

Site 51. Winton Wetlands, Wantirna

Publicly accessible wetland conservation park managed by Melbourne Water.

Summary of significant features:

- State significance: patches of the regionally-threatened vegetation types, Riparian Forest and Floodplain Wetland Complex;
- State significance: a population of the spear-grass, *Austrostipa rudis* subspecies *australis*, which is listed as Endangered under Victorian law;
- State significance: known habitat of Latham's Snipe, which is listed as Vulnerable under Commonwealth law;
- Locally significant: riparian (streamside) vegetation on the Dandenong Creek habitat corridor;
- Locally significant: viable populations of locally-threatened plant species and Krefft's (or Sugar) Gliders.

Boundaries

This site is the elongated shape outlined with blue dashes on the aerial photograph on the next page, labelled 'Winton Wetlands'. The boundary follows a fence except for a 100 m excursion outside the eastern edge near the northern end. The excursion circumscribes indigenous wetland vegetation and adjacent dry-land vegetation, including a colony of the spear-grass, *Austrostipa rudis* subsp. *australis*, which is listed as Endangered in Victoria. The eastern extremity of the excursion is a wooden bridge. The site's total area is 5.94 ha.

Land use & tenure: Fenced (but publicly accessible) wetland conservation area, managed by Melbourne Water, plus the abovementioned excursion, which is in the same lot as the adjacent fenced area but not managed for nature conservation.

Site description

This site lies on the floodplain of Dandenong Creek, at elevations of 75–77 m. It was once part of Winton Farm and had a long history of grazing. The natural, meandering course of the creek was replaced by a straight channel around 1970. As can be seen by property boundaries on the aerial photograph above, four of the original river bends have become wetlands, now cut off from the straightened creek. The other wetlands marked on the aerial photo are of uncertain origin.

The wetlands are dominated by indigenous wetland plants, some of which are natural and others, the result of planting.

There are a small number of mature remnant trees and extensive plantings of trees and shrubs between the wetlands. There are also some large dead trees, whose hollows are used by birds as nests. As a result of the long history of grazing, naturally occurring shrubs are few, and the groundcover outside the wetlands is strongly dominated by introduced pasture species except in small areas.

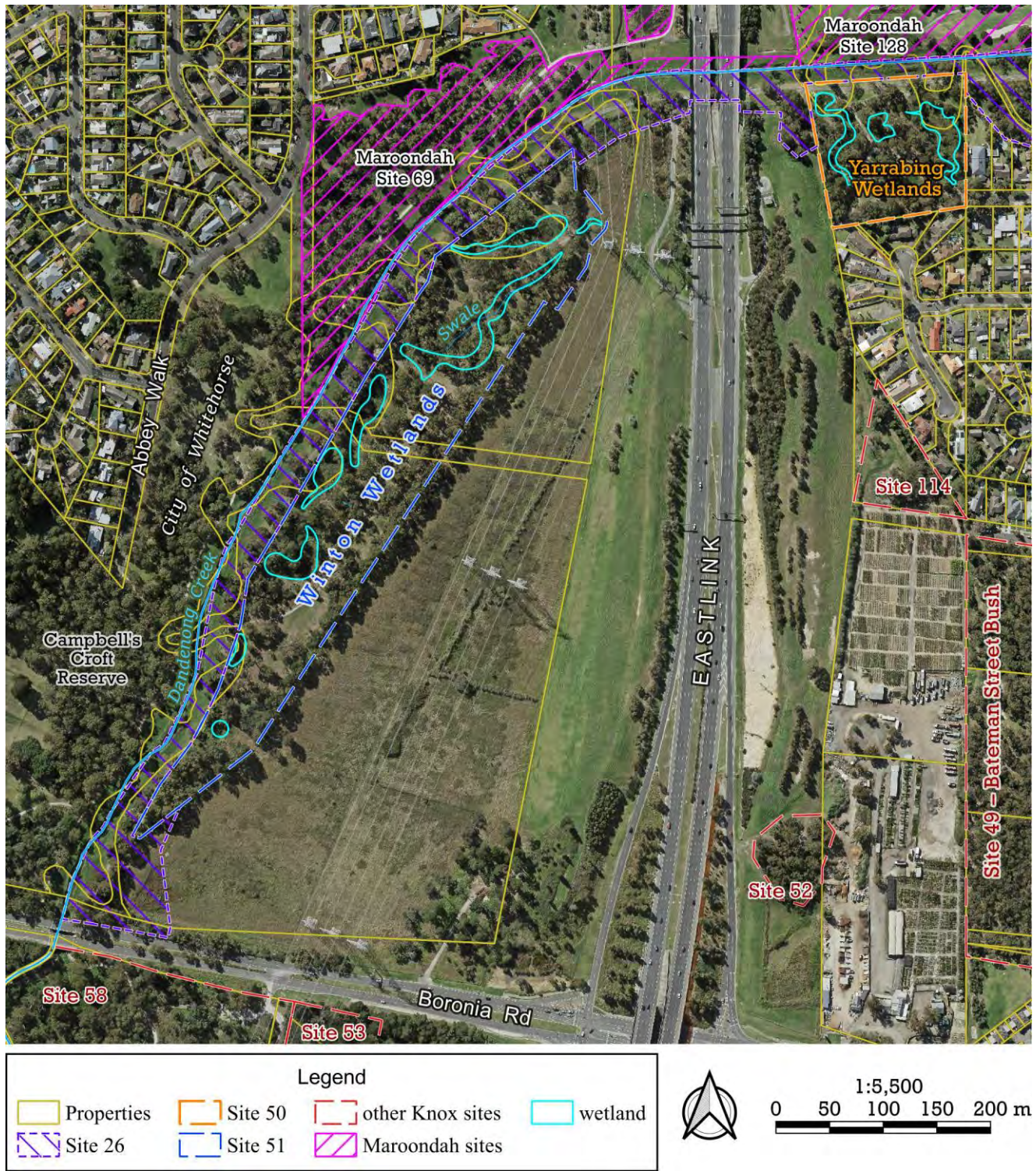
There has been extensive revegetation in the site, apparently beginning within non-indigenous 'Australian natives' around the 1970s or 1980s and changing to predominantly indigenous species more recently.

Relationship to other land

Being on Dandenong Creek, Winton Wetlands is an ecological stepping-stone on a major corridor for daily and seasonal movements of birds and insects (particularly waterbirds, several species of which are threatened). This is discussed further in the section of this report for the corridor (Site 26), which includes the strip between the creek and the Winton Wetlands site.

The native habitat along the stretch of creek corridor between Winton Wetlands and the eastern side of Wantirna Rd is quite fragmented, particularly by EastLink. The situation downstream is better, with a large area of unfragmented forest habitat south of Boronia Rd and a substantial area of less intact bushland at Campbell's Croft Reserve, just southwest of Winton Wetlands.

Bioregion: Gippsland Plain



Habitat types

Riparian Forest (EVC 18, **Vulnerable** in the Gippsland Plain bioregion): Estimated as 1.6 ha, comprising 0.3 ha in fair ecological condition (rating C) and 1.3 ha in poor ecological condition (rating D).

Canopy trees: Dominated by *Eucalyptus viminalis*, with smaller numbers of *E. ovata*, *E. cephalocarpa*, *E. radiata* and very few *E. obliqua*.

Sub-canopy trees: Dominated variously by *Acacia dealbata*, *Acacia mearnsii* or *Acacia melanoxylon*, also with scattered *Exocarpos cupressiformis*.

Shrubs: The only wild, indigenous shrub species in large numbers is *Bursaria spinosa*. *Kunzea* sp. (Upright form) is dense in patches, probably the result of planting. Other shrubs are scarce due to a history of grazing and slashing.

Vines: There is a *Calystegia* that may be the indigenous *C. sepium* or (more likely) part of a hybrid complex between that species and the introduced *C. silvatica*. Fertile material was not available to distinguish.

Ferns: *Pteridium esculentum* is dominant in one small area; there is also a single patch of *Adiantum aethiopicum*.

Groundcover: Most of the site has few indigenous groundcover plants but some areas have abundant indigenous grasses (e.g. *Austrostipa rudis*, *Microlaena stipoides*, *Phragmites australis*, *Rytidosperma setaceum*, *R. tenuius*, *Themeda triandra*) and one two areas have a range of forbs (i.e. non-grassy herbs) such as *Caesia parviflora*, *Drosera gunniana*, *Gonocarpus tetragynus*, *Microtis parviflora*, *Pimelea humilis*, *Thelymitra peniculata* and *Tricoryne elatior*.

Floodplain Wetland Complex (EVC 172, regionally Endangered): Estimated as 9,500 m², in fair ecological condition (rating C).

Trees, shrubs, vines and ferns: None except some overhanging branches of trees and shrubs and fringing *Melaleuca ericifolia* (and planted *M. parvistaminea*).

Aquatic and semi-aquatic flora: Deeper water is dominated by *Eleocharis sphacelata* and *Cycnogeton procerum*, as well as small floating plants in season. The dominant indigenous species in other areas are variously *Alternanthera denticulata*, *Carex appressa*, *Juncus* species, *Phragmites australis* or *Persicaria species*. *Alisma plantago-aquatica* is also abundant in places during warmer months. *Glyceria australis* is present, as usual in this EVC.

Plant species

The following plant species have been recorded within the site, excluding areas with wholly introduced vegetation. Indigenous and planted species that were not seen during the author's brief, very inexhaustive site inspection on 6th August 2024 are indicated by superscripts showing the year of the most recent record. 2014 refers to a thorough survey by the author in February to June; 2018 refers to a survey by John Kershaw in February; 1997 refers to a survey by John Reid in January–February; and other years refer to casual observations. The naturalised species are those either seen by the author in 2024 or that have been recorded prior and are very likely to remain. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; 'V'=Vulnerable; 'N'=Near threatened; and '?'=Data deficient. In addition, *Austrostipa rudis* subsp. *australis* is listed as Endangered throughout Victoria and the species with names in bold are rare throughout the Melbourne region.

Indigenous mosses and liverworts	Risk Wild indigenous vascular species
<i>Breutelia affinis</i> , Common Breutelia ²⁰¹⁴	<i>Arthropodium strictum</i> , Chocolate Lily ²⁰¹⁴
<i>Calliergonella cuspidata</i> , a moss	V <i>Austrostipa rudis</i> subsp. <i>australis</i> , Veined Spear-grass
<i>Campylopus clavatus</i> , Broody Swan-neck Moss ²⁰¹⁴	<i>Austrostipa rudis</i> subsp. <i>rudis</i> , Veined Spear-grass
<i>Campylopus introflexus</i> , Heath Star Moss	N <i>Bossiaea prostrata</i> , Creeping Bossiaea ²⁰¹⁴
<i>Chiloscyphus semiteres</i> , Green Worms	<i>Burchardia umbellata</i> , Milkmaids ²⁰¹⁴
<i>Hypnum cupressiforme</i> , Common Hypnum	<i>Bursaria spinosa</i> , Sweet Bursaria
<i>Thuidiopsis furfurosa</i> , Golden Weft-moss	V <i>Caesia parviflora</i> , Pale Grass-lily
	C <i>Calystegia ?sepium</i> subsp. <i>roseata</i> , Large Bindweed ¹⁹⁹⁷
Risk Wild indigenous vascular species	<i>Carex appressa</i> , Tall Sedge
V <i>Adiantum aethiopicum</i> , Common Maidenhair ²⁰¹⁹ , Anthony Bigelow	E <i>Carex fascicularis</i> , Tassel Sedge
V <i>Azolla pinnata</i> , Ferny Azolla ²⁰²³	<i>Carex inversa</i> , Knob Sedge ²⁰¹⁴
<i>Acacia dealbata</i> , Silver Wattle	E <i>Centella cordifolia</i> , Centella
V <i>Acacia mearnsii</i> , Black Wattle	C <i>Centipeda cunninghamii</i> , Common Sneezeweed ²⁰¹⁴
V <i>Acacia melanoxylon</i> , Blackwood	C <i>Centipeda elatinoides</i> , Elatine Sneezeweed ²⁰¹⁴
N <i>Alisma plantago-aquatica</i> , Water Plantain	V <i>Coprosma quadrifida</i> , Prickly Currant-bush
V <i>Alternanthera denticulata</i> , Lesser Joyweed	V <i>Crassula helmsii</i> , Swamp Crassula ²⁰¹⁴
C <i>Amphibromus nervosus</i> , Veined Swamp Wallaby-grass ²⁰¹⁸	<i>Cycnogeton procerum</i> , Water-ribbons
C <i>Amyema pendula</i> , Drooping Mistletoe* ²⁰¹⁴	

* As with most of Knox, all mistletoes in the site died during the Millennium Drought and have not reappeared.

Risk Wild indigenous vascular species

- V *Dianella revoluta*, Black-anther Flax-lily ²⁰¹⁴
 ? *Drosera aberrans*, Scented Sundew ²⁰¹⁴
 ? *Drosera gunniana*, Slender Sundew
 V *Elatine gratioloides*, Waterwort ²⁰¹⁴
 V *Eleocharis acuta*, Common Spike-rush ²⁰¹⁸
Eleocharis sphacelata, Tall Spike-rush
Epilobium cf. *billardioreanum* subsp.
intermedium, a willow-herb
Epilobium hirtigerum, Hairy Willow-herb ²⁰¹⁸
Eragrostis brownii, Common Love-grass
 E *Eucalyptus cephalocarpa*, Mealy Stringybark
 E *Eucalyptus obliqua*, Messmate Stringybark ²⁰¹⁸
 V *Eucalyptus ovata*, Swamp Gum
 E *Eucalyptus radiata*, Narrow-leaved
 Peppermint
Eucalyptus sp., a eucalypt ²⁰¹⁴
 C *Eucalyptus viminalis* subsp. *viminalis*, Manna
 Gum
 E *Euchiton involucratus*, Common Cudweed ²⁰¹⁴
 V *Exocarpos cupressiformis*, Cherry Ballart
 V *Glyceria australis*, Australian Sweet-grass
Gonocarpus tetragynus, Common Raspwort
 C *Goodenia humilis*, Swamp Goodenia ²⁰¹⁴
Goodenia ovata, Hop Goodenia
 C ***Gratiola pubescens*, Glandular Brooklime** ²⁰¹⁴
 V *Hemarthria uncinata*, Mat Grass
 E *Hypericum gramineum*, Small St John's Wort
 C *Isolepis fluitans*, Floating Club-rush ²⁰¹⁴
Isolepis inundata, Swamp Club-rush
 V *Isolepis platycarpa*, a club-rush ²⁰¹⁴
Juncus amabilis, Hollow Rush
 C *Juncus australis*, Austral Rush ²⁰¹⁴
Juncus bufonius, Toad Rush ²⁰¹⁴
Juncus gregiflorus, Green Rush
 C *Juncus holoschoenus*, Joint-leaf Rush ²⁰¹⁴
Juncus pallidus, Pale Rush
 E *Juncus pauciflorus*, Loose-flower Rush ²⁰¹⁴
 E *Juncus planifolius*, Broad-leaf Rush ²⁰¹⁴
 E *Juncus procerus*, Tall Rush
Juncus sarophorus, Broom Rush
Lachnagrostis filiformis, Common Blown-
 grass ²⁰¹⁴
Kunzea leptospermoides, Yarra Burgan
Laphangium luteoalbum, Jersey cudweed ²⁰²¹
Lemna disperma, Common Duckweed ²⁰¹⁴
Lepidosperma gunnii, Slender Sword-sedge
Lomandra filiformis subsp. *coriacea*, Wattle
 Mat-rush
Lomandra filiformis subsp. *filiformis*, Wattle
 Mat-rush ²⁰¹⁴
Lomandra longifolia subsp. *longifolia*, Spiny-
 headed Mat-rush ²⁰¹⁴
Lythrum hyssopifolia, Lesser Loosestrife ²⁰²³
 E *Melaleuca ericifolia*, Swamp Paperbark
Microlaena stipoides, Weeping Grass
 V *Microtis parviflora*, Slender Onion-orchid

Risk Wild indigenous vascular species

- C *Myriophyllum simulans*, Amphibious Water-
 milfoil ²⁰¹⁴
 V *Opercularia varia*, Variable Stinkweed ²⁰¹⁴
 C *Ottelia ovalifolia*, Swamp Lily ²⁰¹⁴
Persicaria decipiens, Slender Knotweed
 E *Persicaria hydropiper*, Water-pepper ²⁰¹⁴
 E *Persicaria lapathifolia*, Pale Knotweed ¹⁹⁹⁷
 V *Persicaria praetermissa*, Spotted Knotweed
 E *Phragmites australis*, Common Reed
 E *Pimelea humilis*, Common Rice-flower
Poa morrisii, Soft Tussock-grass ²⁰¹⁴
Pteridium esculentum, Austral Bracken
 C *Ranunculus ?inundatus*, River Buttercup ¹⁹⁹⁷
 E *Rubus parvifolius*, Small-leaf Bramble
Rytidosperma geniculatum, Knead Wallaby-
 grass ²⁰¹⁴
Rytidosperma laeve, Smooth Wallaby-grass
²⁰¹⁴
Rytidosperma penicillatum, Slender Wallaby-
 grass
Rytidosperma racemosum, Clustered Wallaby-
 grass ²⁰¹⁴
 E *Rytidosperma semiannulare*, Tasmanian
 Wallaby-grass ²⁰¹⁸
Rytidosperma setaceum, Bristly Wallaby-grass
²⁰¹⁴
Rytidosperma tenuius, Purplish Wallaby-grass
²⁰¹⁴
Schoenus apogon, Common Bog-rush
 V *Senecio glomeratus*, Annual Fireweed
Senecio minimus, Shrubby Fireweed ²⁰¹⁴
Senecio quadridentatus, Cotton Fireweed
 V *Solanum laciniatum*, Large Kangaroo Apple
²⁰¹⁴
 C ***Spiranthes australis*, Austral Ladies' Tresses**
²⁰⁰⁵
 V ***Spirodela punctata*, Thin Duckweed** ²⁰¹¹
 E *Thelymitra peniculata*, Trim Sun-orchid
Themeda triandra, Kangaroo Grass
Tricoryne elatior, Yellow Rush-lily
 V *Triglochin striata*, Streaked Arrow-grass
Typha orientalis, Cumbungi ²⁰¹⁴
 C ***Viminaria juncea*, Golden Spray** (planted?)
¹⁹⁹⁷
 V *Wolffia australiana*, Tiny Duckweed ²⁰¹⁴

Risk Planted species (indigenous or not)

- V *Acacia melanoxylon*, Blackwood
 V *Allocasuarina littoralis*, Black Sheoak
Callistemon sp., Bottlebrush
Casuarina ?obesa, Swamp Sheoak
Corymbia maculata, Spotted Gum
Dianella longifolia var. *longifolia*, Pale Flax-
 lily
Dianella cf. *tasmanica*, non-rhizomatous
 C *Eucalyptus camaldulensis*, River Red-gum

Risk Planted species (indigenous or not)

- E *Eucalyptus melliodora*, Yellow Box ²⁰¹⁴
 V *Eucalyptus ovata*, Swamp Gum
 E *Eucalyptus radiata*, Narrow-leaved Peppermint
Eucalyptus sp., a eucalypt
 C *Eucalyptus viminalis* subsp. *viminalis*, Manna Gum
Goodenia ovata, Hop Goodenia
 E *Gynatrix pulchella*, Hemp Bush ²⁰¹⁴
 C *Hakea nodosa*, Yellow Hakea ²⁰¹⁴
Kunzea sp. (Upright form), Forest Burgan
Leptospermum scoparium, Manuka
 C *Machaerina arthropphylla*, Fine Twig-rush
Melaleuca parvistaminea, Rough-barked Honey-myrtle
 C *Ornduffia reniformis*, Running Marsh-flower
Poa ensiformis, Sword Tussock-grass

Naturalised introduced species

- Acacia longifolia* subsp. *longifolia*, Sallow Wattle
Acacia retinodes s.l., Wirilda (originally planted?)
Acetosella vulgaris, Sheep Sorrel
Agapanthus praecox, Agapanthus
Agrostis capillaris, Brown-top Bent
Aira caryophyllea, Silvery Hair-grass
Allium triquetrum, Angled Onion
Anthoxanthum odoratum, Sweet Vernal-grass
Atriplex prostrata, Hastate Orache
Avena barbata, Bearded Oat
Briza maxima, Large Quaking-grass
Briza minor, Lesser Quaking-grass
Bromus catharticus, Prairie Grass
Bromus diandrus, Great Brome
Callitriche stagnalis, Pond Water-starwort
Calystegia ?silvatica, Greater Bindweed
Cassinia sifton, Sifton Bush
Cenchrus clandestinus, Kikuyu Grass
Centaurium erythraea, Common Centaury
Cirsium vulgare, Spear Thistle
Cordyline australis, New Zealand Cabbage Tree
Corymbia maculata, Spotted Gum
Crataegus monogyna, Hawthorn
Crocsmia × crocosmiiflora, Montbretia
Cynodon dactylon, Couch
Cyperus eragrostis, Drain Flat-sedge
Dactylis glomerata, Cocksfoot
Dianella sp., an unidentified flax-lily
Echinochloa crus-galli, Common Barnyard Grass
Ehrharta erecta, Panic Veldt-grass
Ehrharta longiflora, Annual Veldt-grass
Fraxinus angustifolia, Desert Ash

Naturalised introduced species

- Galium aparine*, Cleavers
Gladiolus undulatus, Wild Gladiolus
Hedera helix/hibernica, Ivy
Helminthotheca echioides, Ox-tongue
Holcus lanatus, Yorkshire Fog
Hypericum tetrapterum, Square-stem St John's Wort
Hypochaeris radicata, Cat's Ear
Isolepis levynsiana, Tiny Flat-sedge
Juncus articulatus, Jointed Rush
Juncus pallescens, a rush
Lactuca serriola, Prickly Lettuce
Leontodon saxatilis, Lesser Hawkbit
Ligustrum lucidum, Large-leaved Privet
Limnobium laevigatum, Amazon Frogbit
Lolium perenne, Perennial Rye-grass
Lotus corniculatus, Bird's-foot Trefoil
Lotus subbiflorus, Hairy Bird's-foot Trefoil
Lysimachia arvensis, Pimpernel
Mysiophyllum aquaticum, Parrot's-feather
Oxalis purpurea, Large-flower Wood-sorrel
Paspalum dilatatum, Paspalum
Paspalum distichum, Water Couch
Phalaris aquatica, Toowoomba Canary-grass
Pittosporum undulatum, Sweet Pittosporum
Plantago coronopus, Buck's-horn Plantain
Plantago lanceolata, Ribwort
Prunus cerasifera, Cherry-plum
Pseudoscleropodium purum, Neat Feather-moss
Ranunculus repens, Creeping Buttercup
Raphanus raphanistrum, Wild Radish
Romulea rosea, Common Onion-grass
Rubus anglocandicans, Blackberry
Rumex conglomeratus, Clustered Dock
Rumex crispus, Curled Dock
Salix × rubens, White Crack Willow
Salix sp., unidentified willow
Schoenoplectus tabernaemontani, River Club-rush
Setaria parviflora, Slender Pigeon Grass
Sisyrinchium micranthum, Blue Pigroot
Solanum nigrum, Black Nightshade
Sonchus asper, Rough Sow-thistle
Sonchus oleraceus, Sow-thistle
Stellaria media, Chickweed
Symphyotrichum subulatum, Aster-weed
Taraxacum sect. *Taraxacum*, Garden Dandelion
Tradescantia fluminensis, Wandering Trad
Trifolium repens, White Clover
Ulex europaeus, Gorse (Furze)
Vicia ?hirsuta, Tiny Vetch
Vulpia bromoides, Squirrel-tail Fescue
Watsonia meriana var. *bulbillifera*, Bulbil Watsonia

Listed as Endangered under Victorian law

Austrostipa rudis subsp. *australis* (a subspecies of Veined Spear-grass) – A colony was found in early August 2024 in the site's northeast (outside the fence), as well as at least five plants approximately 60 m west-

southwest of there. The total population could well be very much larger and more widespread because the survey was only cursory and August is the most difficult time of year to distinguish this subspecies from subspecies *rudis*. The author's 2014 survey did not fully quantify the population size.

Fauna of special significance

Listed as Vulnerable under Commonwealth law

Latham's (or Japanese) Snipe – up to four individuals have been recorded seven times since 1997; probably regular seasonal visitors but mostly unseen due to their secretive behaviour.

Listed as Vulnerable in Victoria

Eastern Great Egret – recorded four times between 2013 and 2018, a solitary bird each time. The habitat appears very suitable, so it is a little surprising there aren't more records.

Uncommon in Knox

Kreff's or Sugar Glider (Glider) – one of few sites in Knox where this species resides, last confirmed in 2023.

Fauna habitat features

- Some of the mature eucalypts have hollows suitable for nesting or roosting by native birds, bats, possums or invertebrates;
- Some large Manna Gums (*Eucalyptus viminalis*) may provide nest sites for bird species that only breed in particularly tall trees;
- The juxtaposition of the tall trees (including dead ones) and the open pasture makes good habitat for smaller birds of prey such as Black-Shouldered Kites;
- The wetlands were observed to provide habitat for yabbies, frogs, invertebrates and waterbirds.

Significance ratings

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

Ecological Integrity and Viability

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

Criterion 1.2.6 accords **Local** significance to sites that fit the description, 'Important at local scale - Link between individual remnant habitat blocks or within subcatchment'. This applies to Winton Wetlands' role for birds that move along the Dandenong Creek corridor.

Threatened Vegetation Types

On the western edge of the site, midway north-south, is an area that meets the definition of a 'remnant patch' adopted by the standard criteria, i.e. at least 0.25 ha in which the cover of native understorey is at least 10% throughout. The patch includes Floodplain Wetland Complex (which is regionally-endangered) and Riparian Forest (which is regionally-vulnerable). A remnant patch that solely contains a regionally-endangered EVC is treated as State significance under criterion 3.2.3, whereas a remnant patch that solely contains a regionally-vulnerable EVC must have a habitat score of at least 0.3 to qualify for State significance. No habitat scores have been determined in this study but it is clear that the threshold of 0.3 would be exceeded. Therefore, the site's remnant patch is here deemed to qualify for **State** significance.

Threatened Plants

The spear-grass, *Austrostipa rudis* subsp. *australis*, is listed under the *Flora and Fauna Guarantee Act* as Endangered in Victoria. It also occurs interstate. Any known habitat for such a species (as at Winton Wetlands) meets criterion 3.1.2 for **State** significance.

Many of the other locally-threatened plant species listed above have viable populations (in combination with ecologically connected habitat), thereby meeting criterion 3.1.5 for **Local** significance.

Threatened Fauna

Latham's Snipe is listed under Commonwealth law as a vulnerable species and up to four individuals of this secretive species are observed at the wetlands in some years. The frequency of records indicates that the site

is regularly used as habitat but not an ‘important site’ in the terms of the standard criteria. Criterion 3.1.1 treats such habitat as **State** significance. (The species was not listed as Vulnerable nationally at the time of the previous edition of this report.)

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);
- Decline of tree health, partly due to the abovementioned droughts and storms;
- Displacement of indigenous flora and fauna by environmental weeds, exacerbated by debilitation of the native vegetation by the impacts of climate change. The most serious problem overall is the thicket of Gorse (*Ulex europaeus*). The most impactful species of environmental weeds in the wetlands appear to be Water Couch (*Paspalum distichum*), Jointed Rush (*Juncus articulatus*) and Creeping Buttercup (*Ranunculus repens*). Elsewhere, the following are serious: Angled Onion (*Allium triquetrum*), Kikuyu Grass (*Cenchrus clandestinus*), Couch (*Cynodon dactylon*), Cocksfoot (*Dactylis glomerata*) and Paspalum (*Paspalum dilatatum*);
- 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.

Management

Gorse is a declared noxious weed. The thicket of Gorse in the site’s northeast, outside the fence, is causing substantial ecological harm by smothering the native groundcover, including dense orchids. It is important that the legal obligation to control the Gorse be observed and that care be taken to use a selective herbicide that will not kill the native groundcover beneath. Removal of the thicket should allow regeneration of native groundcover that has been suppressed by the Gorse.

Strategic planning

- The previous (2010) edition of this report led to this site (minus the section outside the fence in the site’s northeast) being covered by Schedule 2 of the Environmental Significance Overlay (ESO2). The reasons cited were the State significance of the EVCs, the significant plant species, the habitat for native fauna and the riparian location. Since 2010, the main changes affecting the original basis for applying ESO2 have been that: (a) the spear-grass *Austrostipa rudis* subsp. *australis* has been discovered within the site and then listed as Endangered under Victorian law; (b) Latham’s Snipe has been listed under Commonwealth law and repeatedly recorded in the site; and (c) the section outside the fence has been added to the site to circumscribe some of the endangered spear-grass, substantial populations of several orchid species and some wetland habitat in good condition. In response to those changes, the only recommended amendment to the overlay is to change its boundary to match the one adopted here;
- Almost all the site is zoned Public Conservation and Resource Zone (PCRZ).

Information sources used in this assessment

- Site description and mapping in ‘*Vegetation Survey of Linear Reserves – A Management Strategy for Riparian and Floodplain Vegetation*’ by Reid, Moss and Lorimer (1997), and the underlying field data. The fieldwork included vegetation mapping, compilation of lists of indigenous and introduced plant species for three parts of the reserve, incidental fauna observations, and checks for fauna habitat, ecological threats, management issues and populations of scarce or threatened plant species;
- The 1998 ‘*Scoresby Transport Corridor Environment Effects Statement*’, particularly Supplement Volume H: Flora and Fauna by Williams L.M., Yugovic J.V., McGuckin J., Humphrey P. and Larwill S. (1998);
- A detailed assessment of the site’s vegetation by Dr Lorimer in February and June 2014, to serve as baseline monitoring data and mapping – see ‘*Monitoring of Bushland Reserves in Knox – 2014 Review*’;
- Records of *Drosera gunniana* and *Adiantum aethiopicum* by Anthony Bigelow on 16th September 2019;
- Brief inspections of the site by Dr Lorimer on 6th & 22nd August 2024, recording indigenous plant species, mapping significant plant species and noting other features relevant to this report (not intending to compile a thorough plant list);
- Brief, informal visits to the site by the author since 1997, occasionally making incidental records of significant species such as *Spirodela punctata* and *Wolffia australiana*;
- Records of flora and fauna observations stored in the Atlas of Living Australia;

- Aerial and satellite imagery from between 1946 and 2025;
- The Victorian Government's 'NatureKit' website;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.