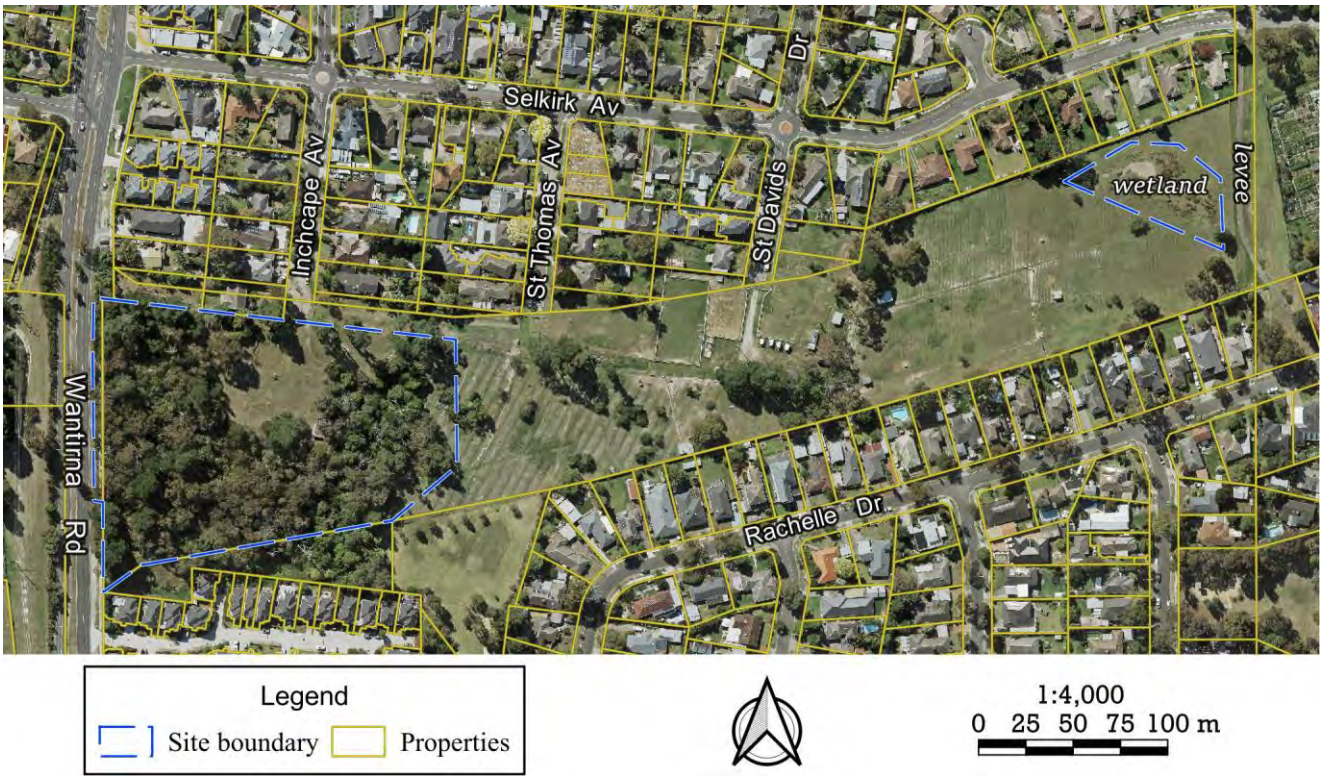
Site 48. Healesville Freeway Reservation, Wantirna

A section of grazed VicRoads land on the proposed route of the Healesville Freeway, between Wantirna Rd and J.W. Manson Reserve.

Summary of significant features:

- State significance: a patch of the regionally-endangered vegetation type, Valley Heathy Forest;
- Locally significant: viable populations of plant species that are threatened with dying out in Knox;
- Locally significant: an ecological stepping-stone between Sites 47 and 49;
- Wetland habitat for waterbirds and frogs, even on cleared, grazed land.



Boundaries

The site's two sections are outlined with blue dashes above. The western section measures 2.22 ha, including native vegetation on the nature strip of Wantirna Rd. The eastern section of the site measures 0.26 ha and contains a wetland plus a buffer of typically several metres around the wetland.

The previous (2010) edition of this report was a single polygon including the two polygons above and 3 ha between them. The excision of 3 ha is because much of the native vegetation there has died, apparently due partly to the Millennium Drought and partly due to heavy grazing.

Note: Some sections of the site could only be inspected from a distance.

Land use & tenure: VicRoads land reserved for the Healesville Freeway but presently used for agistment of horses.

Site description

Western polygon

Within the site's western polygon, the slope faces eastwards, falling from 105 m beside Wantirna Rd to 93 m at the eastern end of the polygon. The slope is moderate (10%) next to Wantirna Rd and abates to 2½% in the east.

The soil in this polygon is pale clay loam over clay subsoil, derived from Upper Silurian sediments of the Melbourne (formerly Dargile) formation.

The polygon is mostly covered with the regionally-endangered type, Valley Heathy Forest, modified by the presence of large Monterey Pines (*Pinus radiata*), dense patches of Sweet Pittosporum (*Pittosporum undulatum*) and scattered plants of the declared noxious weeds, Boneseed (*Chrysanthemoides monilifera*), Montpellier Broom (*Genista monspessulana*), blackberry (*Rubus anglocandicans*) and Gorse (*Ulex europaeus*). Despite the large adverse impact that those six species usually have on local native vegetation, there remains a diverse canopy of remnant eucalypts (six species) and a surprising range of remnant understorey species, including abundant Chocolate Lilies (*Arthropodium strictum*) and substantial numbers of the sensitive species, Love Vine (*Comesperma volubile*).

A small amount of effort to control the five abovementioned introduced species would probably allow the Valley Heathy Forest to return to a fairly natural state except where heavy grazing is occurring.

Eastern polygon

The wetland in the site's eastern polygon has resulted from the construction of the flood levee marked on the aerial photograph. Although its origins are unnatural, it is fully vegetated with wild, indigenous wetland plants, brought in by wind and the many waterbirds attracted to the wetland.

The wetland is subjected to substantial pugging and grazing by horses.

Relationship to other land

The much larger area of native vegetation in the Bateman Street Bush (Site 49) is about 100 m away, on the other side of Wantirna Rd. It is another part of the proposed freeway route. There is some fragmented eucalypt cover southwest of Bateman Street Bush, providing birds and flying insects with a route between the freeway reservation and Koomba Park (part of Site 58). In the opposite direction, J.W. Manson Reserve lies 150 m north of the freeway reservation site's wetland, beside Dandenong Ck. Some birds and flying insects are likely to move between these sites, dispersing pollen and seeds.

There is regenerating native vegetation on the batter of the cutting on the western side of Wantirna Rd. It is too small in extent to warrant inclusion within one of the sites in this report but it does have a small degree of biological significance because of its position on the habitat corridor along the proposed route of the Healesville Freeway.

There is little habitat in the surrounding residential and commercial areas, even allowing for mature planted eucalypts that are not locally indigenous.

Bioregion: Gippsland Plain

Habitat types

Valley Heathy Forest (EVC 127, **regionally Endangered**): 1.6 ha in total, of which approximately 1 ha is in fair ecological condition (rating C) and 0.6 ha is in poor ecological condition (rating D).

Canopy trees: Dominated by varying mixtures of *Eucalyptus cephalocarpa*, *E. goniocalyx* and *E. macrorhyncha*, with scattered *E. radiata* and at least one *E. viminalis*.

Sub-canopy trees: Dominated by *Acacia mearnsii*, also with substantial numbers of *A. melanoxylon* and *Exocarpos cupressiformis*. The introduced *Pittosporum undulatum* is abundant.

Shrubs: *Bursaria spinosa* is fairly dense towards Wantirna Rd, accompanied by *Acacia paradoxa*, *Coprosma quadrifida*, *Daviesia latifolia* and *Kunzea* sp. (Upright form). Woody environmental weeds are moderately dense.

Vines: *Comesperma volubile* and *Pandorea pandorana* are fairly abundant in a small part of the Valley Heathy Forest. *Cassytha melantha* is scarce. Introduced creepers and climbers such as ivy are abundant, particularly under *Pittosporum undulatum*.

Ferns: None seen.

Groundcover: The sunniest patches of groundcover are dominated by *Microlaena stipoides* and abundant *Rytidosperma racemosum*. *Gahnia radula* is dominant in some other areas. *Arthropodium strictum* is abundant in small parts of the Valley Heathy Forest. Other indigenous groundcover species that are fairly

abundant include *Austrostipa rudis*, *Dianella longifolia, Dichondra repens, Gonocarpus tetragynus, Lomandra filiformis* subsp. *coriacea* and *Lomandra longifolia* (both subspecies).

Seasonal Wetland (part of EVC 74, **regionally Endangered**): 1,400 m², all in fair ecological condition (rating C).

Trees, shrubs, vines and ferns: Absent.

Aquatic and semi-aquatic flora: At different times, the wetland has been seen to be dominated by *Juncus sarophorus, Persicaria decipiens* and/or *Typha domingensis*. *Alisma plantago-aquatica, Crassula helmsii* and *Eleocharis acuta* are also abundant when conditions are right.

Plant species

The following indigenous plant species were observed either by the author on 2nd August 2024 or Rik Brown on 15th May 2002, the latter category being denoted by asterisks. Inaccessibility meant that neither inspection was thorough. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox, with 'C'=Critically endangered, 'E'=Endangered, 'V'=Vulnerable and 'N'=Near threatened. Additional species would no doubt be detectable in other seasons.

Risk	Wild indigenous species
	Valley Heathy Forest
	Acacia dealbata, Silver Wattle*
V	*Acacia mearnsii*, Black Wattle
V	*Acacia melanoxylon*, Blackwood
	Acacia paradoxa, Hedge Wattle
E	*Acrotriche serrulata*, Honey-pots
V	*Allocasuarina littoralis*, Black Sheoak
	Arthropodium strictum, Chocolate Lily
	Austrostipa rudis subsp. *rudis*, Veined Spear-grass
	Bursaria spinosa, Sweet Bursaria
	Cassinia longifolia, Shiny Cassinia*
E	*Cassytha melantha*, Coarse Dodder-laurel
E	*Cassytha pubescens*, Downy Dodder-laurel*
E	*Comesperma volubile*, Love Creeper
V	*Coprosma quadrifida*, Prickly Currant-bush
C	*Daviesia latifolia*, Hop Bitter-pea
	Dianella longifolia var. *longifolia*, Pale Flax-lily
	Dianella revoluta, Black-anther Flax-lily
	Dichondra repens, Kidney-weed
C	*Epacris impressa*, Common Heath*
E	*Eucalyptus cephalocarpa*, Mealy Stringybark
V	*Eucalyptus goniocalyx*, Bundy
C	*Eucalyptus macrorhyncha*, Red Stringybark
E	*Eucalyptus melliodora*, Yellow Box
E	*Eucalyptus radiata*, Narrow-leaved Peppermint
C	*Eucalyptus viminalis* subsp. *viminalis*, Manna Gum
V	*Exocarpos cupressiformis*, Cherry Ballart
C	*Gahnia radula*, Thatch Saw-sedge

Risk	Wild indigenous species
	Gonocarpus tetragynus, Common Raspwort
V	*Hydrocotyle hirta*, Hairy Pennywort*
C	*Imperata cylindrica*, Blady Grass*
	Juncus amabilis, Hollow Rush
	Kunzea sp. (Upright form), Forest Burgan
E	*Lagenophora adenosa/stipitata*, a bottle-daisy*
	Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush
	Lomandra longifolia subsp. *exilis*, Cluster-headed Mat-rush
	Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush
	Microlaena stipoides, Weeping Grass
	Oxalis exilis/perennans, Wood-sorrel
	Pandorea pandorana, Wonga Vine
E	*Poa labillardierei*, Common Tussock-grass
	Poa morrisii, Soft Tussock-grass
	Rytidosperma racemosum, Clustered Wallaby-grass
	Tricoryne elatior, Yellow Rush-lily
E	*Viola hederacea*, Ivy-leaf Violet*
	Wetland
N	*Alisma plantago-aquatica*, Water Plantain*
V	*Crassula helmsii*, Swamp Crassula
V	*Eleocharis acuta*, Common Spike-rush
E	*Juncus procerus*, Tall Rush*
	Juncus sarophorus, Broom Rush
	Persicaria decipiens, Slender Knotweed
E	*Persicaria hydropiper*, Water-pepper*
	Typha domingensis, Cumbungi*

Fauna of special significance

None recorded during field surveys, but significant birds associated with the nearby Dandenong Creek and its floodplain (e.g. Eastern Great Egret) are likely to be visitors.

Fauna habitat features

Remnant trees and understorey vegetation within the site's western polygon provide habitat for forest and woodland birds, including potential nesting sites for small birds within shrubs. The site provides a habitat refuge for birds in an area where other remnant vegetation is scarce.

Waterbirds forage in the wetland and wet areas of the surrounding paddocks. The wetland supports substantial populations of frogs. Smaller birds of prey, particularly Black-shouldered Kites, hunt along cleared parts of the freeway reservation.

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

Positioned between J.W. Manson Reserve (Site 47) and the Bateman Street Bush (Site 49), Site 52 fits the description in criterion 1.2.6 of Amos (2004) of a 'Corridor or component of 'stepping stones' … Local scale link between individual remnant habitat blocks or within subcatchment'. **Local** significance applies to sites meeting this description.

Regionally Endangered Ecological Vegetation Classes

It appears (without having full access to the site) that part of the Valley Heathy Forest meets the definition of a 'remnant patch' adopted by the standard criteria, i.e. a continuous area of at least 0.25 ha with at least 10% native understorey cover throughout. As Valley Heathy Forest is regionally endangered, Appendix 3 of *Victoria's Native Vegetation Management – a Framework for Action* (NRE 2002a) gives any remnant patch of it a conservation significance rating of at least High conservation significance. This, in turn, translates to **State** significance under standard criterion 3.2.3.

Locally-threatened plant species

Some of the locally-threatened plant species listed above (e.g. *Comesperma volubile*) have viable populations, thereby meeting criterion 3.1.5 for **Local** significance.

Threats

- Potential future freeway construction, which would inevitably destroy most (probably all) of the site's environmental significance;
- Displacement of indigenous flora and fauna by environmental weeds, exacerbated by debilitation of the native vegetation by the impacts of climate change. The most impactful species of environmental weeds appear to be those discussed above in the section headed 'Site description', as well as ivy and Japanese Honeysuckle;
- 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);
- Grazing horses, causing pugging, trampling, altered nutrient cycling, eating of indigenous plants, prevention of establishment of new generations of indigenous plants, and proliferation of environmental weeds due to selective feeding;
- Dieback of remnant trees, particularly as a result of competition from pines and Sweet Pittosporums. The impact will be greatest during times of drought;
- 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

Some of the most impactful environmental weeds are listed as regionally controlled under the *Catchment and Land Protection Act 1994*, with an obligation for them to be controlled. That does not include the pines or Sweet Pittosporums, which are causing greater ecological impact.

Strategic planning

- The previous (2010) edition of this report led to its larger version of this site being covered by Schedule 2 of the Environmental Significance Overlay (ESO2), due to the State significance of the EVCs. More than half the 2010 version of the site has been excised here (see p. 327) but the remaining two polygons still have the

same EVCs and in very similar condition. The only recommended amendment to the overlay is to change its boundaries to match the ones adopted here. However, such an amendment would have little practical effect and is therefore not urgent;

- Schedule 1 of the Vegetation Protection Overlay (VPO1) covers a wedge of pasture (and one residence) abutting the northern edge of Site 48's western polygon. There appears to be no reason to retain that overlay. Any vestiges of native vegetation would still be subject to the state-wide baseline planning controls over removal of native vegetation (clause 52.17);
- The irregularly-shaped lot abutting the southern edge of the site's western polygon (305 Wantirna Rd) contains vestiges of Valley Heathy Forest. It has been left out of the site in the knowledge that its native vegetation is still subject to the state-wide baseline planning controls over removal of native vegetation;
- The land is zoned Transport Zone 2 – Principal Road Network (TRZ2).

Information sources used in this assessment

- An ecological survey by Rik Brown on 15/5/02 for the first edition of this report. This included descriptions of the composition and condition of the vegetation types, compilation of lists of indigenous and introduced plant species for each type, incidental fauna observations, and checks for fauna habitat, ecological threats, management issues and populations of scarce or threatened plant species;
- A brief inspection of the site by Dr Lorimer on 2nd August 2024 for this edition;
- 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.