, leaving clear visibility for a radius of typically 50 m. *Epacris impressa* is fairly abundant and the other conspicuous species are *Bursaria spinosa, Cassinia aculeata, Goodenia ovata, Leptospermum continentale, Leptospermum scoparium* and *Pultenaea gunnii*.

Vines: The light twiner, *Billardiera mutabilis*, is fairly abundant and other climbers are scarce.

Ferns: There are patches of *Pteridium esculentum* and scattered *Lindsaea linearis* close to the Lowland Forest.

Groundcover: 80% ground coverage. Dominated by *Rytidosperma pallidum*, followed by *Gahnia radula, Microlaena stipoides, Poa morrisii* and *Austrostipa rudis*. There are also abundant *Burchardia umbellata, Gonocarpus tetragynus, Goodenia lanata, Lepidosperma gunnii, Microlaena stipoides, Platylobium infecundum, Stylidium armeria* and *Tetrarrhena juncea*. *Dipodium roseum* is present in reasonable numbers, as is typically the case in Grassy Forest in the Dandenong Ranges. Other species whose presence helps confirm the EVC identity as Grassy Forest are *Acrotriche serrulata, Coronidium scorpioides, Pimelea humilis* and *Themeda triandra*.

Swampy Woodland (EVC 937, **regionally Vulnerable**): Estimated to cover 1.6 ha, comprising 1.1 ha in good ecological condition (rating B) and 0.5 ha in fair ecological condition (rating C). 71 indigenous plant species have been recorded by the author.

Dominant canopy trees: *Eucalyptus ovata* to c.25 m tall and mostly slender, indicating regeneration after clearing some years ago.

Dominant sub-canopy trees: *Acacia melanoxylon* is dense and there are fewer *Melaleuca ericifolia*.

Shrubs: Dense to rather sparse, depending on the stage of natural regeneration. Prior to the Millennium Drought, *Leptospermum scoparium* dominated areas that had regenerated greatly late in the 20th Century but now it is patchy. Other conspicuous species are *Acacia verticillata, Cassinia aculeata, Coprosma quadrifida* and *Goodenia ovata*.

Vines: *Billardiera mutabilis*, *Glycine clandestina* and *Pandorea pandorana* are present.

Ferns: *Pteridium esculentum* and *Cyathea australis* are scattered thinly.

Groundcover: Moderately to very dense, dominated by *Gahnia radula, Gahnia sieberiana, Lepidosperma elatius* and *Lomandra longifolia*. Other abundant species are *Acaena novae-zelandiae, Gonocarpus tetragynus, Patersonia occidentalis, Poa tenera, Austrostipa rudis, Tetrarrhena juncea* and *Viola hederacea*.

Plant species

The following plant species have been recorded in the site by the author. Those not seen during the 2020s are indicated by the most recent year in parentheses. Entries in the 'Risk' column indicate species whose risk of dying out in Knox is rated as Critically endangered (C), Endangered (E), Vulnerable (V), Near threatened (N) or already locally extinct (X). In addition, the species with names in bold are rare throughout the Melbourne region.

Risk	Wild indigenous species
	Mosses and liverworts
	Campylopus clavatus, Broody Swan-neck Moss
	Campylopus introflexus, Heath Star Moss
	Chiloscyphus semiteres, Green Worms
	?*Dicranella dietrichiae*, a moss
	?*Hypnum cupressiforme*, Common Hypnum (2007)
	Ptychomnion aciculare, Pipe-cleaners (2007)
	Rosulabryum torquescens, Twisting Thread-moss
	Sematophyllum homomallum, a moss
	Thuidiopsis furfurosa, Golden Weft-moss
	Wijkia extenuata, Spear Moss
	Ferns and flowering species
	Acacia dealbata subsp. de*albata*, Silver Wattle
V	*Acacia mearnsii*, Black Wattle
V	*Acacia melanoxylon*, Blackwood
E	***Acacia mucronata*, Variable Sallow Wattle** (2007)
E	*Acacia myrtifolia*, Myrtle Wattle
E	*Acacia stricta*, Hop Wattle (2007)
V	*Acacia verticillata*, Prickly Moses
	Acaena novae-zelandiae, Bidgee-widgee
V	*Acrotriche prostrata*, Trailing Ground-berry (2007)

Risk	Wild indigenous species
E	*Acrotriche serrulata*, Honey-pots (2014)
V	*Adiantum aethiopicum*, Common Maidenhair
C	***Allocasuarina paludosa*, Scrub Sheoak**
	Arthropodium strictum, Chocolate Lily (2004)
	Austrostipa pubinodis, Tall Spear-grass (2007)
	Austrostipa rudis subsp. *rudis*, Veined Spear-grass
	Billardiera mutabilis, Common Apple-berry
N	*Bossiaea prostrata*, Creeping Bossiaea
	Burchardia umbellata, Milkmaids
	Bursaria spinosa, Sweet Bursaria
V	*Caesia parviflora*, Pale Grass-lily
V	*Calochlaena dubia*, Common Ground-fern
	Carex breviculmis, Short-stem Sedge
E	*Carex fascicularis*, Tassel Sedge
	Cassinia aculeata, Common Cassinia
	Cassinia longifolia, Shiny Cassinia
C	***Cassinia trinerva*, Three-nerved Cassinia**
E	*Cassytha pubescens*, Downy Dodder-laurel
E	*Centella cordifolia*, Centella
C	*Centrolepis strigosa*, Hairy Centrolepis (2003)
C	***Chiloglottis curviclavia*, Autumn Bird-orchid**
V	*Clematis aristata*, Mountain Clematis
E	*Comesperma volubile*, Love Creeper
C	***Coprosma hirtella*, Rough Coprosma (1999)**

Risk	Wild indigenous species
V	*Coprosma quadrifida*, Prickly Currant-bush
C	*Coronidium scorpioides*, Button Everlasting
	Cotula australis, Common Cotula (2014)
E	***Cryptostylis leptochila*, Small Tongue-orchid**
C	***Cryptostylis subulata*, Large Tongue-orchid**
C	*Cyathea australis*, Rough Tree-fern
C	*Daviesia leptophylla*, Narrow-leaf Bitter-pea (2007)
	Deyeuxia quadriseta, Reed Bent-grass
C	*Deyeuxia rodwayi*, Tasman Bent-grass (2014)
	Dianella longifolia var. *longifolia*, Pale Flax-lily
	Dianella revoluta, Black-anther Flax-lily
	Dianella tasmanica, Tasman Flax-lily
	Dichelachne rara, Common Plume-grass
	Dichondra repens, Kidney-weed
E	*Dipodium roseum*, Rosy Hyacinth-orchid
V	*Drosera aberrans*, Scented Sundew (2014)
V	*Drosera auriculata*, Tall Sundew
X	***Drosera pygmaea*, Tiny Sundew (2002)**
C	*Empodisma minus*, Spreading Rope-rush
C	*Epacris impressa* var. *impressa*, Common Heath
	Eragrostis brownii, Common Love-grass
C	*Eucalyptus macrorhyncha*, Red Stringybark
E	*Eucalyptus obliqua*, Messmate Stringybark
V	*Eucalyptus ovata* subsp. *ovata*, Swamp Gum
E	*Eucalyptus radiata*, Narrow-leaved Peppermint
E	*Euchiton involucratus*, Common Cudweed
	Euchiton japonicus, Creeping Cudweed
V	*Exocarpos cupressiformis*, Cherry Ballart
E	*Exocarpos strictus*, Pale-fruit Ballart
C	*Gahnia radula*, Thatch Saw-sedge
E	*Gahnia sieberiana*, Red-fruit Saw-sedge
E	*Galium ?gaudichaudii*, Rough Bedstraw (2014)
C	*Gastrodia sesamoides*, Cinnamon Bells (1999)
	Geranium homeanum, Rainforest Crane's-bill
E	*Geranium ?potentilloides*, Soft Crane's-bill
E	*Glycine clandestina*, Twining Glycine (2014)
V	*Gonocarpus humilis*, Shade Raspwort
C	*Gonocarpus micranthus*, Creeping Raspwort (2014)
	Gonocarpus tetragynus, Common Raspwort
C	*Goodenia elongata*, Lanky Goodenia
N	*Goodenia lanata*, Trailing Goodenia
	Goodenia ovata, Hop Goodenia
C	*Goodia lotifolia*, Common Golden-tip
E	*Hackelia latifolia*, Forest Hound's-tongue
C	*Hakea nodosa*, Yellow Hakea (2007)
C	*Hakea ulicina*, Furze Hakea
V	*Hemarthria uncinata*, Mat Grass (2014)
V	*Hydrocotyle hirta*, Hairy Pennywort
E	*Hypericum gramineum*, Small St John's Wort
C	*Indigofera australis*, Austral Indigo
	Isolepis inundata, Swamp Club-rush
	Juncus bufonius, Toad Rush (2014)
C	*Juncus fockei*, Slender Joint-leaf Rush
	Juncus gregiflorus, Green Rush
	Juncus pallidus, Pale Rush
E	*Juncus pauciflorus*, Loose-flower Rush (2014)
E	*Juncus planifolius*, Broad-leaf Rush

Risk	Wild indigenous species
	Juncus sarophorus, Broom Rush (1997)
	Kunzea leptospermoides, Yarra Burgan
	Lachnagrostis filiformis, Common Blown-grass
V	*Lagenophora sublyrata*, Slender Bottle-daisy
	Lepidosperma elatius, Tall Sword-sedge
C	***Lepidosperma filiforme*, Common Rapier-sedge**
V	*Lepidosperma laterale*, Variable Sword-sedge
C	*Leptospermum continentale*, Prickly Tea-tree
	Leptospermum scoparium, Manuka
V	*Lindsaea linearis*, Screw Fern
E	*Lobelia anceps*, Angled Lobelia
	Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush
	Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush
	Lomandra longifolia subsp. *exilis*, Cluster-headed Mat-rush
	Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush
	Lythrum hyssopifolia, Lesser Loosestrife
C	***Machaerina tetragona*, Square Twig-rush**
E	*Melaleuca ericifolia*, Swamp Paperbark
	Microlaena stipoides, Weeping Grass
V	*Microtis ?parviflora*, Slender Onion-orchid
C	*Muellerina eucalyptoides*, Creeping Mistletoe (2004)
E	*Olearia argophylla*, Musk Daisy-bush (2014)
E	*Olearia lirata*, Snowy Daisy-bush
V	*Opercularia varia*, Variable Stinkweed
	Oxalis exilis/perennans, Wood-sorrel
V	*Ozothamnus ferrugineus*, Tree Everlasting
	Pandorea pandorana, Wonga Vine
C	*Patersonia occidentalis*, Long Purple-flag
C	*Pelargonium inodorum*, Kopata (2014)
E	*Pimelea humilis*, Common Rice-flower (2004)
C	*Plantago debilis*, Shade Plantain
E	*Platylobium infecundum*, a flat-pea
	Poa ensiformis, Sword Tussock-grass
	Poa morrisii, Soft Tussock-grass
E	*Poa tenera*, Slender Tussock-grass
V	*Polyscias sambucifolia*, Elderberry Panax
E	*Polystichum proliferum*, Mother Shield-fern
V	*Pomaderris aspera*, Hazel Pomaderris
	Poranthera microphylla, Small Poranthera
V	*Prostanthera lasianthos*, Victorian Christmas-bush
	Pteridium esculentum, Austral Bracken
E	*Pterostylis melagramma*, Tall Greenhood (2014)
	Pterostylis nutans, Nodding Greenhood
V	*Pultenaea gunnii*, Golden Bush-pea
C	*Pultenaea mollis*, Soft Bush-pea
E	*Rubus parvifolius*, Small-leaf Bramble
	Rytidosperma fulvum, Leafy Wallaby-grass
	Rytidosperma laeve, Smooth Wallaby-grass
E	*Rytidosperma pallidum*, Red-anther (or Silvertop) Wallaby-grass
	Rytidosperma penicillatum, Slender Wallaby-grass
	Rytidosperma pilosum, Velvet Wallaby-grass

Risk	Wild indigenous species
	Rytidosperma racemosum, Clustered Wallaby-grass
E	*Rytidosperma semiannulare*, Tasmanian Wallaby-grass
	Rytidosperma setaceum, Bristly Wallaby-grass (2014)
	Schoenus apogon, Common Bog-rush
C	***Selaginella uliginosa*, Swamp Selaginella**
V	*Senecio glomeratus*, Annual Fireweed
	Senecio hispidulus, Rough Fireweed
	Senecio minimus, Shrubby Fireweed
V	*Senecio prenanthoides*, Common Fireweed
	Senecio quadridentatus, Cotton Fireweed
V	*Sigesbeckia orientalis*, Indian Weed (2014)
V	*Solanum laciniatum*, Large Kangaroo Apple
V	*Spyridium parvifolium*, Australian Dusty Miller
	Stylidium armeria, Common Triggerplant
C	***Tetraria capillaris*, Hair-sedge**
	Tetrarrhena juncea, Forest Wire-grass
X	***Thelymitra media*, Tall Sun-orchid (1999)**
E	*Thelymitra peniculata*, Trim Sun-orchid
	Themeda triandra, Kangaroo Grass
C	*Thysanotus tuberosus*, Common Fringe-lily
	Tricoryne elatior, Yellow Rush-lily
E	*Viola hederacea*, Ivy-leaf Violet
	Wahlenbergia gracilis, Sprawling Bluebell
E	*Xanthorrhoea minor*, Small Grass-tree
V	*Xanthosia dissecta*, Cut-leaf Xanthosia

Risk	Planted species
C	*Blechnum parrisiae*, Common Rasp-fern
E	*Gahnia sieberiana*, Red-fruit Saw-sedge
C	*Indigofera australis*, Austral Indigo (2007)
	Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush
E	*Olearia argophylla*, Musk Daisy-bush
E	*Olearia lirata*, Snowy Daisy-bush (2007)
	Poa ensiformis, Sword Tussock-grass
E	*Polystichum proliferum*, Mother Shield-fern
V	*Prostanthera lasianthos*, Victorian Christmas-bush (2007)

Introduced species
Acacia floribunda, White Sallow-wattle
Acacia howittii, Sticky Wattle
Acacia longifolia subsp. *longifolia*, Sallow Wattle (1999)
Acacia prominens, Gosford Wattle
Acer negundo, Box Elder
Agapanthus praecox, Agapanthus (2004)
Agrostis capillaris, Brown-top Bent
Allium triquetrum, Angled Onion (2014)
Anthoxanthum odoratum, Sweet Vernal-grass
Arrhenatherum elatius var. *bulbosum*, Onion Twitch, False Oat-grass (2014)
Asparagus scandens, Asparagus Fern
Avena barbata, Bearded Oat (2014)

Introduced species
Bellis perennis, English Daisy
Billardiera fusiformis, Bluebell Creeper
Briza maxima, Large Quaking-grass
Bromus catharticus, Prairie Grass
Cenchrus clandestinus, Kikuyu
Centaurium erythraea, Common Centaury
Chlorophytum comosum, Spider Plant
Cirsium vulgare, Spear Thistle
Coprosma repens, Mirror-bush
Cordyline australis, NZ Cabbage Tree (2012)
Cortaderia selloana, Pampas Grass (2014)
Cotoneaster glaucophyllus, Cotoneaster (2007)
Cotoneaster simonsii, Himalayan Cotoneaster (2012)
Crassula multicava, Shade Crassula
Crataegus monogyna, Hawthorn (2007)
Crepis capillaris, Smooth Hawksbeard
Crocosmia × *crocosmiiflora*, Montbretia
Cyperus congestus, Dense Flat-sedge (2014)
Cyperus eragrostis, Drain Flat-sedge
Cytisus scoparius, English Broom (2014)
Dactylis glomerata, Cocksfoot
Danthonia decumbens, Heath Grass
Delairea odorata, Cape Ivy
Dodonaea viscosa, Sticky Hop-bush (1999)
Ehrharta erecta, Panic Veldt-grass
Erica lusitanica, Spanish Heath
Erigeron sumatrensis, Fleabane
Euphorbia peplus, Petty Spurge (2014)
Ficus carica, Fig
Fraxinus angustifolia, Desert Ash (1999)
Freesia leichtlinii, Freesia (2014)
Fumaria officinalis spp. agg., Fumitory (2014)
Galium aparine, Cleavers
Gamochaeta purpurea, Spiked Cudweed (2014)
Genista linifolia, Flax-leafed Broom
Genista monspessulana, Montpellier Broom
Grevillea hybrids and cultivars (2007)
Grevillea robusta, Southern Silky Oak
Hakea salicifolia, Willow-leaf Hakea (2014)
Hedera helix/hibernica, Ivy
Holcus lanatus, Yorkshire Fog
Homalanthus populifolius, Bleeding Heart
Hypericum androsaemum, Tutsan (2007)
Hypochaeris radicata, Cat's Ear
Ilex aquifolium, Holly (2014)
Juncus tenuis, Slender Rush (1999)
Lactuca serriola, Prickly Lettuce (1999)
Leontodon saxatilis, Lesser Hawkbit
Ligustrum lucidum, Large-leafed Privet
Ligustrum vulgare, European Privet
Linum trigynum, French Flax
Lolium perenne, Perennial Rye-grass (2014)
Lonicera japonica, Japanese Honeysuckle
Lotus corniculatus, Bird's-foot Trefoil (2014)
Lotus subbiflorus, Hairy Bird's-foot Trefoil (2014)
Lotus uliginosus, Greater Bird's-foot Trefoil (1999)

Introduced species

Lysimachia arvensis, Pimpernel
Myosotis ?*sylvatica*, Wood Forget-me-not (2014)
Oxalis incarnata, Pale Wood-sorrel
Paspalum dilatatum, Paspalum
Paspalum distichum, Water Couch (1999)
Passiflora tarminiana, Banana Passionfruit (2014)
Persicaria maculosa, Persicaria (2012)
Pinus radiata, Monterey Pine (1999)
Pittosporum undulatum, Sweet Pittosporum
Plantago lanceolata, Ribwort
Plantago major, Greater Plantain
Poa annua/infirma, a meadow-grass (2014)
Potentilla indica, Indian Strawberry
Prunella vulgaris, Self-heal
Prunus cerasifera, Cherry-plum
Pseudoscleropodium purum, Neat Feather-moss
Ranunculus repens, Creeping Buttercup

Introduced species

Romulea rosea, Common Onion-grass (2014)
Rosa rubiginosa, Sweet Briar (2014)
Rubus anglocandicans, Blackberry
Solanum nigrum, Black Nightshade
Sonchus asper, Rough Sow-thistle
Sonchus oleraceus, Sow-thistle
Stellaria media, Chickweed (2014)
Symphyotrichum subulatum, Aster-weed (2014)
Taraxacum sect. Taraxacum, Garden Dandelion
Tradescantia fluminensis, Wandering Trad
Trifolium repens var. *repens*, White Clover
Vicia disperma, French Tiny Vetch
Vicia sativa, Common Vetch (1999)
Vicia sp., a Vetch (2007)
Viola odorata, Common Violet (2014)
Vulpia bromoides, Squirrel-tail Fescue (2004)
Watsonia meriana var. *bulbillifera*, Bulbil Watsonia

Notes concerning some of the plant species

Notably, a dominant groundcover species in the Grassy Forest is the flat-pea, *Platylobium infecundum*. That species is listed under Victorian legislation as Critically Endangered. Its whole global distribution extends scarcely further than from the southern Dandenong Ranges to Mount Evelyn, Warrandyte and Wantirna South.

The presence of a solitary plant of *Pultenaea mollis* is also noteworthy. It germinated several years ago following a controlled burn. The seed must have been in the soil for scores of years, as many detailed botanical surveys over that time found none of the species. There is only one other record of the species in the Melbourne region, a specimen from Montrose at the Melbourne University Herbarium.

Many other indigenous plant species recorded in the reserve have never been recorded elsewhere in Knox, though a substantial fraction of such species died out toward the end of the Millennium Drought and have not regenerated.

Fauna of special significance

No fauna species listed as threatened under state or federal legislation have been recorded in the reserve except for one-off sightings of a visiting Grey Goshawk in 2024 and a visiting Square-tailed Kite in 2023. However, because of the proximity to the large area of habitat in Dandenong Ranges National Park and Site 18, Wicks Reserve is very likely to be visited more frequently by listed threatened fauna from the park; e.g. Powerful Owl. The reserve provides only a small extension to the native habitat available for such species, by comparison with the national park.

One migratory species has been recorded, and regularly: The Rufous Fantail has been recorded fifty times, right up to 2024, with up to four birds reported per observation. The species is listed as a migratory species under the federal *Environment Protection and Biodiversity Conservation Act* and under the Bonn Convention for migratory species.

A number of locally-rare bird species are regularly recorded, e.g. up to 2023, there have been 89 records of Yellow-faced Honeyeater (up to nine birds at a time) and 66 records of up to 4 Eastern Whipbirds.

A Yellow-bellied Glider – a vulnerable species – was observed c. 200 m away in 2023 and that animal probably includes Wicks Reserve in its territory. This study could find only two other records of that species in Knox's history: one in 2021 and one in 2022.

The large numbers of *Gahnia sieberiana* plants support a breeding population of the locally rare Swordgrass Brown butterfly.

Fauna habitat features

- There are large eucalypts with hollows that provide suitable roosting or nesting sites for certain fauna;

- The groundcover of dense grasses and sedges in much of the reserve, combined with logs, provide excellent habitat for invertebrates and vertebrates that rely on such plants and their food or cover;
- Nest boxes have been installed.

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 1.1.2 attributes **Local** significance to 'Areas of 100 ha or more of contiguous native vegetation in a heavily fragmented landscape', which applies to the contiguous native vegetation of which this site is part.

Vegetation Type and Condition

Grassy Forest and Swampy Woodland are regionally vulnerable EVCs and the representation of them in the reserve is in fair to good ecological condition. Habitat scores in the reserve determined by Cropper (2006) were above the threshold of 0.3 for 'High' conservation significance. This represents **State** significance under criterion 3.2.3.

Similarly, Cropper (2006) found habitat scores to be in the range 0.54–0.58 within the regionally depleted EVC, Wet Heathland. This gives the site Regional significance. The other EVCs would lead to Local or Regional significance.

Threatened Plants

Much of the reserve is known habitat for the flat-pea, *Platylobium infecundum*, which is listed under the *Flora and Fauna Guarantee Act* as Critically Endangered and does not occur outside Victoria. As a result, the habitat provided for *Platylobium infecundum* in this site qualifies as **National** significance under criterion 3.1.2.

Platylobium infecundum had not been scientifically described in 2010 when the previous edition of this report was written. The change has caused the site's significance rating to rise from State to National.

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

Threatened Fauna

The reserve is regularly used by the Rufous Fantail, which is listed as a migratory species (non-threatened) under the federal *Environment Protection and Biodiversity Conservation Act* and under the Bonn Convention for migratory species. This is a matter of **National** significance under criterion 1.2.2.

The site provides apparently high-quality habitat for Powerful Owl and Yellow-bellied Glider. Both those species have been recently recorded close and are listed as vulnerable species. They are also known to frequent nearby parts of the Dandenong Ranges National Park. Such circumstances represent **Regional** significance under criterion 3.1.3.

Threats

- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves, fires and storms, as well as substantially lower rainfall (particularly in winter). The Millennium Drought has already severely affected the Wet Heathland and Lowland Forest, in part causing the local extinction of several plant species in Knox;
- Loss or decline of plant species that are present in such precariously small numbers that they are vulnerable to inbreeding, poor reproductive success or elimination by chance incidents;
- Damage to the Wet Heathland by trampling and breaking down of the tea-tree scrub (though this problem has abated considerably over the past 5–10 years;
- Displacement of indigenous flora and fauna by environmental weeds, exacerbated by debilitation of the native vegetation by the impacts of the threats above.

Management

- Knox City Council's current management regimen is part of a regular monitoring program; see *'Monitoring of Bushland Reserves in Knox – 2020 Review'*, by Dr Lorimer for Knox City Council.

Strategic planning

- This site is covered by Schedule 2 of the Environmental Significance Overlay (ESO2) as a result of the information provided in the second edition of this report. As discussed above, the site's significance rating has now risen from State to National. The reasons for applying an overlay are even greater today than in 2010 but ESO2 remains an appropriate planning response, so no amendment is recommended;
- The reserve and the road reservation each exceed 0.4 ha and therefore don't qualify for the size-based exemption from the state-wide baseline planning controls over removal of native vegetation (clause 52.17);
- The reserve is zoned 'Public Park and Recreation Zone' (PPRZ), the Basin-Olinda Rd reservation is zoned Transport Zone 2 – Principal Road Network (TRZ2) and the Wicks Rd reservation is zoned 'Low Density Residential Zone' (LDRZ) like the abutting residential properties;
- The Wicks Rd reservation is inside the Urban Growth Boundary and the rest of the site is outside (but bordering) the Urban Growth Boundary;

Information sources used in this assessment

- A list of plant species compiled by Gary Cheers, as reported by Paget (1985);
- Data from eight quadrats (DSE numbers N13234–N13241) compiled by Andrew Paget in March and April 1985;
- A Deakin University student's project report by Kath Davies in 1996 titled *'Wicks Reserve Draft Management Plan'*;
- An investigation of the roadside verge of the Basin-Olinda Rd by Dr Lorimer on 12/9/97 to delineate vegetation communities, assess their ecological condition, compile lists of flora and fauna, document populations of rare plants and assess management issues, as reported by Lorimer G.S. (1998), *'A Survey and Management Strategy for Significant Roadsides in Knox'*, for Knox City Council;
- Detailed flora data compiled during several days of fieldwork between November 1998 and February 1999 by Dr Lorimer for the report, *'Monitoring of Bushland Reserves in Knox'* (for Knox City Council), including (in part) compilation of lists of indigenous and introduced plant species in each of six parts of the sites (based mainly on vegetation types), population details of uncommon plants, four quadrats and a set of photographs;
- Detailed follow-up monitoring surveys of the site by Dr Lorimer for Knox City Council in 2002, 2007, 2013 and (with Josh Revell) 2020 – see *'Monitoring of Bushland Reserves in Knox – 2020 Review'*;
- A reinspection of the site by Dr Lorimer on 16/7/04 for the first edition of this report. This particularly focused on delineation of EVCs, determination of the vegetation's ecological condition and the severity of weeds;
- Teaching visits to Wicks Reserve by Dr Lorimer and groups of students each December for approximately eight years around 2000;
- Incidental fauna records (birds and butterflies) from the author's projects listed above;
- A report on the reserve's flora and fauna by Cropper (2006), including habitat scores;
- Site inspections for this document by Dr Lorimer in late 2023 and early 2024;
- Records of flora and fauna observations stored in the Atlas of Living Australia;
- The Victorian Government's 'NatureKit' website;
- Aerial and satellite imagery from between 1946 and 2024;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.