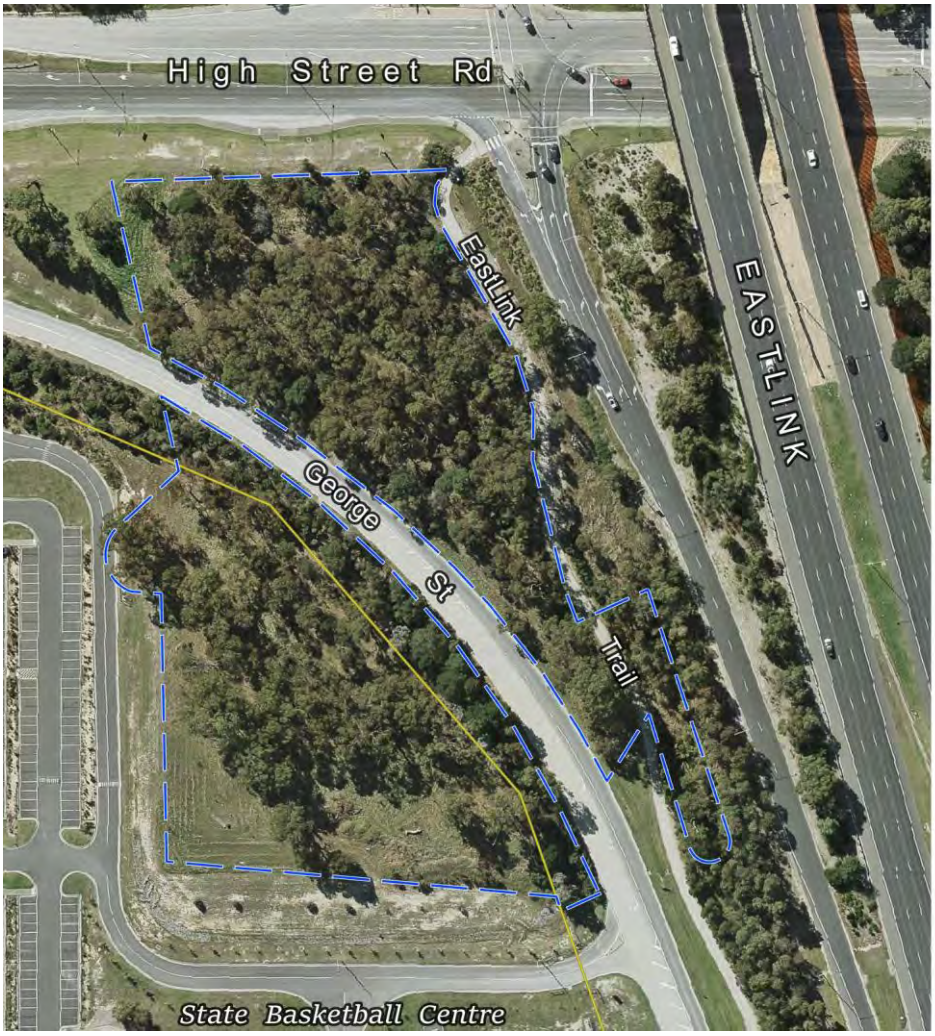
Site 98. Treed Paddock, High Street Rd, Wantirna Sth

Parts of what was a treed paddock until it became dissected by EastLink and a new alignment of George St.

Summary of significant features:

- State significance: a patch of the regionally-endangered vegetation type, Valley Heathy Forest;
- State significance: dozens of the spear-grass, *Austrostipa rudis* subspecies *australis*, which is listed as Endangered under Victorian law;
- Locally significant: viable populations of plant species threatened with dying out in Knox.



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0 10 20 30 40 50 m

Legend
Properties
Site 98

Boundaries

This 1.85 ha site comprises the two areas outlined with blue dashes on the aerial photograph. There are no property boundaries to define the site but fence lines, pavements and the tops of batters have been used where reasonable to do so. The excluded strip along George St extends between the road's kerbs.

Compared with the previous (2010) edition of this report, the site has been expanded slightly along its southern edge to encompass several previously-overlooked locally-threatened plant species (sun-orchids and sheep's-burrs). Also, the kerbside boundaries have been refined with the benefit of aerial photographs taken since the completion of EastLink and George Street's realignment.

Land use & tenure: Public land, used for nature conservation, a road (George St) and 30 m of the EastLink Trail.

Site description

This site was a treed paddock at the time of the first edition of this report in 2004. It had been extensively grazed for decades, leaving predominantly introduced groundcover and hardly any shrubs. The eucalypt crowns now touch each other but a 1979 aerial photograph shows only sparse, young trees (very few reaching 10 m crown diameter, with average separation c. 15 m).

In 2006, the construction of EastLink and the Eastlink Trail destroyed almost 1 ha of the original site and the associated construction of George St in its new alignment destroyed an additional 0.35 ha, bisecting the site.

Despite this history, most of the site retains a fairly natural density of eucalypts and tall wattles that are remnants of the original Valley Heathy Forest vegetation. Four trees of Cherry Ballart (*Exocarpos cupressiformis*) have colonised the site, having been absent in 2004 and 2008, when the only two botanical surveys prior to 2024 were done. Very few wild, indigenous shrubs remain other than the very hardy Sweet Bursaria (*Bursaria spinosa*) but two plants of Grey Parrot-pea (*Dillwynia cinerascens*) have regenerated and a solitary Tree Violet (*Melicytus dentatus*) has colonised from a nearby stand. A small amount of remnant groundcover has persisted, such as Small Poranthera (*Poranthera microphylla*), Trim Sun-orchid (*Thelymitra peniculata*) and native grasses. Given the site's history, it is surprising to find that the site retains a viable population of the spear-grass, *Austrostipa rudis* subsp. *australis*, which is listed as Endangered under Victorian law. The presence of these species suggest that the soil probably retains a seed-bank of additional indigenous plant species that could be regenerated by fire.

The batters one each side of George St have mostly been heavily planted with indigenous shrubs and trees.

Relationship to other land

It is unclear how much wildlife traffic now occurs between this site and the Blind Creek habitat corridor now that EastLink and the State Basketball Centre have been constructed. There must be some traffic because the abovementioned Tree Violet and Cherry Ballarts must have germinated from seeds carried by birds from nearby native vegetation. There is also likely to be continuing traffic of bats and flying insects such as butterflies.

Bioregion: Gippsland Plain

Habitat type

Valley Heathy Forest (EVC 127, **Endangered**): The areas with a full tree canopy are estimated to measure 0.5 ha on each side of George St. Approximately 0.1 ha is in fair ecological condition (rating C) and the remainder is in poor ecological condition (rating D).

Canopy trees: Dominated by *Eucalyptus goniocalyx* and similarly-tall *Acacia mearnsii*. Also present are *E. cephalocarpa* and *E. ovata*.

Sub-canopy trees: Dominated mostly by *Acacia mearnsii* but with a patch dominated by *A. melanoxylon*. *Exocarpos cupressiformis* has arrived in recent years, now represented by four individuals.

Shrubs: Severely depleted by past clearing, grazing and slashing. *Bursaria spinosa* and two plants of *Dillwynia cinerascens* are present, plus a solitary *Melicytus dentatus*.

Scrambler: A solitary *Hardenbergia violacea* was found in 2008 but not in 2024.

Groundcover: Predominantly pasture species and weeds except for regenerating patches dominated by *Rytidosperma fulvum, Microlaena stipoides* and *Austrostipa rudis*. Opportunistic indigenous species are well represented, with many *Senecio hispidulus* and a few *Senecio quadridentatus* and *Juncus pallidus*. *Oxalis exilis/perennans* is scattered thinly. The southwest retains small numbers of *Acaena* ?*echinata, Schoenus apogon* and *Thelymitra peniculata*.

Plant species

The following plant species were observed by the author in his botanical surveys of 22nd January 2004, 10th March 2008 or 31st August 2024. Indigenous species not seen in 2024 are indicated by asterisks if seen in 2008 or daggers if not seen since 2004. The introduced species in the list exclude those believed to be no longer present. Additional indigenous species would probably be detectable in spring. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox, with 'E'=Endangered and 'V'=Vulnerable. In addition, *Austrostipa rudis* subsp. *australis* is listed as Endangered under Victorian law.

Indigenous mosses and liverworts

Campylopus introflexus, Heath Star Moss
Chiloscyphus semiteres, Green Worms
Hypnum cupressiforme, Common Hypnum
Rosulabryum billarderi, Common Thread-moss

Risk Wild indigenous vascular species

E *Acacia aculeatissima*, Thin-leaf Wattle*
V *Acacia mearnsii*, Black Wattle
V *Acacia melanoxylon*, Blackwood
V *Acacia pycnantha*, Golden Wattle (perhaps planted)
V *Acaena* ?*echinata*, Sheep's Burr
Acaena novae-zelandiae, Bidgee-widgee†
V *Austrostipa rudis* subsp. *australis*, Veined Spear-grass
Austrostipa rudis subsp. *rudis*, Veined Spear-grass
Bursaria spinosa, Sweet Bursaria
Clematis decipiens, a small-leafed clematis
V *Dillwynia cinerascens*, Grey Parrot-pea
E *Eucalyptus cephalocarpa*, Mealy Stringybark
V *Eucalyptus goniocalyx*, Bundy
V *Eucalyptus ovata*, Swamp Gum
E *Eucalyptus radiata*, Narrow-leaved Peppermint†
Eucalyptus hybrids
V *Exocarpos cupressiformis*, Cherry Ballart
Goodenia ovata, Hop Goodenia
E *Hardenbergia violacea*, Purple Coral-pea*
Juncus gregiflorus, Green Rush*
Juncus pallidus, Pale Rush
E *Juncus subsecundus*, Finger Rush*
Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush†
Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush†
Lomandra longifolia, Spiny-headed Mat-rush†
V *Melicytus dentatus*, Tree Violet
Microlaena stipoides, Weeping Grass
Oxalis exilis/perennans, Wood-sorrel
Poranthera microphylla, Small Poranthera
Rytidosperma fulvum, Leafy Wallaby-grass

Risk Wild indigenous vascular species

Rytidosperma penicillatum, Slender Wallaby-grass
Rytidosperma racemosum, Clustered Wallaby-grass†
Rytidosperma tenuius, Purplish Wallaby-grass†
Schoenus apogon, Common Bog-rush
V *Senecio glomeratus*, Annual Fireweed
Senecio hispidulus, Rough Fireweed
Senecio quadridentatus, Cotton Fireweed
V *Solanum laciniatum*, Large Kangaroo Apple
E *Thelymitra peniculata*, Trim Sun-orchid
V *Veronica gracilis*, Slender Speedwell*

Introduced species

Agrostis capillaris, Brown-top Bent
Anthoxanthum odoratum, Sweet Vernal-grass
Avena barbata, Bearded Oat
Briza maxima, Large Quaking-grass
Bromus diandrus, Great Brome
Cassinia sifton, Sifton Bush
Cirsium vulgare, Spear Thistle
Cynodon dactylon, Couch
Dactylis glomerata, Cocksfoot
Dianella sp., a flax-lily (planted & offspring)
Ehrharta erecta, Panic Veldt-grass
Genista linifolia, Flax-leafed Broom
Genista monspessulana, Montpellier Broom
Hedera helix/hibernica, Ivy
Holcus lanatus, Yorkshire Fog
Hypochaeris radicata, Cat's Ear
Malus pumila, Domestic Apple
Paspalum dilatatum, Paspalum
Pittosporum undulatum, Sweet Pittosporum
Plantago lanceolata, Ribwort
Prunus cerasifera, Cherry-plum
Romulea rosea, Common Onion-grass
Rosa rubiginosa, Sweet Briar
Rubus anglocandicans, Blackberry
Sonchus oleraceus, Sow-thistle
Ulex europaeus, Gorse (Furze)

Notes concerning some of the significant plant species

Listed as Endangered under Victorian law

Austrostipa rudis subsp. *australis* (a subspecies of Veined Spear-grass). Moderate numbers near High Street Rd, and possibly more widespread but unable to be confirmed during the 2024 survey, which was at the worst time of year for detection of this species.

Locally threatened

Acacia aculeatissima (Thin-leaf Wattle). The only plant found in 2008 was not present in 2024. Others may regenerate with fire.

Acaena ?*echinata* (Sheep's Burr). A cluster of plants near the middle of the site's southern edge have hairier leaf undersides than normal for *Acaena echinata* but its discovery in 2024 was at a time of year (August)

when no fertile material was available to determine whether the plants belong to *A. ovina* or *A. agnipila*. Neither of the alternatives have been reliably recorded in Knox.

Thelymitra peniculata (Trim Sun-orchid): Very few seen, 35 m east of the site's southeast corner.

A hybrid eucalypt that may have involved parentage of *Eucalyptus yarraensis* has been removed since 2008. It might have been of some significance if that parentage were to have been confirmed. *Eucalyptus yarraensis* is nationally Critically Endangered but the significance of a hybrid is much lower.

Fauna habitat features

The tree canopy provides habitat for native forest birds, as identified in the EES for the Scoresby Transport Corridor (which subsequently became EastLink). It is also likely habitat for native microbats. The trees and shrubs also provide habitat for invertebrates.

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

The EES for the Scoresby Transport identified that this site was used by native forest birds in their movements around the landscape. Criterion 1.3 of Amos (2004) assigns **Local** significance to a 'Site (or one of a group of such sites) to form a strategic corridor of local importance and scale', which is believed to apply in this case. If this becomes an important matter, the continued role of the site for faunal movements could be checked by a specialist ecologist.

Regionally Threatened Ecological Vegetation Class

Part of the site's vegetation northeast of George St (midway along its length) just meets the definition of a 'remnant patch' adopted by the standard criteria, i.e. a continuous area of at least 0.25 ha that has a minimum of 10% cover of native understorey throughout. Valley Heathy Forest is a regionally-endangered EVC. According to *'Victoria's Native Vegetation Management – A Framework for Action'* (NRE 2002a), remnant patches of native vegetation belonging to a regionally-endangered EVC have a conservation significance rating of either High or Very High, depending on their ecological condition. In either case, standard criterion 3.2.3 of Amos (2004) translates the significance level to **State**.

Threatened Plant Species

The spear-grass, *Austrostipa rudis* subsp. *australis*, is listed under the *Flora and Fauna Guarantee Act* as Endangered in Victoria. (It was not listed at the time of the previous edition of this report.) It also occurs interstate. The population size in Site 98 is uncertain but clearly insufficient to be regarded as an 'important population' for the purposes of the standard criteria. In this situation, criterion 3.1.2 assigns **State** significance to the habitat.

At least three of the site's locally threatened tree 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 and storms, as well as substantially lower rainfall (particularly in winter);
- Further decline of the health of the site's trees, partly due to the abovementioned droughts and storms;
- Displacement of indigenous flora by environmental weeds, particularly Small-leaf Clematis (*Clematis decipiens*), Montpellier Broom (*Genista monspessulana*), Kikuyu Grass (*Cenchrus clandestinus*), Cocksfoot (*Dactylis glomerata*) and Sweet Vernal-grass (*Anthoxanthum odoratum*);
- Loss or decline of plant species that have such small populations that they are vulnerable to inbreeding, poor reproductive success or chance events such as being struck by a falling tree limb.

Strategic planning

- The previous (2010) edition of this report led to this site (with slightly different boundaries) being covered by Schedule 2 of the Environmental Significance Overlay (ESO2). That edition cited the reserve's State significance associated with the regionally-endangered EVC. Since 2010, the only material change affecting

the justification for applying ESO2 is that the listing of *Austrostipa rudis* subsp. *australis* as Endangered has raised one more of the site's natural asset to the level of State significance. ESO2 remains an appropriate strategic planning measure. The only recommendation for change is to slightly amend the ESO2 boundary to match the one adopted here;

- Each half of the site is larger than 0.4 ha and therefore does not qualify for the size-based exemption from the state-wide baseline planning controls over removal of native vegetation (clause 52.17);
- The land is zoned 'Public Park and Recreation' southwest of the property boundary within the site and 'Transport Zone 2 – Principal Road Network' (TRZ2) in the rest of the site.

Information sources used in this assessment

- A botanical survey of the northern end of the site by Dr Lorimer on 11/9/97 for the report, *'A Survey and Management Plan for Significant Vegetation of Roadsides in Knox'* by G.S. Lorimer for Knox City Council (May 1998, 137 pp.);
- The 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), in which part of this site is labelled as 'Site 5';
- A report, *'Assessment of Native Vegetation on the Mitcham to Frankston Freeway Alignment in Knox'*, by Dr Lorimer in July 2003 for Knox City Council;
- An ecological survey by Dr Lorimer on 22/1/04 for the first edition of this report, including:
  - Compilation of a list of indigenous and introduced plants;
  - A description of the vegetation's structural and floristic composition;
  - Incidental fauna observations; and
  - Checks for fauna habitat, ecological threats and management issues;
- Similar data for the second edition of this report, gathered by Dr Lorimer on 10/3/08 following completion of works for George St and EastLink, including compilation of species lists for each side of George St;
- An inspection of the site by Dr Lorimer on 12th August 2024, recording and mapping indigenous plant species and noting other features relevant to this report;
- 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.