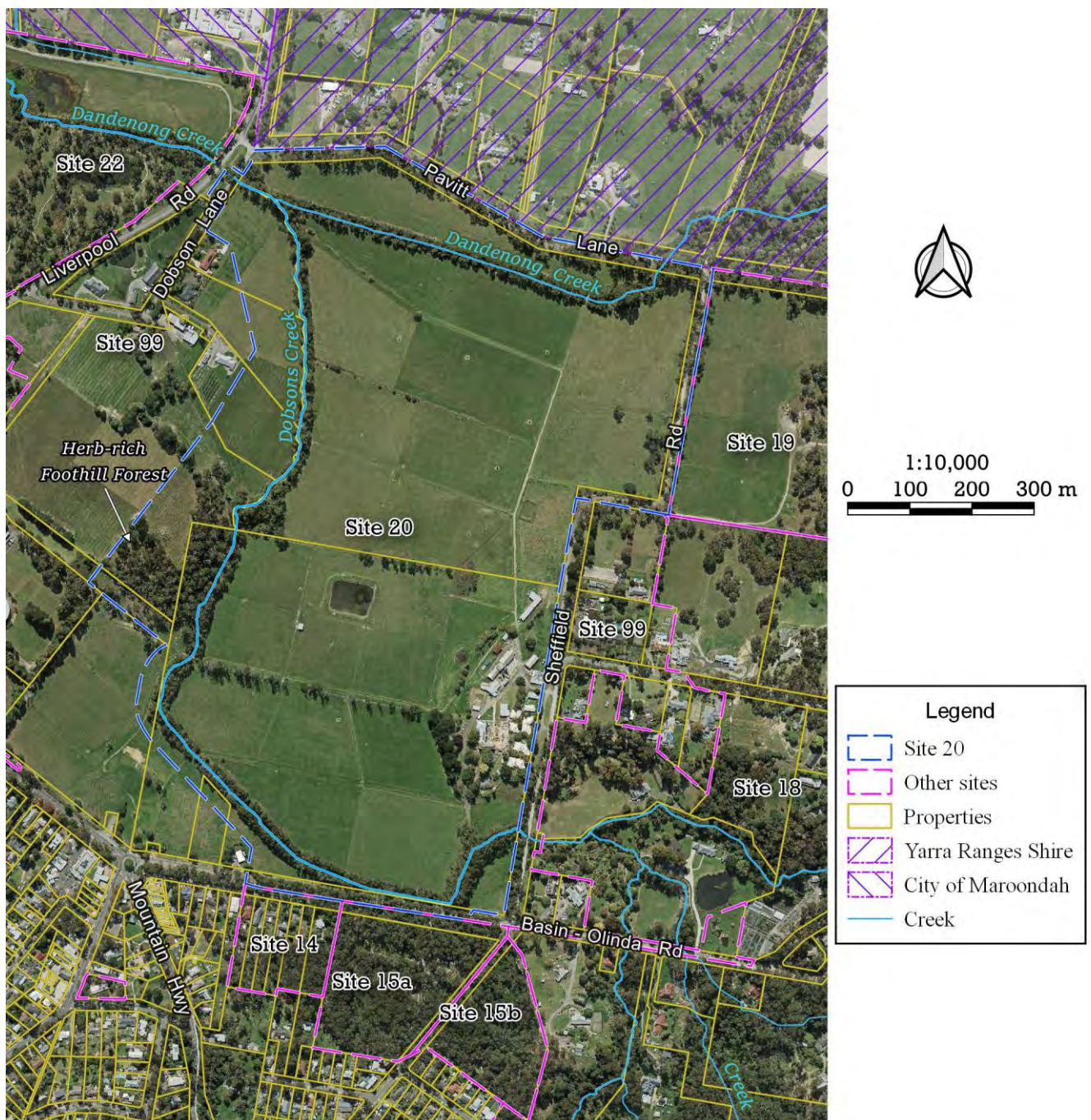


Site 20. Lower Dobson Creek, The Basin

River flats with pasture and strips of riparian (streamside) vegetation, as well as an adjacent forested hillside.

Summary of significant features:

- **State significance:** semi-natural patches of the regionally endangered Ecological Vegetation Classes called Swampy Woodland and Swampy Riparian Woodland;
- **Regionally significant:** semi-natural patches of the regionally vulnerable Ecological Vegetation Class called Riparian Forest;
- **Regionally significant:** known habitat for egrets and (in 2002) the listed vulnerable species, Powerful Owl;
- **Locally significant:** viable populations of plant species threatened with dying out in Knox;
- **Locally significant:** streams with riparian (streamside) vegetation, providing habitat corridors;
- The floodplain is important for waterway function. It also attracts thousands of waterbirds during floods (even where there is no native vegetation), and some of the waterbird species are threatened.



Legend

- Site 20
- Other sites
- Properties
- Yarra Ranges Shire
- City of Maroondah
- Creek

Boundaries

This 77 ha site is outlined with mid-blue dashes on the aerial photograph above. The northern boundary is the municipal boundary along Pavitt Lane. Many of the other edges follow property boundaries or fence lines. Compared with the previous (2010) edition of this report, the site has been slightly expanded in the south and southwest to provide a 30 m setback from Dobson Creek. That has been done to match Melbourne Water's (2012) stream setbacks guidelines (see Section 4.3.3 of Volume 1).

Note: Permission was not obtained to enter the private properties for this edition, so they were inspected from public land, assisted by aerial photographs. Some native understorey would have gone undetected.

Land use & tenure: Freehold farmland and road reservations. Most of the site is a farm owned by the Salvation Army and used for its 'The Bridge' drug rehabilitation program.

Site description

This site mostly occupies the uppermost parts of the broad floodplain drained by Dandenong Ck and Bungalook Ck, at elevations of approximately 140–160 m. There are also two hillsides at the edges, rising to 175 m. The cluster of buildings seen on the aerial photograph are on one of the hillsides; the other is the treed expanse at the site's western extremity. That treed expanse is the only Herb-rich Foothill Forest in the site.

Within a few hundred metres upstream from here, the creeks flowing into the site are mountain streams with steeper gradients and narrow, steep-sided valleys or gullies. Floodwater flowing down these streams dissipates its energy on reaching the floodplain, causing silt to deposit and form the alluvial soil that has attracted farming to the area.

As can be seen from the aerial photograph above, most of the floodplain's native vegetation has been cleared for pasture. Nevertheless, floods attract thousands of waterbirds of numerous species to the floodplain. Even when there is no flood, birds such as pelicans, spoonbills and egrets can often be seen moving along the floodplain and the course of Dandenong Ck further downstream, presumably following an ancestral route between the coast and the floodplain.

Floods would have caused the streams' natural courses to move greatly around the floodplain over the millennia. The present channels are mostly artificial, having been re-routed and straightened (as indicated by comparison with maps from the late 19th century). Dobson Ck used to meet Dandenong Ck downstream from Liverpool Rd after passing under the bend in Dobsons Lane, which is marked on the aerial photograph.

At the time of the first edition of this report in 2004, the vegetated strips along the creeks were much narrower and patchier than seen on the aerial photograph. Nevertheless, those strips still provided habitat for a roosting Powerful Owl and protected the waterway and its aquatic environment for the benefit of humans, fauna and some locally rare plants. Since then, the Salvation Army has erected fences to exclude cattle from the creek banks and extensively revegetated the excluded strips. The habitat, bank stability and shading of the stream have been greatly improved by these actions, for which the Salvation Army should be congratulated.

The verge of Pavitt Lane has also been revegetated in recent years, complementing the remnant eucalypts and sparse native understorey. The 2010 edition of this report described the understorey of the road verge as mostly comprising introduced plants such as woody weeds and pasture grass. That has changed significantly.

The hillside with the Salvation Army's buildings is of no environmental significance and is included within the site only because changed land use there could have significant consequences on the adjacent floodplain. The other hillside, at the site's western extremity, is included within the site mainly because of its remnant Herb-rich Foothill Forest. The bedrock beneath this forest is Mount Evelyn Rhyodacite, which has formed an acidic clay loam soil. The slope is between 15% and 20%, facing east-southeast.

Within the Herb-rich Foothill Forest, a southern strip has no understorey other than exotic pasture, which is grazed by livestock. A larger area is fenced to keep livestock out. It has very serious infestations of Sweet Pittosporum and Blackberry that have greatly reduced the density of native ground flora, but the area retains a good cover of canopy trees, a fair cover of indigenous lower trees and shrubs and a modest number of groundcover species.

Relationship to other land

The native vegetation along both sides of Pavitt Lane provides a corridor between the Dandenong Ranges National Park and Liverpool Road Retarding Basin (Site 22).

Birds, bats, possums, frogs, insects and pollen undoubtedly move between the site and the various other sites marked on the aerial photograph to the east and southeast, as well as into the westward continuation of the Herb-rich Foothill Forest into a Melbourne Water property on the western edge of the aerial photograph above. The Melbourne Water land is included in Site 99, the Dandenong Ranges Buffer.

The Platypus that were found in 2001, 2002 and 2004 at the Sheffield Rd crossings of Dandenong Ck and Dobson Ck no doubt moved upstream and downstream of those locations, between this site and land upstream. Since then, Platypus may well have died out in this part of the catchment but fish species (particularly Broadfin Galaxias and Shortfin Eel) seem certain to still migrate through Site 20. Any members of those species within Site 20 or further upstream must swim to and from the sea during their life cycle. They are therefore very vulnerable to stream management and water pollution from the creeks' sources to Port Phillip Bay.

Bioregion: The floodplain is part of the Gippsland Plain bioregion and the slopes are within the Highlands Southern Fall.

Habitat types

The following descriptions have only been updated from the previous (2010) edition of this report by the addition of a few species that the author saw from public land in 2024. Species that have been planted are not included.

Perennial Stream (No EVC number). Flora includes *Isolepis inundata*, *Juncus gregiflorus*, *Lemna disperma* and *Potamogeton crispus*.

Riparian Forest (EVC 18, **Vulnerable** in the Gippsland Plain bioregion): Along Dandenong Ck, beside Pavitt Lane within 100 m of Dandenong Ck, and along the downstream half of the reach of Dobson Ck flowing through the site. Remnant forest is estimated to cover 3.2 ha, comprising 0.3 ha in fair ecological condition (rating C) and 2.9 ha in poor ecological condition (rating D). 50 indigenous plant species were found in 2002. **Dominant canopy trees:** *Eucalyptus viminalis* with smaller numbers of *E. obliqua* in some places and *E. ovata* in others.

Dominant sub-canopy trees: *Acacia melanoxylon*, with fewer *Pomaderris aspera*, *Melaleuca ericifolia* and *Exocarpos cupressiformis*.

Shrubs: *Coprosma quadrifida* is the most numerous indigenous shrub species. Others include *Cassinia aculeata*, *Goodenia ovata*, *Gynatrix pulchella*, *Olearia lirata*, *Ozothamnus ferrugineus*, *Prostanthera lasianthos* and *Solanum aviculare*. The shrubby herb, *Senecio minimus*, is also present.

Vines: *Calystegia marginata* is present but scarce. *Rubus parvifolius* is scattered. The weeds *Lonicera japonica* and *Rubus anglocandicans* are well established.

Ferns: *Adiantum aethiopicum*, *Cyathea australis* and *Pteridium esculentum* are present.

Groundcover: The indigenous groundcover has been heavily replaced by introduced species. The natural groundcover is tussocky due to abundant *Carex appressa*, *Juncus* species and *Poa ensiformis*, but with large patches dominated by *Phragmites australis*. Creepers and scramblers are conspicuous, including *Acaena novae-zelandiae* and *Hackelia latifolium*. Amphibious species are well represented, particularly by *Persicaria* species.

Herb-rich Foothill Forest (EVC 23, conservation status rated 'Least Concern' in the bioregion): Estimated to cover 2.5 ha, with 0.25 ha in fair ecological condition (rating C) and 2.25 ha in poor ecological condition (rating D). 26 indigenous plant species were recorded on 8/4/02, and others would be detected in late spring or summer.

Canopy trees: Dominated by *Eucalyptus obliqua* with smaller numbers of *E. gonicalyx*, *E. ovata* and *E. radiata*.

Sub-canopy trees: *Acacia melanoxylon* and a smaller number of *Exocarpos cupressiformis*. *Pittosporum undulatum* was abundant in the previous botanical survey (in 2002).

Shrubs: Absent in grazed areas. The most abundant of the indigenous species are *Coprosma quadrifida* and *Ozothamnus ferrugineus* and there are also *Acacia stricta*, *Bursaria spinosa*, *Cassinia aculeata*, *Goodenia ovata*, *Indigofera australis*, *Polyscias sambucifolia* and *Prostanthera lasianthos*.

Vines: *Clematis aristata* is present.

Ferns: There are large patches of *Pteridium esculentum* and more localised patches of *Calochlaena dubia*.

Groundcover: The indigenous groundcover is all but absent in grazed areas and heavily suppressed elsewhere by the very serious environmental weeds, *Pittosporum undulatum* and *Rubus anglocandicans*. The dominant indigenous species are *Poa ensiformis* and *Pteridium esculentum*. *Gahnia radula*, *Lomandra longifolia* and *Viola hederacea* are also present.

Swampy Riparian Woodland (EVC 83, regionally Endangered): Along the upstream half of the reach of Dobson Ck flowing through the site. Remnant woodland estimated to cover 0.8 ha, comprising 0.1 ha in fair ecological condition (rating C) and 0.7 ha in poor ecological condition (rating D). 36 indigenous plant species were found in 2002.

Canopy trees: Very tall *Eucalyptus ovata*, fairly sparse.

Sub-canopy trees: Dominated by *Acacia melanoxylon* (characteristically supporting the mistletoe, *Amyema quandang*), with fewer *Melaleuca ericifolia* and *Pomaderris aspera*.

Shrubs: *Goodenia ovata* and *Prostanthera lasianthos* dominate. *Cassinia aculeata*, *Coprosma quadrifida* and *Ozothamnus ferrugineus*, *Olearia lirata* and *Polyscias sambucifolia* are also present, and so is the shrubby herb, *Senecio minimus*.

Vines: *Billardiera mutabilis* is present but scarce.

Ferns: *Blechnum minus*, *Cyathea australis* and *Pteridium esculentum* were recorded.

Groundcover: Confined to patches that are less accessible to grazing. Dominated by *Phragmites australis*, *Poa ensiformis* and *Tetrarrhena juncea*. Other species include *Acaena novae-zelandiae*, *Dianella tasmanica*, *Gahnia radula*, *G. sieberiana*, *Juncus gregiflorus*, *J. procerus*, *Lepidosperma elatius*, *Lomandra longifolia*, *Persicaria decipiens* and *P. praetermissa*.

Swampy Woodland (EVC 937, regionally Endangered): Beside Pavitt Lane except within 100 m of Dandenong Ck, and beside Sheffield Rd. Estimated to cover 2.55 ha, comprising 0.05 ha in fair ecological condition (rating C) and 2.5 ha in poor ecological condition (rating D). 32 indigenous plant species were found in 2002.

Canopy trees: Pure or near-pure stands of *Eucalyptus ovata*, except along most of Sheffield Rd where the canopy is overwhelmingly *E. cephalocarpa* and the vegetation approaches Valley Heathy Forest.

Sub-canopy trees: *Acacia melanoxylon* is dominant. *Melaleuca ericifolia* is abundant but not dominant. *Exocarpos cupressiformis* is much less abundant.

Shrubs: Greatly reduced in density by past clearing and slashing. The most common shrubs are *Bursaria spinosa*, *Coprosma quadrifida* and *Goodenia ovata*.

Vines: Sparse *Pandorea pandorana*.

Ferns: *Pteridium esculentum* is abundant, a dominant species of the ground flora. There are no other ferns.

Groundcover: The indigenous groundcover has been drastically reduced by past clearing, slashing, excavation and consequent weed invasion. *Gahnia radula* and *Lomandra longifolia* are the most common indigenous species.

Plant species

The only thorough vegetation survey of Site 20 was in 2002 for the first edition of this report. For this edition, the author inspected the site only briefly, from public land. He failed to detect roughly half the species recorded in 2002 and added only two indigenous species (*Geranium homeanum* and *Solanum aviculare*). The author was satisfied that most or all of the species detected in 2002 are likely to remain. In the aggregate list below, the column headed 'Risk' indicates the indigenous species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable. In addition, the species with names in bold are rare throughout the Melbourne region.

Risk	Indigenous species	Risk	Indigenous species
	<i>Acacia dealbata</i> , Silver Wattle		<i>Austrostipa rudis</i> subsp. <i>rudis</i> , Veined Spear-grass
V	<i>Acacia melanoxylon</i> , Blackwood		<i>Billardiera mutabilis</i> , Common Apple-berry
E	<i>Acacia stricta</i> , Hop Wattle	C	<i>Blechnum minus</i>, Soft Water-fern
	<i>Acaena novae-zelandiae</i> , Bidgee-widgee		<i>Bursaria spinosa</i> , Sweet Bursaria
V	<i>Adiantum aethiopicum</i> , Common Maidenhair	V	<i>Calochlaena dubia</i> , Common Ground-fern
V	<i>Alternanthera denticulata</i> , Lesser Joyweed	E	<i>Calystegia marginata</i>, Forest Bindweed
E	<i>Amyema quandang</i> , Grey Mistletoe		

Risk Indigenous species

- Carex appressa*, Tall Sedge
Cassinia aculeata, Common Cassinia
V *Clematis aristata*, Mountain Clematis
V *Coprosma quadrifida*, Prickly Currant-bush
C *Cyathea australis*, Rough Tree-fern
Deyeuxia quadriseta, Reed Bent-grass
Dianella tasmanica, Tasman Flax-lily
Dichondra repens, Kidney-weed
Epilobium hirtigerum, Hairy Willow-herb
E *Eucalyptus cephalocarpa*, Mealy Stringybark
V *Eucalyptus goniocalyx*, Bundy
E *Eucalyptus obliqua*, Messmate Stringybark
V *Eucalyptus ovata*, Swamp Gum
E *Eucalyptus radiata*, Narrow-leaved Peppermint
C *Eucalyptus viminalis* subsp. *viminalis*, Manna Gum
V *Exocarpos cupressiformis*, Cherry Ballart
E *Exocarpos strictus*, Pale-fruit Ballart
C *Gahnia radula*, Thatch Saw-sedge
E *Gahnia sieberiana*, Red-fruit Saw-sedge
Geranium homeanum, Rainforest Crane's-bill
E *Geranium potentilloides*, Soft Crane's-bill
Gonocarpus tetragynus, Common Raspwort
Goodenia ovata, Hop Goodenia
E *Gynatrix pulchella*, Hemp Bush
E ***Hackelia latifolia*, Forest Hound's-tongue**
C *Indigofera australis*, Austral Indigo
Isolepis inundata, Swamp Club-rush
Juncus amabilis, Hollow Rush
Juncus gregiflorus, Green Rush
Juncus pallidus, Pale Rush
E *Juncus procerus*, Tall Rush
Lemna disperma, Common Duckweed
Lepidosperma elatius, Tall Sword-sedge
V *Lepidosperma ?laterale*, Variable Sword-sedge
C *Leptospermum continentale/scoparium*, a tea-tree
Lomandra longifolia, Spiny-headed Mat-rush
Lythrum hyssopifolia, Lesser Loosestrife
E *Melaleuca ericifolia*, Swamp Paperbark
C *Melaleuca squarrosa*, Scented Paperbark (now dead)
Microlaena stipoides, Weeping Grass
E *Olearia lirata*, Snowy Daisy-bush
V *Ozothamnus ferrugineus*, Tree Everlasting
Pandorea pandorana, Wonga Vine
Persicaria decipiens, Slender Knotweed
E *Persicaria hydropiper*, Water-pepper
V *Persicaria praetermissa*, Spotted Knotweed
E *Persicaria subsessilis*, Hairy Knotweed
E *Phragmites australis*, Common Reed
Poa ensiformis, Sword Tussock-grass
E *Poa tenera*, Slender Tussock-grass
V *Polyscias sambucifolia*, Elderberry Panax

Risk Indigenous species

- V *Pomaderris aspera*, Hazel Pomaderris
V *Prostanthera lasianthos*, Victorian Christmas-bush
Pteridium esculentum, Austral Bracken
E *Rubus parvifolius*, Small-leaf Bramble
Senecio hispidulus, Rough Fireweed
Senecio minimus, Shrubby Fireweed
Senecio quadridentatus, Cotton Fireweed
C *Solanum aviculare*, Kangaroo Apple
Tetrarrhena juncea, Forest Wire-grass
E *Viola hederacea*, Ivy-leaf Violet
Wahlenbergia gracilis, Sprawling Bluebell
E *Xanthorrhoea minor*, Small Grass-tree

Introduced species

- Acer pseudoplatanus*, Sycamore Maple
Allium triquetrum, Angled Onion
Anthoxanthum odoratum, Sweet Vernal-grass
Asparagus scandens, Asparagus Fern
Callitriche stagnalis, Pond (or Common) Water-starwort
Cassinia sifton, Sifton Bush
Cenchrus clandestinus, Kikuyu
Chlorophytum comosum, Spider Plant
Cirsium vulgare, Spear Thistle
Coprosma robusta, Karamu
Cotoneaster franchetii, a cotoneaster (1985)
Cotoneaster glaucophyllus, a cotoneaster (1985)
Cotoneaster pannosus, a cotoneaster
Cotoneaster simonsii, a cotoneaster (1985)
Crataegus monogyna, Hawthorn
Crepis capillaris, Smooth Hawksbeard
Crocoshmia × crocosmiiflora, Montbretia
Cyperus eragrostis, Drain Flat-sedge
Dactylis glomerata, Cocksfoot
Delairea odorata, Cape Ivy
Ehrharta erecta, Panic Veldt-grass
Erigeron sumatrensis, Fleabane
Euphorbia peplus, Petty Spurge
Festuca arundinacea, Tall Fescue
Foeniculum vulgare, Fennel
Fraxinus angustifolia, Desert Ash
Fumaria ?officinalis spp. agg., Fumitory
Galium aparine, Cleavers
Genista monspessulana, Montpellier Broom
Hedera helix/hibernica, Ivy
Holcus lanatus, Yorkshire Fog
Hypericum androsaemum, Tutsan
Hypericum tetrapterum, Square-stem St John's Wort
Hypochaeris radicata, Cat's Ear
Ilex aquifolium, Holly
Juncus articulatus, Jointed Rush
Lonicera japonica, Japanese Honeysuckle
Malus pumila, Domestic Apple
Oxalis incarnata, Pale Wood-sorrel

Introduced species

Oxalis pes-caprae, Soursob
Phalaris aquatica, Toowoomba Canary-grass
Pinus radiata, Monterey Pine
Pittosporum undulatum, Sweet Pittosporum
Plantago lanceolata, Ribwort
Prunella vulgaris, Self-heal
Prunus cerasifera, Cherry-plum
Quercus robur, English Oak
Ranunculus repens, Creeping Buttercup
Romulea rosea, Common Onion-grass
Rosa rubiginosa, Sweet Briar

Introduced species

Rubus anglocandicans, Blackberry
Rumex crispus, Curled Dock
Salix × rubens, White Crack Willow
Salix babylonica / sepulcralis, Weeping Willow
Solanum nigrum, Black Nightshade
Sonchus oleraceus, Sow-thistle
Symphotrichum subulatum, Aster-weed
Tradescantia fluminensis, Wandering Trad
Trifolium repens, White Clover
Vinca major, Blue Periwinkle
Zantedeschia aethiopica, White Arum Lily

Notes concerning some of the locally-threatened plant species

The following observations were made in 2002 except for the subsequent death of *Melaleuca squarrosa* and the observations of *Solanum aviculare*:

- Blechnum minus* (Soft Water-fern) – a few plants around a small dam adjacent to Dobson Ck.
Calystegia marginata (Forest Bindweed) – about a dozen plants, and others on the other side of Liverpool Rd.
Gahnia sieberiana (Red-fruit Saw-sedge) – scarce near the eastern bend in Sheffield Rd; more abundant near Basin-Olinda Rd.
Gynatrix pulchella (Hemp Bush) – five plants, threatened by grazing.
Hackelia latifolium (Forest Hound's-tongue) – several plants beside Dandenong Ck.
Juncus fockei/holoschoenus (Joint-leaf Rush) – small numbers beside Sheffield Rd, and quite likely others overlooked.
Lemna disperma (Common Duckweed) – in several patches along the creeks.
Melaleuca squarrosa (Scented Paperbark) – a solitary, sick specimen amid weeds beside Sheffield Rd in 2002. It died later in the Millennium Drought.
Persicaria praetermissa (Spotted Knotweed) – Several patches along Dobson Ck.
Persicaria subsessilis (Hairy Knotweed) – scattered along Dandenong Ck, particularly near Liverpool Rd.
Solanum aviculare (Kangaroo Apple) – three plants seen in 2024 where Dandenong Creek enters the Salvation Army farm. Others may occur elsewhere in the site, out of view from public land.

Fauna of special significanceListed as threatened under Victorian law

- Platypus (*Ornithorhynchus anatinus*) – trapped and released at the edge of this site in Dandenong Ck in 2001 and in Dobson Ck in 2002 (Williams 2002). Not detected in any subsequent investigation.
 Powerful Owl (*Ninox strenua*) – observed roosting in the site, close to Dobson Creek on 8/4/02.
 Little, Intermediate and/or Eastern Great Egrets – observed in substantial numbers at times of flood.

Uncommon in the Melbourne area

- White-necked Heron. Observed in substantial numbers at times of flood.
 Cattle Egret (arguably not indigenous to Victoria). Frequently seen foraging on the floodplain and the pasture on the slopes.

Fauna habitat features

- The Powerful Owl observed roosting in a tree on the slope on the western side of Dobson Ck in 2002 suggests regular use of that habitat at the time. This study found no indication of any subsequent investigation. The habitat remains quite similar to 2002 but more mature, so the site may well still support Powerful Owls;
- Native vegetation along Dobson Ck and on the western slope supports substantial populations of smaller forest birds, including several nests observed within dense thickets of shrubs on the western slope in 2002;
- The larger Manna Gums and Swamp Gums along the creeks contain hollows;

- The floodplain provides foraging habitat for waterbirds, which congregate there in thousands during times of flood;
- The waters of Dandenong Ck and Dobson Ck provide aquatic habitat for Water Rats, fish and the smaller organisms that support them;
- The boggy plain is good habitat for crustaceans, including potential habitat for the threatened species known to occur in The Basin;
- Fauna on the site always have access to water from the streams or dams, even during drought.

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 part of this site.

For a range of fauna, the site provides either an ecological 'stepping stone' or a habitat corridor of riparian vegetation, for the reasons discussed above in the section on 'Relationship to other land'. In terms of criterion 1.2.6, it is 'Important at local scale - Link between individual remnant habitat blocks or within subcatchment', which confers **Local** significance on the habitat.

Vegetation Type and Condition

Criterion 3.2.3 confers at least Local significance on any site containing native vegetation that meets the definition of a 'remnant patch' adopted by Amos (2004), i.e. 'a continuous area of native vegetation that is at least 0.25 hectares in extent and indigenous native understorey cover [including understorey trees] is 10% or greater'.

The central part of the Herb-rich Foothill Forest on the western slope meets this definition. Because of the conservation status and mediocre ecological condition of this area, it only qualifies for **Local** significance.

The Riparian Forest, Swampy Riparian Woodland and Swampy Woodland all have areas meeting the definition of a 'remnant patch'. Riparian forest is listed as regionally vulnerable and the habitat score in Site 20 is unlikely to reach 0.3, which means it qualifies for **Regional** significance under criterion 3.2.3. Swampy Woodland and Swampy Riparian Woodland are regionally Endangered, meaning that their 'remnant patches' qualify for **State** significance under criterion 3.2.3.

Threatened Plants

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

Threatened Fauna

The use of the site by Powerful Owl for roosting in 2002 is here deemed too long ago to regard the site as 'known habitat' for the purposes of criterion 3.1.2. However, there has apparently not been any investigation since 2002, so it is quite possible that an investigation today would detect ongoing usage. Rather than relying on 'known habitat', a more defensible characterisation is 'apparently high quality habitat... though taxon has not been recorded from the site' in criterion 3.1.3. This takes into account the large eucalypts with hollows and the abundance of understorey trees. That leads to **Regional** significance on the basis that the site is 'in proximity to known habitat of vulnerable taxon'.

The egrets that can be seen on the floodplain during floods have not been confidently identified to the level of species but all the candidate species are listed as threatened in Victoria and none occur solely in Victoria. At least some of them are very likely to belong to the species with the lowest threat rating, i.e. the vulnerable Eastern Great Egret. Such a species qualifies for **Regional** significance under criterion 3.1.2. That would rise to State significance for Little Egret or Intermediate Egret.

Threats

- Displacement of indigenous flora and fauna by environmental weeds, exacerbated by debilitation of the native vegetation by the impacts of the threats below. The area currently suffering most from this problem is the Herb-rich Foothill Forest at the site's western extremity, where the environmental weed species with greatest impact appear (from public land) to be Sweet Pittosporum (*Pittosporum undulatum*), Blackberry (*Rubus*

anglocandicans), Asparagus Fern (*Asparagus scandens*), Cape Ivy (*Delairea odorata*) and Japanese Honeysuckle (*Lonicera japonica*);

- Moderate to severe eucalypt dieback disease, particularly in the abovementioned Herb-rich Foothill Forest;
- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves, floods, fires and storms, as well as substantially lower rainfall (particularly in winter);
- Impacts of grazing on remnant vegetation;
- Fertiliser, manure and farm chemicals causing elevated concentrations of phosphorus, nitrogen, trace elements, pesticides etc. in the streams and in the soil of naturally vegetated areas, rendering the habitat less suitable for native flora or fauna;
- Loss or decline of plant species that are present in such precariously small numbers that they are vulnerable to inbreeding, poor reproductive success, the threats above or elimination by chance incidents;
- Predation of fauna (particularly birds) by foxes;
- Potential site development.

Management

- Roadwork should be done with due care for the significant native vegetation. This particularly applies to drainage works.

Strategic planning

- The previous (2010) edition of this report led to its slightly different version of Site 20 being covered by Schedule 2 of the Environmental Significance Overlay (ESO2). That edition cited the same matters of biological significance as cited above. Since then, the vegetation beside Pavitt Lane and along the streams has improved significantly, whereas vegetation beside Sheffield Road suffered permanent deterioration during the Millennium Drought. Despite those changes, ESO2 remains an appropriate protective instrument. It is also appropriate to extend ESO2 as has been done in this edition, based on the Melbourne Water stream setback guidelines;
- The whole site is covered by Schedule 4 of the Significant Landscape Overlay (SLO4);
- None of the land in the site is affected by the size-based exemption from the state-wide baseline planning controls over removal of native vegetation (clause 52.17);
- More than half the site is zoned 'Special Use Zone 1' for 'Community, Recreation, Education and Religious Purposes', under which agriculture is subject to a permit. A small part of Dandenong Creek and its banks is zoned 'Urban Floodway Zone'. There is a trace of RCZ1 on the east-west section of Sheffield Rd. The rest of the site is zoned 'Green Wedge Zone – Schedule 2' (GWZ2);
- The site is outside the Urban Growth Boundary for Melbourne.

Information sources used in this assessment

- Vegetation field data and mapping by G.S. Lorimer in 1997, 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. This includes a list of indigenous and introduced plant species within each of several separate areas of the site;
- Similar data for all vegetation in proximity to the roads around the site, gathered by Dr Lorimer in 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.);
- Detailed vegetation data and mapping along Dobson Ck and in the Herb-rich Foothill Forest by Rik Brown on 8/4/02 for the first edition of this report. This included lists of indigenous and introduced plant species within each of three EVCs, as well as assessments of habitat features and ecological threats;
- Incidental observations of birds and frogs while the above data were being gathered, as well as by Dr Lorimer when periodically passing through the area over three decades;
- '*Distribution of Platypus along Upper Dandenong and Dobson Creeks. Results of Live Trapping Surveys, October 2001 - February 2002*', a report by G.A. Williams of the Australian Platypus Conservancy to Knox City Council, April 2002.
- An inspection by Dr Lorimer in June 2024 for this edition, from public land;
- Records of flora and fauna observations stored in the Atlas of Living Australia. Note that because the site is fairly central within The Basin, flora and fauna specimens whose localities are known no more precisely than

'The Basin' have been mapped within the site. Few if any such specimens actually came from within the site. Some other records mapped in Site 20 actually come from as far away as Olinda;

- The Melbourne Water stream setback guidelines in the organisation's 2013 document, *'Waterway Corridors – Guidelines for Greenfield Development Areas within the Port Phillip and Westernport Region'*;
- The Victorian Government's 'NatureKit' website (but note that its mapping of vegetation types and the bioregional boundary are spurious);
- A map of the area from c.1890, reproduced in a Deakin University student's project report by Kath Davies in 1996 titled *'Wicks Reserve Draft Management Plan'*;
- Aerial and satellite imagery from between 2001 and 2024;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.

