

## Site 55. W.G. Morris Reserve, Wantirna

2.8 ha Council bushland reserve.

### Summary of significant features:

- Nationally significant: a viable population of the flat-pea, *Platylobium infecundum*, which is Critically Endangered globally;
- State significance: a substantial population of the spear-grass, *Austrostipa rudis* subspecies *australis*, which is listed as Endangered in Victoria;
- State significance: a fairly intact example of the regionally-endangered vegetation type, Valley Heathy Forest;
- Locally significant: viable populations of scores of plant species that are threatened with dying out in Knox.

### Boundaries

This site coincides exactly with the council reserve, as outlined in red on the plan on the next page.

**Land use & tenure:** Owned by Knox City Council and managed as a bushland reserve for passive recreation.

### Site description

This 2.8-hectare bushland reserve lies on a gentle south-facing slope. Elevations vary from 107 m to 121 m approximately. The soil is pale clay loam over clay subsoil, derived from Upper Silurian sedimentary deposits of the Melbourne (formerly Dargile) formation.

There is a rather dense network of paths through the reserve, shown on the plan with grey lines.

Apart from some firebreak strips, the whole reserve supports native vegetation of Valley Heathy Forest, which is an endangered Ecological Vegetation Class.

The density of large, old trees is lower than would be expected in a pristine example of Valley Heathy Forest. A 1968 aerial photograph shows the canopy to have been of comparable density to today, whereas aerial photographs from 1976–1981 show a much denser canopy. Eucalypt dieback has seriously affected many mature eucalypts but some of the canopy gaps that have formed are slowly filling with younger trees.

The prevalence of introduced plant species has markedly declined over the past 26 years of the author's botanical surveys, so that the plant species now having the greatest adverse ecological impact is arguably the small-leaved clematis, *Clematis decipiens*. (The first record of that species in Knox was near Bushy Park Lane, Wantirna South in 1989; It was not detected in Paget's rather thorough surveys of Knox in 1985.) The indigenous Shiny Cassinia (*Cassinia longifolia*) is also so unnaturally dense that it threatens to out-compete other indigenous plant species.

Despite these environmental pressures, the reserve retains a rich range of indigenous plant species, including one that is Critically endangered globally (*Platylobium infecundum*), one that is Endangered in Victoria (*Austrostipa rudis* subsp. *australis*) and a wattle (*Acacia genistifolia*) that has only been recorded from one other site in Knox, very near the Dandenong Ranges National Park.

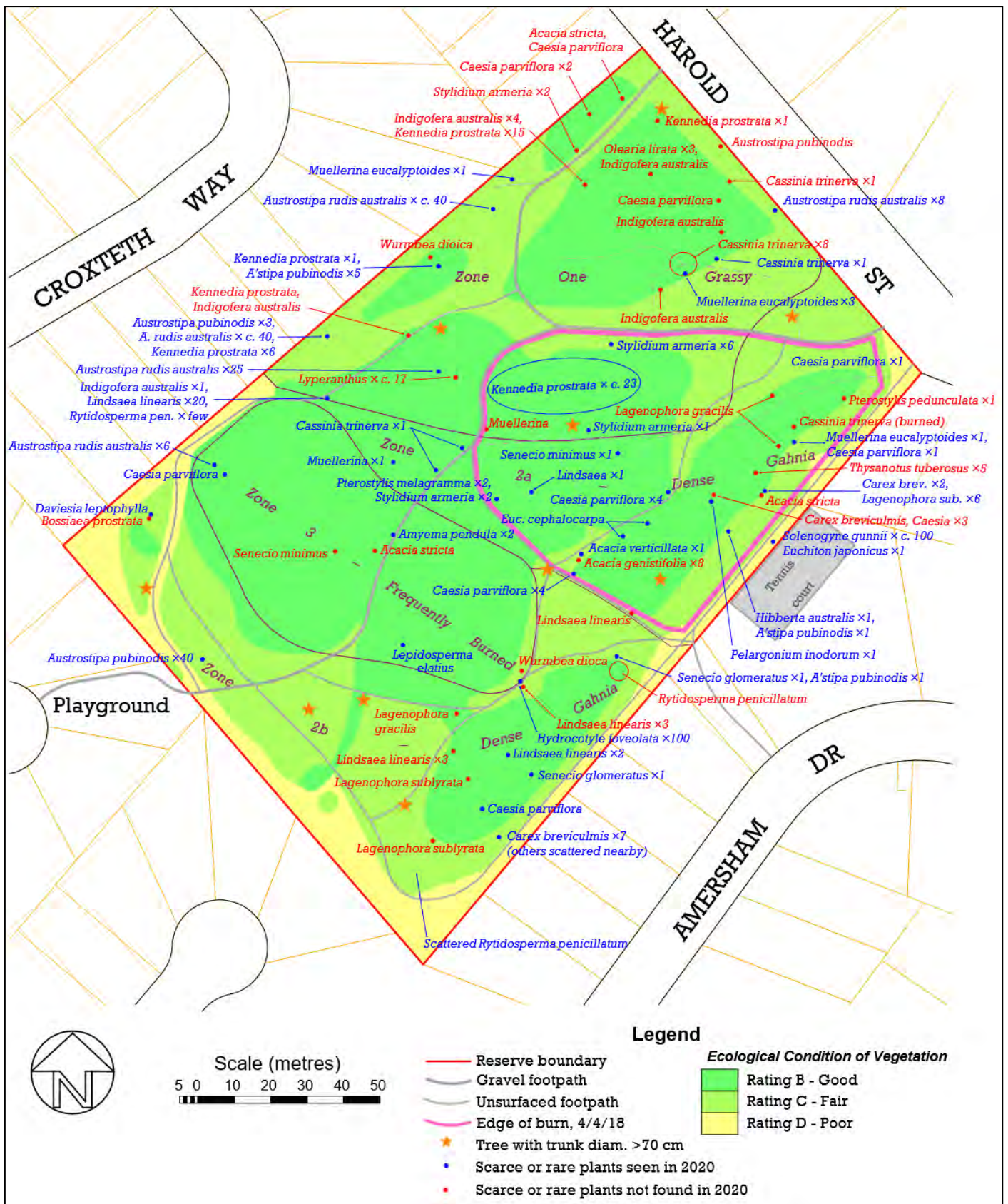
### Relationship to other land

The site is ecologically rather isolated from other native habitat. The closest area of any size is the Dandenong Valley Parklands (Site 58) approximately one kilometre away, with the small Stringybark Reserve (Site 54) midway between them. The more mobile flying species can traverse such distances, but they are unlikely to transport significant amounts of seed or pollen into the reserve from other areas. This leaves some of the less numerous plant species in the reserve vulnerable to inbreeding or disappearance due to chance events.

**Bioregion:** Gippsland Plain

### Habitat type

Valley Heathy Forest (EVC 127, **regionally Endangered**): 2.8 ha of native vegetation, of which approximately 1.5 ha is in good ecological condition (rating B), 1 ha is in fair ecological condition (rating C) and 0.3 ha is in poor ecological condition (rating D).



Canopy trees: *Eucalyptus goniocalyx*, *E. macrorhyncha* and *E. obliqua*, with fewer *E. melliodora* and *E. radiata*. The tree crowns overlap slightly where dieback has not thinned the canopy.

Sub-canopy trees: *Exocarpos cupressiformis* and *Acacia implexa* are rather abundant, and *Allocasuarina littoralis* is characteristically present in considerable numbers at the southern corner of the reserve.

**Shrubs:** Mostly 2–3 m tall and rather dense, but thinner in areas of very mature vegetation or very young regrowth after fire. *Acacia paradoxa*, *Cassinia aculeata* and *Cassinia longifolia* are dominant in the denser areas (along with *Ozothamnus ferrugineus* in some areas), and *Bursaria spinosa* is moderately abundant and increasing.

**Vines:** The light climbers, *Comesperma volubile* and *Billardiera mutabilis* are abundant; *Hardenbergia violacea* scattered.

**Ferns:** *Pteridium esculentum* becomes locally dense after disturbance. *Lindsaea linearis* is very localised.

**Groundcover:** Rather rich. Densely grassy but with characteristic heathy elements such as *Hibbertia australis*. Overall, the dominant indigenous species are *Rytidosperma pallidum* and *Gahnia radula*. The introduced *Ehrharta erecta* is dominant in some patches, possibly suppressing regeneration of indigenous plants. *Lepidosperma gunnii*, *Lomandra filiformis* and *Poa morrisii* are also abundant. Characteristic species include *Acacia aculeatissima*, *Rytidosperma racemosum*, *R. tenuius*, *Dillwynia cinerascens*, *Drosera aberrans*, *Epacris impressa*, *Gonocarpus tetragynus*, *Hibbertia australis*, *Microlaena stipoides*, *Platylobium infecundum*, *P. obtusangulum*, *Poa morrisii*, *Pterostylis nutans*, *Themeda triandra* and *Xanthorrhoea minor*.

## Plant species

The following list contains the wild plant species that have been reliably recorded in W.G. Morris Reserve. Those species not seen by the author in the 2020s are indicated by superscripts showing the year of the most recent record. Records dated since 1985 are the author's except *Crassula sieberiana* and the *Luzula*, which are from Monte Hall in 2024. The column headed 'Risk' indicates the indigenous vascular species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; 'V'=Vulnerable and 'N'=Near threatened. In addition, *Platylobium infecundum* is Critically Endangered globally, *Austrostipa rudis* subsp. *australis* is listed as Endangered throughout Victoria, and species with names in bold are rare throughout metro Melbourne.

### Indigenous mosses and liverworts

*Campylopus clavatus*, Broody Swan-neck Moss  
*Campylopus introflexus*, Heath Star Moss  
*Chiloscyphus semiteres*, Green Worms  
*Dicranoloma billarderi*, a moss  
*Hypnum cupressiforme*, Common Hypnum  
*Lunularia cruciata*, Moonwort  
*Polytrichum juniperinum*, Common Juniper-moss  
*Ptychomnion aciculare*, Paper Moss, Pipe-cleaners  
*Rhaphidorrhynchium amoenum*, a moss  
*Sematophyllum homomallum*, a moss  
*Thuidiopsis furfurosa*, Golden Weft-moss

### Risk Wild indigenous vascular species

E *Acacia aculeatissima*, Thin-leaf Wattle  
*Acacia dealbata*, Silver Wattle  
C *Acacia genistifolia*, Spreading Wattle <sup>2017</sup>  
V *Acacia implexa*, Lightwood  
V *Acacia mearnsii*, Black Wattle  
V *Acacia melanoxylon*, Blackwood  
E *Acacia myrtifolia*, Myrtle Wattle  
*Acacia paradoxa*, Hedge Wattle  
V *Acacia pycnantha*, Golden Wattle  
E *Acacia stricta*, Hop Wattle  
V *Acacia verticillata*, Prickly Moses  
*Acaena novae-zelandiae*, Bidgee-widgee  
E *Acrotriche serrulata*, Honey-pots  
V *Allocasuarina littoralis*, Black Sheoak  
C *Amyema pendula*, Drooping Mistletoe  
E *Amyema quandang*, Grey Mistletoe <sup>2002</sup>  
*Anthosachne scabra*, Common Wheat-grass  
*Arthropodium strictum*, Chocolate Lily  
*Austrostipa pubinodis*, Tall Spear-grass

### Risk Wild indigenous vascular species

V ***Austrostipa rudis* subsp. *australis***, **Veined Spear-grass**  
*Austrostipa rudis* subsp. *rudis*, Veined Spear-grass  
*Billardiera mutabilis*, Common Apple-berry  
N *Bossiaea prostrata*, Creeping Bossiaea  
V *Brunonia australis*, Blue Pincushion  
E *Bulbine bulbosa*, Yellow Bulbine-lily (planted?)  
*Burchardia umbellata*, Milkmaids  
*Bursaria spinosa*, Sweet Bursaria  
V *Caesia parviflora*, Pale Grass-lily  
*Carex breviculmis*, Short-stem Sedge  
*Cassinia aculeata*, Common Cassinia  
*Cassinia longifolia*, Shiny Cassinia  
C ***Cassinia trinerva***, **Three-nerved Cassinia**  
C *Chamaescilla corymbosa*, Blue Stars <sup>1982</sup>  
V *Chiloglottis valida*, Common Bird-orchid  
C ?*Chrysocephalum semipapposum*, Clustered Everlasting <sup>1982</sup>  
*Clematis decipiens*, a small-leafed clematis  
E *Comesperma volubile*, Love Creeper  
V *Coprosma quadrifida*, Prickly Currant-bush  
C *Coronidium scorpioides*, Button Everlasting <sup>2006</sup>  
C *Correa reflexa* var. *reflexa*, Common Correa  
E ***Corybas ?diemenicus***, **Veined Helmet-orchid**  
*Cotula australis*, Common Cotula  
*Crassula decumbens*, Spreading Crassula  
*Crassula sieberiana* s.l., Sieber Crassula  
C ***Cryptostylis subulata***, **Large Tongue-orchid** <sup>1982</sup>

Risk Wild indigenous vascular species

- C *Daviesia latifolia*, Hop Bitter-pea  
 C *Daviesia leptophylla*, Narrow-leaf Bitter-pea  
*Deyeuxia quadriseta*, Reed Bent-grass  
*Dianella longifolia* var. *longifolia*, Pale Flax-lily  
*Dianella revoluta*, Black-anther Flax-lily  
*Dichelachne rara*, Common Plume-grass <sup>2013</sup>  
*Dichondra repens*, Kidney-weed  
 V *Dillwynia cinerascens*, Grey Parrot-pea  
 E *Dipodium roseum*, Rosy Hyacinth-orchid <sup>1985</sup>  
 V *Drosera aberrans*, Scented Sundew <sup>1984</sup>  
 V *Drosera auriculata*, Tall Sundew  
 N *Drosera peltata* s.l., Branched Sundew <sup>1984</sup>  
 C *Epacris impressa*, Common Heath  
 V *Eucalyptus ?ovata*, Swamp Gum <sup>2006</sup>  
*Eucalyptus ×brevirostris* (*E. macrorhyncha* × *obliqua*)  
 E *Eucalyptus cephalocarpa*, Mealy Stringybark  
 V *Eucalyptus goniocalyx*, Bundy  
 C *Eucalyptus macrorhyncha*, Red Stringybark  
 E *Eucalyptus melliodora*, Yellow Box  
 E *Eucalyptus obliqua*, Messmate Stringybark  
 E *Eucalyptus radiata*, Narrow-leaved Peppermint  
 E *Euchiton involucratus*, Common Cudweed <sup>1985</sup>  
*Euchiton japonicus*, Creeping Cudweed  
 V *Exocarpos cupressiformis*, Cherry Ballart  
 C *Gahnia radula*, Thatch Saw-sedge  
 C *Gastrodia sesamoides*, Cinnamon Bells  
 V *Geranium ?sp. 2*, Variable Crane's-bill <sup>2014</sup>  
 E *Glycine ?clandestina*, Twining Glycine <sup>1982</sup>  
*Gonocarpus tetragynus*, Common Raspwort  
*Goodenia ovata*, Hop Goodenia  
 E *Hardenbergia violacea*, Purple Coral-pea  
 C *Hibbertia australis*, Upright Guinea-flower  
 C *Hovea heterophylla*, Common Hovea  
 E *Hydrocotyle foveolata*, Yellow Pennywort  
 V *Hydrocotyle hirta*, Hairy Pennywort <sup>1999</sup>  
 E *Hypericum gramineum*, Small St John's Wort  
 C *Indigofera australis*, Austral Indigo  
*Juncus bufonius*, Toad Rush  
 E *Juncus planifolius*, Broad-leaf Rush <sup>1985</sup>  
 E *Juncus subsecundus*, Finger Rush  
 C *Kennedia prostrata*, Running Postman  
*Kunzea leptospermoides*, Yarra Burgan  
*Lachnagrostis filiformis*, Common Blown-grass <sup>1984</sup>  
 V *Lagenophora sublyrata*, Slender Bottle-daisy  
*Lepidosperma elatius*, Tall Sword-sedge  
*Lepidosperma gunnii*, Slender Sword-sedge  
 C *Leptospermum continentale*, Prickly Tea-tree <sup>2006</sup>  
*Leptospermum scoparium*, Manuka  
 V *Lindsaea linearis*, Screw Fern  
*Lomandra filiformis* subsp. *coriacea*, Wattle Mat-rush

Risk Wild indigenous vascular species

- Lomandra filiformis* subsp. *filiformis*, Wattle Mat-rush  
*Lomandra longifolia* subsp. *longifolia*, Spiny-headed Mat-rush  
*Luzula meridionalis*, Common Wood-rush  
*Lyperanthus suaveolens*, Brown-beaks <sup>2013</sup>  
 E *Melaleuca ericifolia*, Swamp Paperbark <sup>1999</sup>  
*Microlaena stipoides*, Weeping Grass  
 V *Microtis ?parviflora*, Slender Onion-orchid  
 C *Muellerina eucalyptoides*, Creeping Mistletoe  
 E *Olearia lirata*, Snowy Daisy-bush <sup>2013</sup>  
 C *Olearia myrsinoides*, Silky Daisy-bush <sup>1984</sup>  
 V *Opercularia varia*, Variable Stinkweed  
*Oxalis exilis/perennans*, Wood-sorrel  
 V *Ozothamnus ferrugineus*, Tree Everlasting  
 E *?Pauridia vaginata*, Yellow Star <sup>1982</sup>  
 C *Pelargonium inodorum*, Kopata  
 E *Pimelea humilis*, Common Rice-flower  
 E *Plantago varia*, Variable Plantain  
 E ***Platylobium infecundum*, a flat-pea**  
 E *Platylobium obtusangulum*, Common Flat-pea  
*Poa morrisii*, Soft Tussock-grass  
*Poranthera microphylla*, Small Poranthera  
*Pteridium esculentum*, Austral Bracken  
 E *Pterostylis melagramma*, Tall Greenhood  
*Pterostylis nutans*, Nodding Greenhood  
 C *Pterostylis pedunculata*, Maroonhood  
 V *Pultenaea gunnii*, Golden Bush-pea  
*Rytidosperma fulvum*, Leafy Wallaby-grass  
***Rytidosperma ?indutum*, Tall Wallaby-grass** <sup>1985</sup>  
 E *Rytidosperma pallidum*, Red-anther (or Silvertop) Wallaby-grass  
*Rytidosperma penicillatum*, Slender Wallaby-grass  
*Rytidosperma pilosum*, Velvet Wallaby-grass  
*Rytidosperma racemosum*, Clustered Wallaby-grass  
 E *Rytidosperma semiannulare*, Tasmanian Wallaby-grass <sup>1984</sup>  
*Rytidosperma setaceum*, Bristly Wallaby-grass  
*Rytidosperma tenuius*, Purplish Wallaby-grass  
*Schoenus apogon*, Common Bog-rush  
 V *Senecio glomeratus*, Annual Fireweed  
*Senecio hispidulus*, Rough Fireweed  
*Senecio minimus*, Shrubby Fireweed  
*Senecio quadridentatus*, Cotton Fireweed  
 V *Solanum laciniatum*, Large Kangaroo Apple  
 V *Solenogyne gunnii*, Hairy Solenogyne  
 E *Stackhousia monogyna/subterranea*, Candles  
 E *Stylidium armeria*, Common Triggerplant  
 C *Thelymitra ?brevifolia*, Peppertop Sun-orchid  
 E *Thelymitra peniculata*, Trim Sun-orchid  
*Themeda triandra*, Kangaroo Grass <sup>2013</sup>  
 E *Thysanotus patersonii*, Twining Fringe-lily <sup>1984</sup>

Risk Wild indigenous vascular species

- C *Thysanotus tuberosus*, Common Fringe-lily<sup>2013</sup>  
 E *Viola hederacea*, Ivy-leaf Violet  
 E *Wurmbea dioica*, Common Early Nancy  
 E *Xanthorrhoea minor*, Small Grass-tree  
 V *Xanthosia dissecta*, Cut-leaf Xanthosia<sup>1985</sup>

Risk Planted species (indigenous or not)

- C *Acacia genistifolia*, Spreading Wattle  
*Acaena novae-zelandiae*, Bidgee-widgee<sup>2013</sup>  
*Correa hybrids*<sup>2013</sup>  
*Crowea exalata*, Small Crowea<sup>2013</sup>  
*Dianella longifolia* var. *longifolia*, Pale Flax-lily  
*Dianella tasmanica*, Tasman Flax-lily  
*Eucalyptus leucoxylon*, Yellow Gum  
*Lomandra longifolia* subsp. *longifolia*, Spiny-headed Mat-rush  
*Philotheca myoporoides*, Long-leaf Wax-flower<sup>2013</sup>  
 E *Pimelea humilis*, Common Rice-flower<sup>2006</sup>  
*Poa ensiformis*, Sword Tussock-grass  
 E *Poa labillardierei*, Common Tussock-grass<sup>2013</sup>  
*Poa morrisii*, Soft Tussock-grass<sup>2006</sup>  
 C *Pomaderris racemosa*, Cluster Pomaderris  
 V *Solanum ?laciniatum*, Large Kangaroo Apple<sup>2006</sup>  
 V *Spyridium parvifolium*, Australian Dusty Miller<sup>2006</sup>  
*Wahlenbergia gracilis*, Sprawling Bluebell<sup>2006</sup>

Introduced species

- Acacia baileyana*, Cootamundra Wattle  
*Acacia floribunda*, White Sallow-wattle<sup>2013</sup>  
*Acacia howittii*, Sticky Wattle  
*Acacia iteaphylla*, Flinders Range Wattle<sup>2006</sup>  
*Acacia longifolia* subsp. *longifolia*, Sallow Wattle<sup>2006</sup>  
*Acer negundo*, Box Elder<sup>2013</sup>  
*Agapanthus praecox*, Agapanthus<sup>2006</sup>  
*Agrostis capillaris*, Brown-top Bent<sup>2006</sup>  
*Aira caryophyllea*, Silvery Hair-grass  
*Aira cupaniana*, Small Hair-grass  
*Allium triquetrum*, Angled Onion  
*Anthoxanthum odoratum*, Sweet Vernal-grass  
*Arbutus unedo*, Irish Strawberry Tree  
*Arctotheca calendula*, Cape Weed  
*Aristea ecklonii*, Blue Stars  
*Asparagus scandens*, Asparagus Fern<sup>2014</sup>  
*Avena barbata*, Bearded Oat  
*Bellis perennis*, English Daisy  
*Billardiera fusiformis*, Bluebell Creeper  
*Briza maxima*, Large Quaking-grass  
*Briza minor*, Lesser Quaking-grass  
*Bromus catharticus*, Prairie Grass<sup>2006</sup>

Introduced species

- Cardamine hirsuta*, Common Bitter-cress  
*Cassinia sifton*, Sifton Bush  
*Catapodium rigidum*, Fern Grass  
*Cenchrus clandestinus*, Kikuyu Grass<sup>2006</sup>  
*Centaureum erythraea*, Common Centaury<sup>1985</sup>  
*Cerastium glomeratum* s.l., Common Mouse-ear Chickweed  
*Chlorophytum comosum*, Spider Plant<sup>2006</sup>  
*Coprosma repens*, Mirror-bush  
*Correa baeuerlenii*, Chef's Cap Correa  
*Correa glabra* var. *glabra*, Rock Correa<sup>2017</sup>  
*Correa hybrids*  
*Cotoneaster glaucophyllus*, Cotoneaster  
*Cotoneaster pannosus*, Cotoneaster<sup>2006</sup>  
*Crassula alata*, Three-part Crassula  
*Crassula multicava*, Shade Crassula<sup>2013</sup>  
*Dactylis glomerata*, Cocksfoot<sup>2013</sup>  
*Dipogon lignosus*, Common Dipogon<sup>2006</sup>  
*Ehrharta erecta*, Panic Veldt-grass  
*Ehrharta longiflora*, Annual Veldt-grass  
*Erigeron sumatrensis*, Fleabane  
*Eriobotrya japonica*, Loquat<sup>2013</sup>  
*Euphorbia lathyris*, Caper Spurge  
*Euphorbia peplus*, Petty Spurge  
*Fraxinus angustifolia*, Desert Ash  
*Freesia leichtlinii*, Freesia<sup>2014</sup>  
*Fumaria bastardii*, Bastard's Fumitory  
*Fumaria* sp., an unidentified fumitory<sup>2014</sup>  
*Galium aparine*, Cleavers  
*Gamochaeta purpurea*, Spiked Cudweed<sup>1999</sup>  
*Genista monspessulana*, Montpellier Broom  
*Gladiolus undulatus*, Wild Gladiolus  
*Grevillea hybrids and cultivars*<sup>2006</sup>  
*Hakea salicifolia*, Willow-leaf Hakea<sup>2006</sup>  
*Hedera helix/hibernica*, Ivy  
*Holcus lanatus*, Yorkshire Fog<sup>2006</sup>  
*Hypochaeris glabra*, Smooth Cat's Ear  
*Hypochaeris radicata*, Cat's Ear  
*Lactuca serriola*, Prickly Lettuce<sup>1999</sup>  
*Ligustrum lucidum*, Large-leafed Privet<sup>2013</sup>  
*Lolium perenne*, Perennial Rye-grass<sup>2013</sup>  
*Lonicera japonica*, Japanese Honeysuckle  
*Lysimachia arvensis*, Pimpernel  
*Medicago polymorpha*, Burr Medic  
*Oxalis articulata*, Bent Wood-sorrel<sup>1985</sup>  
*Oxalis incarnata*, Pale Wood-sorrel  
*Oxalis pes-caprae*, Soursob  
*Oxalis purpurea*, Large-flower Wood-sorrel<sup>1985</sup>  
*Pandorea pandorana*, Wonga Vine  
*Pinus radiata*, Monterey Pine<sup>2006</sup>  
*Pittosporum tenuifolium*, Kohuhu<sup>2013</sup>  
*Pittosporum undulatum*, Sweet Pittosporum  
*Plantago lanceolata*, Ribwort  
*Poa annua/infirma*, a meadow-grass<sup>2013</sup>  
*Polycarpon tetraphyllum*, Four-leafed Allseed<sup>2013</sup>  
*Prunella vulgaris*, Self-heal<sup>2006</sup>

Introduced species

*Prunus cerasifera*, Cherry-plum  
*Quercus robur*, English Oak  
*Ranunculus muricatus*, Sharp Buttercup  
*Romulea rosea*, Common Onion-grass  
*Rubus anglocandicans*, Blackberry  
*Solanum nigrum*, Black Nightshade  
*Soliva sessilis*, Jo Jo  
*Sonchus asper*, Rough Sow-thistle  
*Sonchus oleraceus*, Sow-thistle  
*Sparaxis tricolor*, Harlequin-flower  
*Sporobolus africanus*, Rat-tail Grass<sup>2006</sup>  
*Stellaria media*, Chickweed  
*Symphotrichum subulatum*, Aster-weed  
*Taraxacum* sect. *Taraxacum*, Garden Dandelion<sup>2013</sup>

Introduced species

*Tradescantia fluminensis*, Wandering Trad<sup>1985</sup>  
*Trifolium dubium*, Suckling Clover  
*Trifolium repens*, White Clover<sup>2013</sup>  
*Ulex europaeus*, Gorse (Furze)  
*Veronica arvensis*, Wall Speedwell  
*Veronica persica*, Persian Speedwell  
*Viburnum tinus*, Laurustinus  
*Vicia hirsuta*, Tiny Vetch  
*Vicia sativa*, Common Vetch<sup>2006</sup>  
*Viola odorata*, Common Violet  
*Vulpia bromoides*, Squirrel-tail Fescue  
*Vulpia myuros*, Rat's-tail Fescue  
*Zantedeschia aethiopica*, White Arum Lily

## Notes concerning some of the locally-threatened plant species

Information about significant plant species beyond what is provided below can be found in the author's report, 'Monitoring of Bushland Reserves in Knox – 2020 Review'.

Listed as Critically Endangered under Victorian law

*Platylobium infecundum* (a flat-pea) – approximately 37 plants counted in 2020, more than half of them in a band 2–12 m from the central third of the Harold St footpath., the rest in a band 20–40 m from that footpath.

Listed as Endangered under Victorian law

*Austrostipa rudis* subsp. *australis* (a subspecies of Veined Spear-grass) – 85 plants counted in 2020, concentrated in the reserve's north and northwest.

Locally threatened

*Acacia aculeatissima* (Thin-leaf Wattle) – only one recorded in 2020, compared with c. 9 in 2006.

*Acacia genistifolia* (Spreading Wattle) – Eight appeared after a fire in c. 2000, all of which died; now, the species is represented in the reserve only by eight planted plants.

*Cassinia trinerva* (Three-nerved Cassinia) – three counted in 2020, ten less than in 2013.

*Chamaescilla corymbosa* (Blue Stars) – last recorded prior to 1984.

*Correa reflexa* var. *reflexa* (Common Correa) – 42 counted in 2020, threatened by hybridisation with other *Correa* species and hybrids, including some that have been planted in the reserve.

*Cryptostylis subulata* (Large Tongue-orchid) – last recorded prior to 1982.

*Daviesia leptophylla* (Narrow-leaf Bitter-pea) – A single individual has been present for many years.

*Eucalyptus obliqua* × *macrorhyncha* (An uncommon hybrid) – One healthy individual was cut down in c. 2005 and a sickly one died during 2007–2013.

*Kennedia prostrata* (Running Postman) – New individuals appear after each fire and after thinning of shrubs and groundcover. The author's 2020 study found the largest number yet, with approximately 23 seen in the burn area of 4/4/18 (and others probably overlooked under dense saw-sedge) as well as a seven plants near the northwestern fence.

*Lyperanthus suaveolens* (Brown-beaks) – A colony of approximately seventeen plants was discovered in 2013 – perhaps the last surviving occurrence in Knox. A concerted search failed to find any in October 2020, when they should have been conspicuous, in flower.

*Pterostylis melagramma* (Tall Greenhood) – a stable population of typically ten.

*Pterostylis pedunculata* (Maroonhood) – Two healthy colonies were recorded in 2020.

*Thysanotus ?patersonii* (Twining Fringe-lily) – last recorded prior to 1984.

**Fauna habitat features**

- There are large eucalypts (including dead ones) with hollows that would suit habitation by birds, bats, possums or invertebrates;

- Logs on the ground provide cover for ground-dwelling native fauna such as lizards and invertebrates;
- The dense shrub layer suits many species of small birds (but the reserve's size and relative isolation from other habitat are not so suitable).

### 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).

#### *Regionally Threatened Ecological Vegetation Class*

Valley Heathy Forest listed as regionally Endangered and the representation in W.G. Morris Reserve easily meets the definition of a 'remnant patch' adopted by the standard criteria, i.e. a continuous area of at least 0.25 ha in which the cover of native understorey is at least 10% throughout. In addition, the habitat scores determined by the author for most of the reserve put the conservation significance of the vegetation in the Very High category under Appendix 3 of *Victoria's Native Vegetation Management – a Framework for Action* (NRE 2002a). These conditions translate to **State** significance under criterion 3.2.3 of Amos (2004).

#### *Threatened Plants*

The flat-pea, *Platylobium infecundum*, has a quite viable population in W.G. Morris Reserve. That species is listed under the *Flora and Fauna Guarantee Act* as Critically Endangered and it does not occur outside Victoria. As a result, the habitat provided for *Platylobium infecundum* qualifies for **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. As a result, the reserve's significance level has risen from State to National.

The author counted eighty-five individuals of the spear-grass, *Austrostipa rudis* subsp. *australis*, in the reserve in 2020. Since 2010, that subspecies became listed under the *Flora and Fauna Guarantee Act* as Endangered in Victoria. It also occurs interstate. Any known habitat for such a species meets criterion 3.1.2 for **State** significance.

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

### Threats

- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves, floods, fires and storms, as well as substantially lower rainfall (particularly in winter);
- Eucalypt dieback disease (which has been severe and is continuing, but appears not to be preventing a new canopy of younger trees). Eucalypt deaths will occur mainly during droughts, which are predicted to worsen as part of climate change;
- Deliberate cutting down of shrubs and trees, which has been a problem;
- Destruction of vegetation by young people to construct BMX tracks (as happened in 2024);
- Damage such as trampling from recreational activities;
- Displacement of indigenous flora and fauna by environmental weeds, exacerbated by debilitation of the native vegetation by the impacts of climate change. Arguably, the two most impactful species are *Clematis decipiens* and *Cassinia longifolia*, which are so dense that they are smothering vegetation in parts of the reserve. Among other species, the most important (but not the most abundant) species are Blue Stars (*Aristea ecklonii*), Montpellier Broom (*Genista monspessulana*), Pale Wood-sorrel and (*Oxalis incana*) and Soursob (*O. pes-caprae*);
- Loss or decline of plant species that are present in such small numbers that they are vulnerable to inbreeding, poor reproductive success or chance events such as BMX track construction or digging by dogs;
- Fires lit by vandals at too high a frequency or at a time of year that favours introduced plants and suppresses indigenous plants.

### Strategic planning

The previous (2010) edition of this report led to W.G. Morris Reserve being covered by Schedule 2 of the Environmental Significance Overlay (ESO2), based on the State significance (particularly the presence of some Valley Heathy Forest in excellent ecological condition). Since 2010, the main changes affecting the original basis

for applying ESO2 have been that: (a) the site's significance rating has risen to National as a result of *Platylobium infecundum* being scientifically described and then listed as Critically Endangered under Victorian law; and (b) the listing of the spear-grass, *Austrostipa rudis* subsp. *australis*, as Endangered under Victorian law. Despite those changes, no changes are recommended for ESO2.

### Information sources used in this assessment

- A plant list for the reserve compiled by botanists Ilma Dunn, David Albrecht and Dr Jim Willis, on 18th August 1984, as well as four herbarium specimens collected by Mr Albrecht and kept lodged at the National Herbarium of Victoria;
- Data from twenty-five quadrats, compiled by Andrew Paget in March 1985, as well as some herbarium specimens he lodged at the National Herbarium of Victoria;
- A list of plant species compiled by Gary Cheers, as reported by Paget (1985);
- A slightly different list presented by Western (1985) that was stated to be also based on Mr Cheers's observations;
- Data from a quadrat, compiled by Damien Cook on 24th November 1992;
- Vegetation monitoring data, as described in the Dr Lorimer's reports in the series, '*Monitoring of Bushland Reserves in Knox*', in 1999, 2002, 2007, 2014 and 2020. The reports were prepared for Knox City Council and each one contains:
  - For a monitoring plot (quadrat), a list of indigenous and introduced vascular plants accompanied by their abundances on a Braun-Blanquet scale;
  - Lists of plant species (indigenous and introduced) observed in the reserve as a whole;
  - Maps and assessments of the population sizes and distributions of plant species that are scarce or significant;
  - An assessment of environmental weed impacts and other matters affecting vegetation management;
  - A list of fauna observed incidentally; and
  - A series of photographs from seven fixed points, highlighting aspects of the reserve's vegetation;
- Site inspections totalling approximately seven hours by Dr Lorimer between 30/4/04 and 19/5/04 for the first edition of this report;
- More extensive ecological data, including habitat scores and fine-scale vegetation condition mapping, compiled for '*2007 Bushland Management Plan for W.G. Morris Reserve, Wantirna*' (Lorimer 2007b);
- A one-hour inspection of the site by Dr Lorimer on 22nd August 2024, checking for any significant changes in features relevant to this report since his 2020 monitoring study and mapping some of the significant plant species;
- Records of flora and fauna observations stored in the Knox City Council's biodiversity database;
- 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.