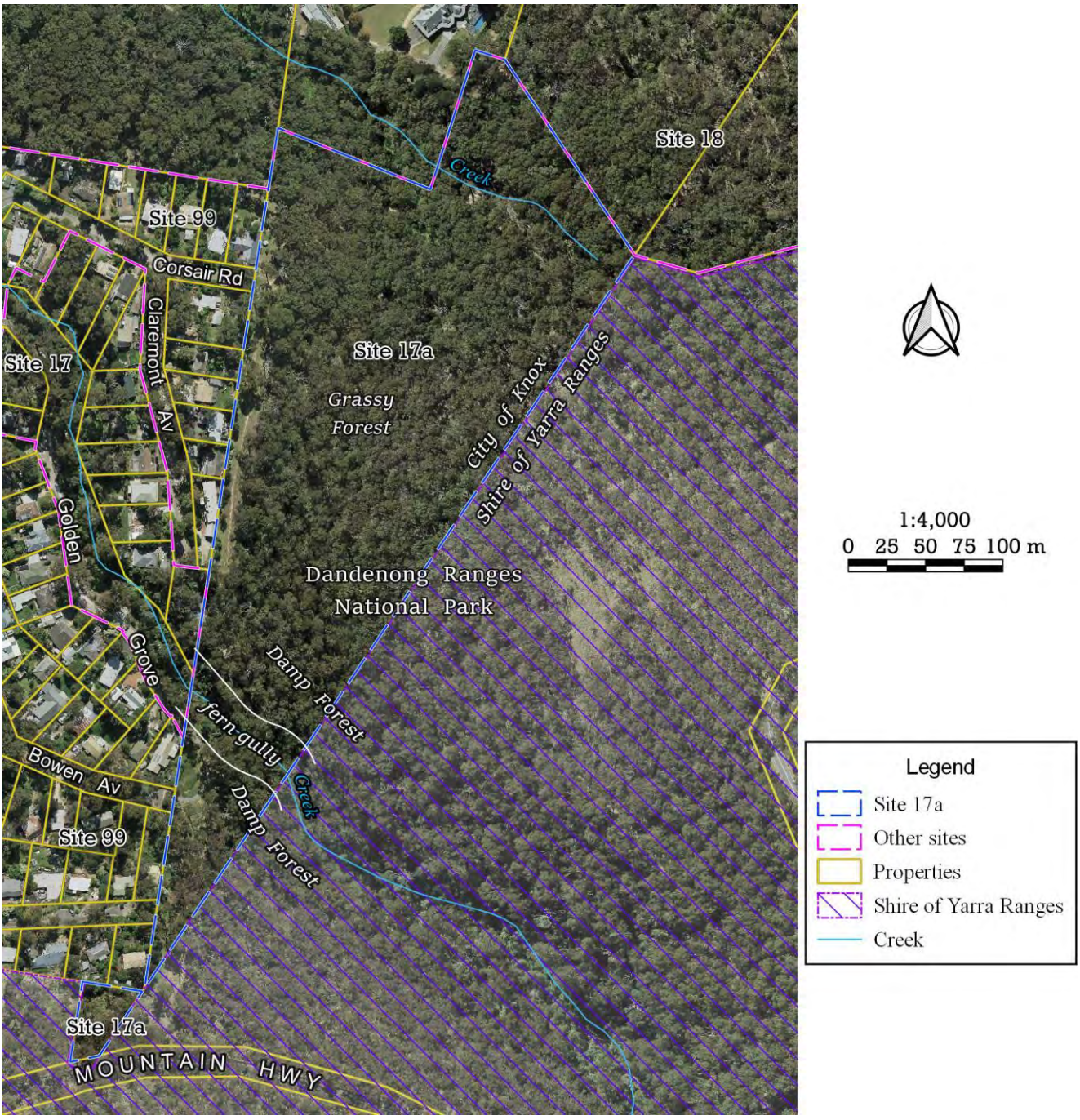
Site 17a. Dandenong Ranges National Park, The Basin

A wedge of the national park that falls within the Knox boundary.

Summary of significant features:

- Nationally significant: substantial populations of the flat-pea, *Platylobium infecundum*, and the Dandenong Range Cinnamon Wattle, which are Critically Endangered and Endangered (respectively) globally;
- State significance: a large, intact example of the regionally vulnerable vegetation type, Grassy Forest;
- Regionally significant: fairly intact examples of native vegetation types not listed as threatened;
- Regionally significant: apparently high-quality habitat for the listed vulnerable species, Powerful Owl and Yellow-bellied Glider, both of which are known to be resident in close proximity;
- Locally significant: viable populations of many plant species that are threatened with dying out in Knox;
- Locally significant: riparian (streamside) vegetation in fairly good ecological condition;
- Locally significant: part of a large continuous area of significant flora and fauna habitat.



Boundaries

This 7.6-hectare site of two polygons is outlined with mid-blue dashes on the aerial photograph above. Its boundaries coincide with property boundaries and the municipal boundary. A separate site of biological significance over the municipal boundary is recognised in the Yarra Ranges Planning Scheme. If not for the municipal boundary, the national park would be recognised as a single site. The small polygon in the south is included in this site rather than in Site 99 solely because it is part of the national park.

Land use & tenure: National park, gazetted under the *National Parks Act*.

Site description

In the previous (2010) edition of this report, this site was treated as part of Site 18. It has been separated here because, from a strategic planning perspective, its status as national park is better distinguished from the private land and road reserves that make up Site 18.

A large part of the site has steep slopes, with aspects mostly ranging from north through west to southwest, with elevations of 223–285 m.

The soil in the lowest few metres of the gully cross-section is alluvium washed down by the creek. In the rest of the site, the soil is an acidic, orange clay loam derived from the Ferny Creek rhyodacite formation, which is the uppermost volcanic stratum of the Dandenong Ranges.

The fern gully that runs through Site 17 ('The Ravine') also runs through Site17a, with perennial flow of water and soil formed from silty alluvium and organic material. Nearly all the indigenous and introduced plant species in Site 17 also occur in Site 18, including nearly all the locally-rare mosses, ferns and liverworts discussed on p. 114. The fern gully in Site 17a is not as deeply incised into the landscape as in Site 17 and there has been less ecological impact from roadworks, residential development and damage by residents. Nevertheless, environmental weeds are having a similar impact in the fern gully in both sites.

Toward the northern limit of Site 17a, there is a non-perennial creek in a gully that is much shallower than the fern gully except close to where the creek exits the site into Site 18. This second gully has far fewer ferns, mosses and liverworts than the fern gully but still, several locally-rare mosses were found in this study's 2023 survey.

A broad firebreak is maintained along the national park perimeter except within the fern gully. Apart from that, a band of very tall Damp Forest flanks the gullies, giving way to Grassy Forest higher on the slopes. Environmental weeds such as English Broom (*Cytisus scoparius*) are moderately abundant in and adjacent to the firebreak. The Grassy Forest above the firebreak and into the adjacent Site 18 is the stronghold in Knox for the locally-threatened plant species, Common Woodruff (*Asperula conferta*), Holly Lomatia (*Lomatia ilicifolia*) and Common Fringe-lily (*Thysanotus tuberosus*). These species and the vegetation types in which they grow are more common in the part of the Dandenong Ranges that lies within the Shire of Yarra Ranges.

Relationship to other land

Site 17a is distinguished from the rest of the Dandenong Ranges National Park only by the arbitrary positioning of the municipal boundary. Being part of the national park greatly increases the security of the site's flora and fauna.

Spores, seeds and pollen no doubt move freely between Sites 17a, 17 and 18, as do many fauna species.

Bioregion: Highlands Southern Fall

Habitat types

A strip typically 15 m wide along the site's more southerly creek has the typical, distinctive vegetation of a cool-temperate fern gully of southeastern Australia. Unfortunately, the Victorian Government has not designated an EVC for that vegetation type, instead leaving it to be lumped with the surrounding forest types such as Cool Temperate Rainforest or – in this case – Damp Forest. Fern gully vegetation is treated separately here:

Fern gully (no EVC recognised): 0.1 ha, almost all in good ecological condition (rating B). Characterised by the dense cover of tree-ferns over abundant lower ferns, and that there are more spore-producing species (ferns, mosses and liverworts) than indigenous seed-producing species.

Dominant canopy trees: *Acacia melanoxylon*, *Pomaderris aspera* and the tree-ferns, *Dicksonia antarctica* and *Cyathea australis*. There is a single plant of each of *Bedfordia arborescens* and *Hedycarya angustifolia* (more of both further upstream). Eucalypts overhang from the adjacent Damp Forest but only outlier trunks grow in the fern gully.

Shrubs: *Coprosma quadrifida* is scattered where enough light penetrates the tree-ferns and trees.

Vines: *Pandorea pandorana* and a few *Clematis aristata*. There is also the climbing grass, *Tetrarrhena juncea*.

Understorey ferns: Very abundant, including *Blechnum cartilagineum, Blechnum nudum, Calochlaena dubia, Lastreopsis acuminata* and *Polystichum proliferum*.

Mosses and liverworts: Abundant, particularly on logs, rocks, tree-fern trunks and steep clay surfaces. No fewer than 24 species were recorded during the non-exhaustive survey in 2023, with several of those species not previously recorded in Knox. Characteristic moss species include *Achrophyllum dentatum, Austrothamnium pumilum, Camptochaete deflexa, Cyathophorum bulbosum, Fissidens tenellus, Hypnodendron spininervium, Hypnodendron vitiense, Hypopterygium didictyon, Leptotheca gaudichaudii, Plagiothecium lamprostachys* and *Pyrrhobryum paramattense*. Characteristic liverwort species include *Heteroscyphus argutus, Heteroscyphus echinellus, Heteroscyphus* ?*knightii, Leptophyllopsis laxa, Metzgeria furcata, Radula buccinifera* and an unidentified *Lepidozia*.

Other groundcover: Sparse and with few species, the more abundant being *Australina pusilla* subsp. *muelleri, Euchiton involucratus, Geranium homeanum, Hackelia latifolia, Lepidosperma elatius* and *Sigesbeckia orientalis*. The introduced *Selaginella kraussiana* is abundant and *Tradescantia albiflora* is fairly abundant.

Damp Forest (EVC 29, conservation status listed as of 'Least Concern' in the bioregion): 0.4 ha, divided roughly in half between good ecological condition (rating B) and fair ecological condition (rating C).

Dominant canopy trees: *Eucalyptus cypellocarpa* and *E. obliqua*.

Sub-canopy trees: *Acacia melanoxylon* and *Pomaderris aspera* are abundant. *Acacia dealbata* is also conspicuous.

Shrubs: *Cassinia aculeata, Coprosma quadrifida, Ozothamnus ferrugineus, Pimelea axiflora*.

Vines: The climbing grass, *Tetrarrhena juncea*, is abundant. *Clematis aristata* and *Pandorea pandorana* are also present.

Ferns: Abundant, particularly *Adiantum aethiopicum* and *Calochlaena dubia*.

Creepers: Moderately abundant, mainly *Geranium homeanum*.

Other groundcover: Low in species-richness. *Lepidosperma elatius* and *Poa ensiformis* are abundant; *Dianella tasmanica* moderately so.

Grassy Forest (EVC 128, **regionally Vulnerable**): Estimated as 7 ha, comprising 2 ha in excellent ecological condition (rating A), 3 ha in good ecological condition (rating B), 1 ha in fair ecological condition (rating C) and 1 ha in poor ecological condition (rating D) within the firebreak.

Dominant canopy trees: *Eucalyptus obliqua*, followed by a mixture of *E. cypellocarpa, E. macrorhyncha* and *E. radiata*.

Dominant sub-canopy trees: *Exocarpos cupressiformis, Acacia melanoxylon*.

Shrubs: Low to moderate density and rich in species. Dominated by *Spyridium parvifolium*. Other fairly abundant species include *Acacia stictophylla, A. stricta, A. verticillata, Cassinia aculeata, Coprosma quadrifida, Goodenia ovata, Ozothamnus ferrugineus, Polyscias sambucifolia* and *Pultenaea scabra*.

Vines: The light twiners *Billardiera mutabilis, Cassytha pubescens, Clematis aristata* and *Comesperma volubile* are fairly abundant.

Ferns: *Pteridium esculentum* is usually quite conspicuous and other ferns are scarce.

Creepers: Fairly abundant, particularly *Acrotriche prostrata, Asperula conferta, Geranium* sp., *Goodenia lanata, Oxalis exilis/perennans, Platylobium infecundum* and *Viola hederacea*.

Other groundcover: Fairly rich in species and densely grassy. Among the graminoids, the most abundant are *Tetrarrhena juncea* and *Rytidosperma pallidum* followed by *Carex breviculmis, Lomandra filiformis* subsp. *coriacea, L. longifolia* subsp. *exilis, Poa morrisii, Schoenus apogon* and *Xanthorrhoea minor*. Among the many forb species, the most characteristic are *Cryptostylis leptochila, Drosera auriculata, Dipodium roseum, Galium gaudichaudii, Pterostylis alpina, Tetratheca ciliata, Thysanotus tuberosus, Wahlenbergia stricta* and *Xanthosia dissecta*.

Plant species

The plant species below were seen during the author's botanical surveys in May 2002 and May–September 2023 (the latter survey with the assistance of colleagues from the National Herbarium of Victoria and members of the Knox Environment Society and the Field Naturalists Club of Victoria). The area south of the fern gully was only inspected briefly. All the listed indigenous species were seen in 2023; six introduced species not seen in 2023 are asterisked. No additional species appear in the Atlas of Living Australia. The column headed 'Risk' indicates the species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; 'V'=Vulnerable; and 'N'=Near threatened. In addition, *Acacia stictophylla* and *Platylobium infecundum* are listed as threatened species under Victorian law.

Risk	Indigenous species
	Liverworts
	Chiloscyphus semiteres, Green Worms
	Heteroscyphus argutus, Crestwort
	Heteroscyphus echinellus, Crestwort
	Heteroscyphus ?*knightii*, Crestwort
	Lejeunea sp., a liverwort
	Lepidozia sp., a liverwort
	?*Leptophyllopsis laxa*, a liverwort
	Lunularia cruciata, Moonwort
	Metzgeria furcata, a liverwort
	Radula buccinifera, a liverwort
	Mosses
	Achrophyllum dentatum, a moss
	Atrichum androgynum, a moss
	Austrothamnium pumilum, a moss
	Breutelia affinis, Common Breutelia
	Camptochaete deflexa, a moss
	Campylopus clavatus, Broody Swan-neck Moss
	Campylopus introflexus, Heath Star Moss
	Cyathophorum bulbosum, Caterpillar Moss
	?*Ditrichum difficile*, a moss
	Fissidens asplenioides, a pocket-moss
	Fissidens pallidus var. *pallidus*, a pocket-moss
	Fissidens tenellus var. *tenellus*, Tiny Pocket-moss
	Hypnodendron vitiense subsp. *australe*, Umbrella Moss
	Hypopterygium didictyon, a moss
	Leptotheca gaudichaudii, a moss
	Orthodontium lineare, Cape Thread-moss
	Plagiothecium lamprostachys, a moss
	Polytrichum juniperinum, Common Juniper-moss
	Pyrrhobryum paramattense, a moss
	Rhaphidorrhynchium amoenum, a moss
	Rosulabryum subtomentosum, Tall Thread-moss
	Sematophyllum homomallum, a moss
	Thuidiopsis furfurosa, Golden Weft-moss
	Thuidiopsis sparsa, a weft-moss
	Wijkia extenuata, Spear Moss
	Ferns
V	*Adiantum aethiopicum*, Common Maidenhair
E	*Blechnum cartilagineum*, Gristle Fern
V	*Blechnum nudum*, Fishbone Water-fern
V	*Calochlaena dubia*, Common Ground-fern
C	*Cyathea australis*, Rough Tree-fern
C	*Dicksonia antarctica*, Soft Tree-fern
C	*Lastreopsis acuminata*, Shiny Shield-fern
V	*Lindsaea linearis*, Screw Fern
E	*Polystichum proliferum*, Mother Shield-fern
	Pteridium esculentum, Austral Bracken
	Flowering species
V	*Acacia melanoxylon*, Blackwood
E	*Acacia mucronata*, Variable Sallow Wattle
E	*Acacia myrtifolia*, Myrtle Wattle
V	*Acacia stictophylla*, Dandenong Range Cinnamon Wattle
E	*Acacia stricta*, Hop Wattle
V	*Acacia verticillata*, Prickly Moses
	Acaena novae-zelandiae, Bidgee-widgee
V	*Acrotriche prostrata*, Trailing Ground-berry
E	*Acrotriche serrulata*, Honey-pots
C	*Asperula conferta*, Common Woodruff
E	*Australina pusilla* subsp. *muelleri*, Shade Nettle
	Austrostipa rudis subsp. *rudis*, Veined Spear-grass
C	*Bedfordia arborescens*, Blanket-leaf
	Billardiera mutabilis, Common Apple-berry
	Bursaria spinosa, Sweet Bursaria
E	*Calystegia marginata*, Forest Bindweed
	Carex appressa, Tall Sedge
	Carex breviculmis, Short-stem Sedge
	Cassinia aculeata, Common Cassinia
E	*Cassytha pubescens*, Downy Dodder-laurel
V	*Chiloglottis valida*, Common Bird-orchid
V	*Clematis aristata*, Mountain Clematis
E	*Comesperma volubile*, Love Creeper
V	*Coprosma quadrifida*, Prickly Currant-bush
C	*Coronidium scorpioides*, Button Everlasting
E	*Cryptostylis leptochila*, Small Tongue-orchid
	Deyeuxia quadriseta, Reed Bent-grass
	Dianella revoluta, Black-anther Flax-lily
	Dianella tasmanica, Tasman Flax-lily
	Dichondra repens, Kidney-weed
E	*Dipodium roseum*, Rosy Hyacinth-orchid
V	*Drosera auriculata*, Tall Sundew

Risk	Indigenous species
V	*Eucalyptus cypellocarpa*, Mountain Grey Gum
C	*Eucalyptus macrorhyncha*, Red Stringybark
E	*Eucalyptus obliqua*, Messmate Stringybark
E	*Eucalyptus radiata*, Narrow-leaved Peppermint
E	*Euchiton involucratus*, Common Cudweed
	Euchiton japonicus, Creeping Cudweed
V	*Exocarpos cupressiformis*, Cherry Ballart
C	*Gahnia radula*, Thatch Saw-sedge
E	*Gahnia sieberiana*, Red-fruit Saw-sedge
E	*Galium gaudichaudii*, Rough Bedstraw
	Geranium homeanum, Rainforest Crane's-bill
E	*Glycine clandestina*, Twining Glycine
V	*Gonocarpus humilis*, Shade Raspwort
	Gonocarpus tetragynus, Common Raspwort
N	*Goodenia lanata*, Trailing Goodenia
	Goodenia ovata, Hop Goodenia
C	*Goodia lotifolia*, Common Golden-tip
E	*Hackelia latifolia*, Forest Hound's-tongue
C	*Hedycarya angustifolia*, Austral Mulberry
C	*Hovea heterophylla*, Common Hovea
E	*Hydrocotyle geraniifolia*, Forest Pennywort
V	*Hydrocotyle hirta*, Hairy Pennywort
C	*Imperata cylindrica*, Blady Grass
	Isolepis inundata, Swamp Club-rush
	Juncus pallidus, Pale Rush
E	*Lagenophora adenosa/stipitata*, a bottle-daisy
	Lepidosperma elatius, Tall Sword-sedge
V	*Lepidosperma laterale*, Variable Sword-sedge
	Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush
	Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush
	Lomandra longifolia subsp. *exilis*, Cluster-headed Mat-rush
C	*Lomatia ilicifolia*, Holly Lomatia
	Microlaena stipoides, Weeping Grass
E	*Olearia argophylla*, Musk Daisy-bush
E	*Olearia lirata*, Snowy Daisy-bush
V	*Opercularia varia*, Variable Stinkweed
	Oxalis exilis/perennans, Wood-sorrel
V	*Ozothamnus ferrugineus*, Tree Everlasting
	Pandorea pandorana, Wonga Vine
C	*Pimelea axiflora*, Bootlace Bush
C	*Plantago debilis*, Shade Plantain
E	*Platylobium infecundum*, a flat-pea
E	*Platylobium obtusangulum*, Common Flat-pea
	Poa ensiformis, Sword Tussock-grass
	Poa morrisii, Soft Tussock-grass
E	*Poa tenera*, Slender Tussock-grass
V	*Polyscias sambucifolia*, Elderberry Panax
V	*Pomaderris aspera*, Hazel Pomaderris
	Poranthera microphylla, Small Poranthera
V	*Prostanthera lasianthos*, Victorian Christmas-bush
C	*Pterostylis alpina*, Mountain Greenhood
E	*Pterostylis melagramma*, Tall Greenhood
C	*Pultenaea scabra*, Rough Bush-pea
E	*Rubus parvifolius*, Small-leaf Bramble
E	*Rytidosperma pallidum*, Red-anther (or Silvertop) Wallaby-grass
	Schoenus apogon, Common Bog-rush
V	*Senecio prenanthoides*, Common Fireweed
V	*Sigesbeckia orientalis*, Indian Weed
V	*Spyridium parvifolium*, Australian Dusty Miller
E	*Stackhousia monogyna/subterranea*, Candles
E	*Stylidium armeria*, Common Triggerplant
	Tetrarrhena juncea, Forest Wire-grass
C	*Tetratheca ciliata*, Pink-bells
C	*Thysanotus tuberosus*, Common Fringe-lily
E	*Viola hederacea*, Ivy-leaf Violet
	Wahlenbergia gracilis, Sprawling Bluebell
E	*Wahlenbergia stricta*, Tall Bluebell
E	*Xanthorrhoea minor*, Small Grass-tree
V	*Xanthosia dissecta*, Cut-leaf Xanthosia

Introduced species
Acacia longifolia subsp. *longifolia*, Sallow Wattle
Agapanthus praecox, Agapanthus
Allium triquetrum, Angled Onion
Anthoxanthum odoratum, Sweet Vernal-grass
Asparagus scandens, Asparagus Fern
Briza maxima, Large Quaking-grass
Cardamine flexuosa, Wood Bitter-cress
Coprosma repens, Mirror-bush*
Coprosma robusta, Karamu
Crocosmia × *crocosmiiflora*, Montbretia*
Cyperus eragrostis, Drain Flat-sedge
Cytisus scoparius, English Broom
Dactylis glomerata, Cocksfoot
Delairea odorata, Cape Ivy*
Ehrharta erecta, Panic Veldt-grass
Erica lusitanica, Spanish Heath
Erigeron karvinskianus, Seaside Daisy
Hedera helix/hibernica, Ivy*
Holcus lanatus, Yorkshire Fog
Hypericum androsaemum, Tutsan*
Hypochaeris radicata, Cat's Ear
Ilex aquifolium, Holly*
Lilium formosanum, Lily
Lonicera japonica, Japanese Honeysuckle
Oxalis incarnata, Pale Wood-sorrel
Pittosporum undulatum, Sweet Pittosporum
Prunella vulgaris, Self-heal
Pseudoscleropodium purum, Neat Feather-moss
Rubus anglocandicans, Blackberry
Selaginella kraussiana, Garden Selaginella
Tradescantia fluminensis, Wandering Trad
Trifolium repens, White Clover
Zantedeschia aethiopica, White Arum Lily

Notes concerning some of the plant species

Listed as Critically Endangered under Victorian law

Platylobium infecundum (a flat-pea) – Moderately abundant in this site.

Listed as Endangered under Victorian law

Acacia stictophylla (Dandenong Range Cinnamon Wattle) – Moderately abundant in this site.

Locally threatened

Asperula conferta (Common Woodruff) – Fairly abundant in the Grassy Forest, as normal for the west face of the Dandenong Ranges.

Australina pusilla subsp. *muelleri* (Shade Nettle) – Fairly abundant in the fern gully.

Bedfordia arborescens (Blanket-leaf) – Very scarce but more abundant just upstream in the national park.

Blechnum cartilagineum (Gristle Fern) – Fairly abundant in the fern gully.

Blechnum nudum (Fishbone Water-fern) – Six were found in the fern gully in 2023.

Calystegia marginata (Forest Bindweed) – A solitary plant was seen in 2023 but in general, numbers of this species tend to fluctuate greatly over the years.

Cryptostylis leptochila (Small Tongue-orchid) – Four plants were seen in 2023.

Cyathea australis (Rough Tree-fern) and *Dicksonia antarctica* (Soft Tree-fern) – Co-dominant in the fern gully.

Goodia lotifolia (Common Golden-tip) – A single plant was seen in the fern gully in 2023, one of only a handful left in Knox since the decimation of the Millennium Drought.

Hedycarya angustifolia (Austral Mulberry) – A single plant was seen in the fern gully in 2023. More grow further upstream.

Hydrocotyle geraniifolia (Forest Pennywort) – Scarce in 2023 but this annual species' populations tend to fluctuate greatly from year to year.

Lastreopsis acuminata (Shiny Shield-fern) – Eight were counted in the fern gully in 2023 – a significant fraction of Knox's population of the species.

Lomatia ilicifolia (Holly Lomatia) – Three plants were seen in 2023 – a significant fraction of metro Melbourne's entire population of the species.

Olearia argophylla (Musk Daisy-bush) – Very scarce in 2023.

Pimelea axiflora (Bootlace Bush) – Only 3 were found in 2023 but more may exist south of the fern gully.

Sigesbeckia orientalis (Indian Weed) – Fairly abundant in the fern gully in 2023 but numbers are likely to fluctuate greatly from year to year.

Fauna of special significance

The following locally-uncommon species have been observed within Site 17a in the 2020s and are expected to make regular usage of the habitat:

White-throated Treecreeper
White-naped Honeyeater
Eastern Yellow Robin
Varied Sittella
Cyril's Brown butterfly
Imperial Jezebel butterfly

Because of the proximity to the Dandenong Ranges National Park, the site is bound to be regularly visited by various rare or threatened fauna from the park. The site provides a small extension to the native habitat available for such species. Examples of those species include:

- The Powerful Owl that the author observed 400 m from the site in August 2023, in the middle of breeding season; and
- The migratory bird species, Rufous Fantail, that the author observed in early 2023 in the fern gully just upstream of Site 17a.

Fauna habitat features

- The site is part of a large expanse of fairly intact native forest;

- There are very large eucalypts with hollows that provide suitable roosting or nesting sites for certain fauna;
- The fern gully provides perennial water and a refuge for fauna during extreme heat and drought;
- The stream may provide habitat for important fauna, based on the presence of the rare Dandenong Freshwater Amphipod nearby on Dobson Creek and many records of four threatened species of crays in the vicinity. No invertebrate survey has been done to check.

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 the riparian zones within this site.

Criterion 1.1.2 attributes **Local** significance to 'Areas of 100 ha or more of contiguous native vegetation in a heavily fragmented landscape', which applies to the contiguous native vegetation of which this site is part.

Vegetation Type and Condition

Grassy Forest is a regionally vulnerable EVC and the representation of it in Site 17a is largely in very good ecological condition. Most of the Grassy Forest is certain to have a habitat score well above the threshold of 0.3 to achieve a 'High' rating of conservation significance under Appendix 3 of *Victoria's Native Vegetation Management – a Framework for Action* (NRE 2002a). This, in turn, translates to **State** significance under criterion 3.2.3 of Amos (2004).

The conservation status of Damp Forest in the Highlands – Southern Fall is classified as 'Least Concern'. The patch of it that includes part of this site is likely to have a habitat score that reaches the threshold of 0.6 to achieve a 'Medium' rating of conservation significance under the abovementioned 'Framework' document. That translates to **Regional** significance under criterion 3.2.3 of Amos (2004). To be certain, fieldwork would be required to determine which parts (if any) of the Damp Forest really do have a habitat score of 0.6 or above.

Threatened Plants

The flat-pea, *Platylobium infecundum* and the Dandenong Range Cinnamon Wattle (*Acacia stictophylla*) are both fairly abundant in the site. They are listed under the *Flora and Fauna Guarantee Act* as Critically Endangered and Endangered, respectively. Neither occurs outside Victoria. As a result, the habitat provided by the site for each species qualifies as **National** significance under criterion 3.1.2.

Neither *Platylobium infecundum* or *Acacia stictophylla* had been scientifically described in 2010 when the previous edition of this report was written. As a result, the site's significance level has risen from State to National.

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

Threatened Fauna

The Yellow-bellied Glider has been observed approximately 650 m west of Site 17a in 2021, 650 m northwest in 2024, 700 m north-northeast in 2007 and 700 m east in 2004. The species is very likely to also make use of the high-quality habitat within Site 17a, despite the absence of a record of that. As the species is listed as Vulnerable under Victorian law, the probable habitat meets criterion 3.1.3 for **Regional** significance. The species is also listed as Vulnerable under Commonwealth law but in an apparent oversight, the standard criteria do not assign any significance to probable habitat of a species with a Commonwealth listing as Vulnerable.

The Powerful Owl is listed as a vulnerable species in Victoria. The author observed one roosting less than ½ km from the site in August 2023, in the middle of breeding season. The vegetation in this site seems to be high-quality habitat for Powerful Owls. Such circumstances represent **Regional** significance under criterion 3.1.3.

Threats

- Displacement of indigenous flora and fauna by environmental weeds such as English Broom, Sweet Pittosporum, Karamu, Sweet Vernal-grass, Ivy, Wandering Trad and Garden Selaginella;

- Spread of such environmental weeds into the park from neighbouring gardens, including through the dumping of garden waste into the park;
- Occupation of some southern parts of the national park by gardens that extend from abutting residences;
- Damage to vegetation, fauna habitat and stream banks by deer, whose numbers are rapidly increasing;
- 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). Reduced stream flows and a lowering water table will adversely affect the site's rare liverworts and mosses;
- Loss or decline of plant species that are present in such precariously small numbers that they are vulnerable to inbreeding, poor reproductive success or vulnerability to the threats above or localised chance events such as being struck by a falling tree limb;
- Potential demands for increased fire prevention measures, arising from climate change and consequent increases in climatic fire risk.

Management

- The priority given to the fern gully's management should be raised, now that this study has found many species of moss and liverwort that have not been recorded in or near the Dandenong Ranges for over a century (if at all). Control of environmental weeds such as Karamu and Garden Selaginella would be in order.

Strategic planning

- The previous (2010) edition of this report led to Site 17a (then part of Site 18) being covered by Schedule 2 of the Environmental Significance Overlay (ESO2). The reasons cited then for applying ESO2 remain undiminished. Despite the new recognition of significant attributes of the site such as the Nationally-significant plant species and the rare mosses and liverworts, no change is recommended regarding ESO2 on this land;
- The whole site is covered by Schedule 4 of the Significant Landscape Overlay (SLO4) and the Bushfire Management Overlay (BMO);
- The zoning of a strip roughly corresponding to the fern gully is 'Public Park and Recreation Zone' (PPRZ), as is the site's tiny southern polygon. The rest of the site is zoned 'Rural Conservation Zone – Schedule 1' (RCZ1). The zoning of the adjacent part of the national park is the 'Public Conservation and Resource Zone' (PCRZ). There may be benefit in harmonising the zoning, given that the land is all part of the national park.

Information sources used in this assessment

- An ecological survey undertaken for the first edition of this report by Dr Lorimer on 31/5/02. This included a description of the vegetation composition, compilation of lists of indigenous and introduced plant species, incidental fauna observations, and checks for fauna habitat, ecological threats and management issues;
- A detailed vegetation survey by Dr Lorimer in May–September 2023 for this edition, aided on one day in May by colleagues at the National Herbarium of Victoria and on one afternoon in September by volunteers from the Knox Environment Society and the Field Naturalists Club of Victoria. The part of the site south of the fern gully was not surveyed in detail because it is mostly firebreak;
- Records of flora and fauna observations stored in the Atlas of Living Australia;
- The Victorian Government's 'NatureKit' website;
- Aerial and satellite imagery from between 1946 and 2024;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.