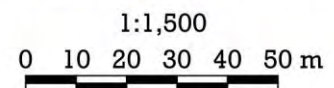
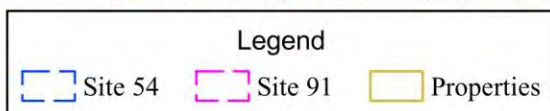


Site 54. Stringybark Reserve, Wantirna

Small Council bushland reserve in two sections separated by Petalnina Dr.

Summary of significant features:

- State significance: a small example of the regionally-endangered vegetation type, Valley Heathy Forest;
- Locally significant: viable populations of some plant species that are threatened with dying out in Knox.



Boundaries

This site comprises the two parts outlined with blue dashes above. The northeastern part measures 0.15 ha and its boundary corresponds to property boundaries. The southwestern part measures 0.37 ha and includes the fenced reserve and a disused section of road reserve that provides pedestrian access between Koomba Rd and Mountain Hwy. The magenta dashes are the boundaries of Site 91, for context. The previous (2010) edition of this report only included the eastern 60% (roughly) of the disused road reservation.

Land use & tenure: Mostly fenced and locked council reserve, for nature conservation, but the road reserve is used for pedestrian access and nature conservation.

Site description

Council obtained these two small remnants of a formerly larger area of bushland as part of the subdivision of the adjoining residential estate two decades ago. Council is rehabilitating the native vegetation by intensive management. The reserve is not open to the public while this is occurring.

The bedrock is Upper Silurian sandstone of the Melbourne (formerly Dargile) formation, which has weathered to form clay subsoil and pale clay loam topsoil. The Melbourne formation forms a low ridge and the reserve is situated on the northwestern side, 200 m from the ridge crest. Elevations are approximately 108–113 m.

Southwest of Petalnina Drive, the shallow slope (4–5% gradient) faces west. Northeast of Petalnina Drive, the slope faces northwest and has a gradient averaging 10% due to earthworks long ago. The earthworks were to give Mountain Hwy an even grade. Consequently, the part of the site northeast of Petalnina Drive (but not the other) receives runoff from Mountain Hwy and its soil profile is much more heavily modified from a natural state.

Development of the Petalnina Drive residential estate around 2000 resulted in dumping of unwanted earth into the site and creation of a rough vehicle track each side of the road.

A 1946 aerial photograph shows young regrowth forest over the site except for a vehicle track parallel to (and slightly north of) Koomba Rd. A 1979 aerial photograph shows that a strip along the site's northern periphery was cleared and the rest of the site had a patchy cover of young regrowth.

Today, the former vehicle track has fairly dense indigenous shrubs over weedy groundcover and the northern, formerly cleared strip has few indigenous plants. Elsewhere, the site's eucalypts are very variable in age and far denser than can reach maturity, so they are suffering from unnatural levels of inter-competition and some of them will die as the canopy matures (particularly during drought). There is one very large Messmate Stringybark (*Eucalyptus obliqua*), not far from the gate southwest of Petalnina Drive.

The ecological assaults the site has suffered have left the native vegetation's ecological condition rather patchy. Nevertheless, for such a small area, there is a surprising range of indigenous plant species, particularly southwest of Petalnina Drive. The mix of species is quite characteristic of drier forms of the regionally-endangered vegetation type, Valley Heathy Forest, dominated variously by Yellow Box (*Eucalyptus melliodora*) or Red Stringybark (*Eucalyptus macrorhyncha*). That form of Valley Heathy Forest is the same as at nearby W.G. Morris Reserve (Site 55) and different from the form dominated by Mealy Stringybark (*Eucalyptus cephalocarpa*) at the Bateman Street Bush (Site 49). The latter drains slower and has greater soil moisture.

Council's intensive management of the vegetation in Stringybark Reserve has successfully fostered natural regeneration of some indigenous plants while some others have died out since the previous (2002) botanical survey. One explanation for the lost species is that so few individuals of them were left within the small area of retained habitat that reproduction became unviable.

Council's bush crew has selectively thinned some unnaturally dense stands of certain plant species that were favoured by the history of soil disturbance and clearing. The former vehicle tracks have regenerated particularly well with indigenous wildflower species that only occur in Knox's most intact native vegetation.

Because of council's efforts, the prevalence of introduced plant species has markedly declined in most of the site over the 22 years since the author's first botanical survey there. 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 Hedge Wattle (*Acacia paradoxa*) and Sweet Bursaria (*Bursaria spinosa*) are also very unnaturally dense.

The disused section of the Koomba Rd road reservation has been extensively revegetated since the previous (2010) edition of this report. All of it is now worthy of inclusion within the site, as buffer habitat.

Relationship to other land

Stringybark Reserve is fairly isolated from other bushland. Birds and insects would generally be able to fly between Stringybark Reserve, Morris Reserve (Site 55, 350 m to the southeast) and Koomba Park (part of Site 58, 850 m west). Native vegetation along neighbouring parts of Mountain Hwy (part of Site 91) can be seen on the aerial photograph and may assist fauna movements to and from Stringybark Reserve. The great diversity of

Risk Wild indigenous vascular species

- V *Drosera aberrans*, Scented Sundew*
- V *Drosera auriculata*, Tall Sundew
- C *Epacris impressa*, Common Heath (The pink-flowered ones have been planted.)
- Eragrostis brownii*, Common Love-grass*
- 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
- Euchiton japonicus*, Creeping Cudweed
- V *Exocarpos cupressiformis*, Cherry Ballart
- C *Gahnia radula*, Thatch Saw-sedge
- 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 *Hypericum gramineum*, Small St John's Wort
- C *Indigofera australis*, Austral Indigo*
- Juncus pallidus*, Pale Rush†
- C *Kennedia prostrata*, Running Postman*
- Kunzea leptospermoides*, Yarra Burgan†
- Lachnagrostis filiformis*, Common Blown-grass*
- V *Lagenophora sublyrata*, Slender Bottle-daisy
- Lepidosperma gunnii*, Slender Sword-sedge*
- Lomandra filiformis* subsp. *coriacea*, Wattle Mat-rush
- Lomandra longifolia* subsp. *longifolia*, Spiny-headed Mat-rush
- V *Luzula meridionalis*, Common Woodrush
- Microlaena stipoides*, Weeping Grass
- V *Microtis parviflora*, Slender Onion-orchid
- C *Muellerina eucalyptoides*, Creeping Mistletoe (dead)*
- V *Opercularia varia*, Variable Stinkweed
- Oxalis exilis/perennans*, Wood-sorrel
- E *Pimelea humilis*, Common Rice-flower
- E *Platylobium obtusangulum*, Common Flat-pea
- Poa morrisii*, Soft Tussock-grass
- Poranthera microphylla*, Small Poranthera
- Pteridium esculentum*, Austral Bracken
- Rytidosperma fulvum*, Leafy Wallaby-grass
- E *Rytidosperma pallidum*, Red-anther (or Silvertop) Wallaby-grass*
- Rytidosperma penicillatum*, Slender Wallaby-grass*

Risk Wild indigenous vascular species

- 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 *Spyridium parvifolium*, Australian Dusty Miller*
- E *Stackhousia monogyna/subterranea*, Candles*
- C *Thelymitra ?brevifolia*, Peppertop Sun-orchid
- E *Thelymitra ?peniculata*, Trim Sun-orchid
- Themeda triandra*, Kangaroo Grass
- E *Viola hederacea*, Ivy-leaf Violet
- E *Xanthorrhoea minor*, Small Grass-tree*

Introduced species

- Acacia baileyana*, Cootamundra Wattle
- Agapanthus praecox*, Agapanthus
- Agrostis capillaris*, Brown-top Bent
- Anthoxanthum odoratum*, Sweet Vernal-grass
- Briza maxima*, Large Quaking-grass
- Cassinia sifton*, Sifton Bush
- Cenchrus clandestinus*, Kikuyu Grass
- Centaureum erythraea*, Common Centaury
- Chrysanthemoides monilifera* subsp. *monilifera*, Boneseed
- Cirsium vulgare*, Spear Thistle
- Cotoneaster pannosus*, Cotoneaster
- Cytisus scoparius*, English Broom
- Dactylis glomerata*, Cocksfoot
- Ehrharta erecta*, Panic Veldt-grass
- Erigeron sumatrensis*, Fleabane
- Freesia leichtlinii*, Freesia
- Galium aparine*, Cleavers
- Holcus lanatus*, Yorkshire Fog
- Hypochaeris radicata*, Cat's Ear
- Linum trigynum*, French Flax
- Lotus corniculatus*, Bird's-foot Trefoil
- Oxalis incarnata*, Pale Wood-sorrel
- Oxalis ?purpurea*, Large-flower Wood-sorrel
- Paspalum dilatatum*, Paspalum
- Pinus radiata*, Monterey Pine
- Pittosporum undulatum*, Sweet Pittosporum
- Plantago lanceolata*, Ribwort
- Rubus anglocandicans*, Blackberry

Notes concerning some of the locally-threatened plant species

Acacia aculeatissima (Thin-leaf Wattle) – None found in 2024; seven in 2002.

Correa reflexa (Common Correa) – A solitary individual was found in 2002; none in 2024.

Hibbertia australis (Upright Guinea-flower) – A solitary individual was found in 2024; two in 2002.

Hovea heterophylla (Common Hovea) – Only two were seen in 2002; considerably more in 2024.

Indigofera australis (Austral Indigo) – A solitary individual was found in 2002; none in 2024.

Kennedia prostrata (Running Postman) – A solitary individual was found in 2002; none in 2024.

Spyridium parvifolium (Australian Dusty Miller) – A solitary individual was found in 2002; none in 2024.

Fauna of special significance

None found.

Fauna habitat features

- The high density and diversity of shrubs significantly improves the habitat for native invertebrates and birds. The prickliness of many of the shrubs helps protect birds from cats at large. Birds' nests were found in *Acacia paradoxa*;
- There is some fallen timber, which is beneficial for the lizards seen during the site inspection (as well as invertebrate fauna);
- The largest eucalypts provide specialised habitats such as hollows or loose bark needed by some fauna.

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).

Endangered Vegetation Types

The site's vegetation belongs to a regionally-endangered EVC (Valley Heathy Forest). The part of the site southwest of Petalnina Drive 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. It only just meets the minimum size requirement, which the site's other part does not. Appendix 3 of *Victoria's Native Vegetation Management – a Framework for Action* (NRE 2002a) treats any remnant patch of a regionally-endangered EVC as being of at least High conservation significance. This translates to **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.

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);
- Decline in the health of eucalypts, 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. Arguably, the most impactful species is *Clematis decipiens*, which is so dense that it is smothering vegetation in part of the reserve;
- 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 being struck by a falling tree limb;
- Dumping of rubbish and garden waste by neighbours.

Strategic planning

- The previous (2010) edition of this report led to its slightly smaller version of this site being covered by Schedule 2 of the Environmental Significance Overlay (ESO2). The reasons given for applying the overlay were the State significance and the endangered EVC. There has been no material change to those reasons since 2010 but the site delineated here includes more of the road reservation for Koomba Rd. The only recommended change to ESO2 for the site is to amend the boundary to match the one adopted here, but there is no urgency and the importance is low;
- The land is zoned Neighbourhood Residential – Schedule 4 (NRZ4).

Information sources used in this assessment

- An ecological survey totalling three hours and twenty minutes, undertaken on 14th and 17th June 2002 by Dr Lorimer for the first edition of this report. This included separate descriptions and mapping of the vegetation

on each side of Petalnina Dr, compilation of lists of indigenous and introduced plant species on each side of Petalnina Dr, incidental fauna observations, and checks for fauna habitat, ecological threats and management issues;

- On-site discussions with John Erwin (Knox City Council) in 2002 about the reserve's management and recent history;
- A 1¼-hour botanical survey of the site by Dr Lorimer on 22nd August 2024, recording and mapping indigenous plant species (separately in each half of the reserve) and checking for any significant changes in features relevant to this report since his previous (2002) survey;
- A search for records of flora and fauna observations stored in the Atlas of Living Australia (but those records add nothing to the author's own observations);
- 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.