Site 80. Heany Park, Rowville

Council property with native vegetation, a reservoir and a Scout and Guide camp. Melway ref. 82 C6.

Site Significance Level: *State*

- Contains possibly the highest quality native vegetation for kilometres around;
- The vegetation with the best ecological condition is the very rare type, Lysterfield Grassy Dry Forest;
- The other vegetation types present belong to threatened Ecological Vegetation Classes;
- There are nine plant species that are threatened in Knox;
- The park is habitat for several rare fauna species.

Scale 1:3,000
0 50 100m

Aerial photograph taken April 2003

Boundaries

The site is the whole reserve, as outlined in red on the aerial photograph.

Land use & tenure: Council property closed to the general public, managed for conservation of bushland and for the benefit of Scouts and Guides, to whom the park is leased for a scout hall, camping and related activities.

Site description

This 9·48 ha site lies on the northwest-facing slopes of the Lysterfield Hills, with elevations varying from 84 m at the entrance gate on Golding Av to 164 m at the southeastern corner. The slope is typically 30% at locations above the 105 m contour and 10% below that level. A reservoir has been constructed at the break of slope by digging out earth and using it to form the downhill side of the reservoir.

The bedrock is Lysterfield Hills hornfels. On the steeper, upper slope, this has decomposed at the surface to form a shallow, stony, rather infertile clay loam that does not drain well and dries very hard. Some of this appears to have slipped or washed downhill to form the lower, shallow slope, judging from the abrupt change of slope and the particular plant species present.

The vegetation of the steeper, upper slopes is a grassy woodland only 10 m tall, sharing characteristics of Grassy Dry Forest and the form of Grassy Forest that is associated with the Gippsland Plain bioregion. This is the rare community described for the first time in Appendix A of Volume 1 under the name, 'Lysterfield Grassy Dry Forest'. It is unique among all the sites visited for this study, but it was seen to extend into adjacent properties where permission was not granted to inspect further. This vegetation type is in predominantly good ecological condition (possibly the best for several kilometres around) and has resisted serious weed invasion because of the very harsh growing conditions of the soil, slope and aspect. Wildflowers abound, particularly lilies.

The native vegetation in the southwest of the park is typical of Valley Heathy Forest (an endangered EVC), grading into Valley Grassy Forest (regionally vulnerable) in the north. The latter is characterised by a nearly pure stand of Yellow Box (*Eucalyptus melliodora*) with a few Candlebarks (*Eucalyptus rubida*) and Narrow-leafed Peppermints (*Eucalyptus radiata*), but the understorey has been greatly modified by the reservoir's construction and the site's history as a Scout and Guide camp. No clear disjunction between these two EVCs could be discerned in the brief site inspection for this report.

Scout and Guide activities have been concentrated on the lower, shallower slopes where the Valley Heathy Forest and Valley Grassy Forest occur. Trampling, clearing, excavations and buildings have degraded the vegetation in these areas, and the aerial photograph shows the lower density of trees that has resulted.

Despite the reservoir being an artificial water body, it has become colonised by predominantly native vegetation (as has happened at many sites in this report). It provides habitat for aquatic and semi-aquatic plants, frogs, waterbirds and aquatic invertebrates. Five Blue-billed Ducks (a vulnerable species) were seen on the reservoir when the park's fauna was surveyed in 2001.

The distinctive, more intense green tree crowns visible on the aerial photograph are pines, which are a significant environmental weed in the site, particularly near the reservoir.

Relationship to other land

The park is effectively part of a larger site of biological significance in combination with the Dandenong Police Paddocks Reserve, the Lysterfield Hills (Site 81), Churchill National Park, Lysterfield Park (Site 82) and bushland to the northeast of Lysterfield Park. Many species of fauna undoubtedly move between these sites, sometimes carrying pollen or seeds to link the plant populations across the area. Heany Park is treated as a separate site of significance for this report because of its land tenure, land use and the outstanding quality of its Grassy Dry Forest.

The residential estate to the north and west of the park is unfit for native flora and fauna.

Bioregion: The Valley Heathy Forest is in the Gippsland Plain bioregion and the other vegetation types are in the Highlands Southern Fall bioregion.

Habitat types

Lysterfield Grassy Dry Forest (part of EVC 22, whose regional conservation status is listed as 'Least Concern', but this rare variant is soon to be given an official rating of its own in the forthcoming regional Native Vegetation Plan): Estimated to cover 2·2 ha, all in good ecological condition (rating B).

Canopy trees: Dominated by *Eucalyptus radiata* (10 m tall), with occasional *E. melliodora*.

Lower trees: Dominated by *Acacia mearnsii* and *Allocasuarina littoralis* (both typically 7 m tall), and far fewer *Exocarpos cupressiformis*.

Shrubs: Very sparse (perhaps naturally) except for patches of regrowth of *Acacia paradoxa*.

Vines: *Comesperma volubile* is abundant.

Ferns: Absent.

Ground flora: Grassy and apparently naturally sparse (c.50% cover), with fairly low diversity (perhaps suppressed by grazing). Dominated by *Rytidosperma pallidum, Microlaena stipoides* and *Lomandra filiformis* subsp. *coriacea*. The following other species are also abundant: *Arthropodium strictum, Lepidosperma laterale, Austrostipa pubinodis* and *Lagenifera gracilis*. *Bossiaea prostrata* is moderately common.

Valley Heathy Forest (EVC 127, **Endangered**): Estimated to cover 3·5 ha, comprising 0·8 ha in good ecological condition (rating B), 1·4 ha in fair ecological condition (rating C) and 1·3 ha in poor ecological condition (rating D).

Canopy trees: Dominated by *Eucalyptus cephalocarpa* (typically 17 m tall), with far fewer *E. melliodora* (typically 20 m tall).

Lower trees: Dominated by *Acacia melanoxylon* and *Exocarpos cupressiformis*.

Shrubs: The shrub layer has been decimated and is sparse except for patches of regrowth. The dominant shrub species is *Acacia paradoxa*.

Vines: Absent. *Billardiera mutabilis* would probably germinate after a fire.

Ferns: Absent.

Ground flora: Densely grassy (95% cover) and dominated by *Microlaena stipoides*. The following other grasses are also dense in patches: *Themeda triandra, Austrostipa rudis, Austrostipa pubinodis* and *Austrostipa mollis*. Species that are abundant but not dominant in cover are *Arthropodium strictum, Hibbertia riparia* (a characteristic species) and *Oxalis perennans*.

Valley Grassy Forest (EVC 47, **regionally Vulnerable**): The boundary between this EVC and Valley Heathy Forest could not be clearly distinguished due to modification of the natural vegetation composition. Estimated to cover 1 ha, all in poor ecological condition (rating D).

Dominant canopy trees: Strongly dominated by *Eucalyptus melliodora*, with small numbers of *E. radiata* and *E. rubida*.

Dominant lower trees: *Acacia mearnsii, Exocarpos cupressiformis*, *Acacia implexa* and *Allocasuarina littoralis*.

Shrubs: *Acacia paradoxa* is dense in patches.

Ground flora: Sparse due to camp activities.

Wetland (EVC 74, listed as regionally Endangered but in this case it is artificial): Estimated to contain 0·32 ha of fringing vegetation in fair ecological condition (rating C) with 8 indigenous plant species, and 0·46 ha of open water with unknown bottom-dwelling flora.

Trees, vines and ferns: Absent.

Shrubs: A small amount of *Melaleuca ericifolia* encroaches into the wetland area.

Aquatic and semi-aquatic flora: Dominated variously by *Typha domingensis, Persicaria decipiens, Eleocharis acuta, Eleocharis sphacelata, Juncus amabilis* or *Juncus sarophorus*. The usual wetland weed, *Juncus articulatus*, is a moderate problem.

Plant species

The following plant species were observed by the author in April to June 2009 except where otherwise noted. Additional species would probably be found at other times of year. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable. In addition, the species with names in bold are rare in the Melbourne region.

Risk	Indigenous Species
V	*Acacia implexa*
V	*Acacia mearnsii*
V	*Acacia leprosa* (Dandenong Range variant) - planted
V	*Acacia melanoxylon*
	Acacia paradoxa
E	*Acacia pycnantha* - planted
E	*Acacia stricta*
	Acaena novae-zelandiae
	Acrotriche serrulata
V	*Allocasuarina littoralis* (wild & planted)
C	*Amyema pendula*
C	*Arthropodium milleflorum* (Biosis, 2001)
	Arthropodium strictum
V	*Austrostipa mollis*
	Austrostipa pubinodis
	Austrostipa rudis subsp. *rudis*
	Billardiera mutabilis
	Bossiæa prostrata
	Burchardia umbellata
	Bursaria spinosa
	Campylopus clavatus
	Carex appressa
	Carex breviculmis
	Cassinia aculeata
	Cassinia arcuata
V	*Cassinia longifolia*
E	*Centella cordifolia*
C	*Chamaescilla corymbosa*
	Clematis decipiens

Risk	Indigenous Species
V	*Comesperma volubile*
V	*Cotula australis*
V	*Crassula decumbens*
E	*Cynoglossum suaveolens*
	Deyeuxia quadriseta
	Dianella admixta
V	*Dianella longifolia* s.l. (wild & planted)
	Dichelachne rara
	Dichondra repens
	Diuris sp. (D. Wallace, 1980s?)
V	*Drosera whittakeri*
V	*Eleocharis acuta*
	Eleocharis sphacelata
	Elymus scaber
	Epilobium hirtigerum
V	*Eucalyptus cephalocarpa*
	Eucalyptus cephalocarpa hybrid
E	*Eucalyptus macrorhyncha* (planted)
V	*Eucalyptus melliodora*
V	*Eucalyptus ovata*
E	*Eucalyptus radiata*
C	*Eucalyptus rubida* (only planted specimens remain since c. 2005)
E	*Eucalyptus viminalis* (planted)
V	*Euchiton collinus*
E	*Euchiton involucratus*
V	*Exocarpos cupressiformis*
	Funaria hygrometrica
	Gahnia radula
	Gonocarpus tetragynus
	Goodenia ovata (wild & planted)
C	***Goodia lotifolia* (planted)**
X	***Hakea decurrens* (planted)**
C	*Hakea nodosa* (planted)
V	*Helichrysum luteoalbum*
E	*Hibbertia riparia*
E	*Hydrocotyle foveolata*
E	*Hypericum gramineum*
	Hypnum cupressiforme
E	*Hypoxis vaginata* (Lorimer, 2005)
V	*Isolepis inundata*
	Juncus amabilis
	Juncus bufonius
C	*Juncus holoschoenus*
	Juncus pallidus
E	*Juncus planifolius*
E	*Juncus procerus*
	Juncus sarophorus
E	*Juncus subsecundus*
	Kunzea ericoides spp. agg. (wild & planted)
	Lachnagrostis filiformis
V	*Lagenophora gracilis*

Risk	Indigenous Species
E	*Lemna disperma*
	Lepidosperma gunnii
V	*Lepidosperma laterale*
	Leptospermum continentale
E	*Leptospermum scoparium*
	Lomandra filiformis subsp. *coriacea*
	Lomandra filiformis subsp. *filiformis*
	Lomandra longifolia (wild & planted)
E	*Melaleuca ericifolia*
C	*Melaleuca squarrosa* (planted)
	Microlaena stipoides
C	***Myrsine howittiana* (planted)**
V	*Opercularia ovata*
V	*Opercularia varia*
	Oxalis exilis/perennans
E	*Ozothamnus ferrugineus* (wild & planted)
	Pandorea pandorana (Biosis, 2001)
	Persicaria decipiens
C	***Persicaria prostrata***
E	*Pimelea curviflora* (D. Wallace, 2001)
V	*Pimelea humilis*
	Poa morrisii
	Poranthera microphylla
	Pterostylis nutans
	Rytidosperma geniculatum
	Rytidosperma linkii var. *fulvum*
	Rytidosperma pallidum
	Rytidosperma racemosum
	Rytidosperma setaceum
	Rytidosperma tenuius
	Schoenus apogon
E	*Senecio campylocarpus*
	Senecio glomeratus
E	*Senecio minimus*
E	*Senecio prenanthoides*
	Senecio quadridentatus
V	*Solanum laciniatum*
V	*Solenogyne dominii*
	Themeda triandra
	Thuidiopsis furfurosa
V	*Thysanotus patersonii*
	Tricoryne elatior
E	*Typha orientalis*
C	***Vallisneria americana***
V	*Veronica gracilis*
E	*Veronica plebeia*
C	***Viminaria juncea* (planted)**
E	*Viola hederacea*
E	*Wahlenbergia gracilis*
V	***Wolffia australiana***
E	*Wurmbea dioica*
V	*Xanthorrhoea minor* (wild & planted)

Introduced Species

Acacia floribunda	*Asparagus asparagoides*	*Cirsium vulgare*	*Fumaria* sp.
Agrostis capillaris	*Aster subulatus*	*Conyza sumatrensis*	*Hakea salicifolia*
Anagallis arvensis	*Briza maxima*	*Cynodon dactylon*	*Holcus lanatus*
Anthoxanthum odoratum	*Centaurium erythraea*	*Cyperus eragrostis*	*Hypochoeris radicata*
Araujia sericifera	*Chrysanthemoides monilifera*	*Dactylis glomerata*	*Juncus articulatus*
Arctotheca calendula	subsp. *monilifera*	*Ehrharta erecta*	*Leontodon taraxacoides*

Nassella trichotoma	*Pinus radiata*	*Rubus anglocandicans*	*Vicia* sp.
Oxalis ?*incarnata*	*Pittosporum undulatum*	*Solanum americanum*	*Vulpia bromoides*
Oxalis pes-caprae	*Plantago lanceolata*	*Solanum nigrum*	*Zantedeschia aethiopica*
Paspalum dilatatum	*Pseudoscleropodium purum*	*Sonchus oleraceus*	
Paspalum distichum	*Romulea rosea*	*Sporobolus africanus*	
Pennisetum clandestinum	*Rosa rubiginosa*	*Ulex europaeus*	

Notes concerning some of the locally threatened plant species

Arthropodium milleflorum (Pale Vanilla-lily). Very few individuals were reported by Yugovic and Timewell (2001) in the Valley Heathy Forest.

Austrostipa mollis (a Spear-grass). Moderate numbers were observed in the author's July survey, and others would have been overlooked because of the season. It is also present on adjoining properties.

Chamaescilla corymbosa (Blue Stars). Respected local naturalist, Mr Darren Wallace, reports the presence of very small numbers of this species. The author saw some in 2009 approximately 100 m to the east.

Diuris, species indeterminate. Seen by Mr Wallace many years ago and perhaps now lost from the park.

Eucalyptus rubida (Candlebark). The very few wild trees seen by Dr Lorimer just below the reservoir until c. 2003 have replacements have been planted.

Pimelea curviflora (Curved Rice-flower). Mr Darren Wallace reports that there have been hundreds of plants on the slope above the reservoir, but they were not detectable during winter 2009 (perhaps due to drought).

Rytidosperma geniculatum (Kneed Wallaby-grass). Modest numbers seen by Dr Lorimer. Also present in the adjoining Hanson Quarry land and apparently secure.

Veronica plebeia (Trailing Speedwell). Small numbers were found by Dr Lorimer in the Grassy Dry Forest.

Fauna of special significance

Endangered in Victoria

Blue-billed Duck. Five were seen on the dam on 20th June 2001, as reported by J. Yugovic and C. Timewell in the 2001 report, *'Draft Flora and Fauna Assessment of Heany Park, Rowville, Victoria'* for Knox City Council.

Uncommon in the Melbourne region

Eastern Grey Kangaroo. Residents of the park and adjoining land, now abundant but hardly known in the area until recent years. Up to sixteen at a time have been observed in the park by Mr John Erwin (Knox City Council) in 2004.

Wedge-tailed Eagle. Mr Erwin observed two birds in 2003. Pairs are seen regularly in southern Knox.

Painted Button-quail. Seen by Mr Darren Wallace after a fire, in c.1992.

Spotted Brown Butterfly. The Lysterfield Hills is a stronghold of this localised species and Heany Park represents suitable habitat, but the author has no knowledge of sightings within the park.

Uncommon in Knox

Short-beaked Echidna. Four individuals were seen by Mr Erwin in 2003, and other reports suggest that they are frequently present.

Sugar Glider. Seen by Mr Wallace some years ago.

Fauna habitat features

- The tree canopy and scattered shrubs provide habitat for insects, bats, possums and a wide variety of forest birds. However, on the lower slopes, this value is diminished by aggressive Bell Miners and Noisy Miners that displace smaller birds;
- There are many mature trees, dead and alive, that have hollows suitable for nesting or other occupation by native birds, bats, possums or insects;
- The abundant large wattles provide sap to feed Sugar Gliders;
- The reservoir and its fringing wetland vegetation provide habitat for waterbirds, frogs and aquatic invertebrates;
- The reservoir provides drinking water for other native fauna such as kangaroos and wallabies;
- The grassy ground flora is likely to provide fodder for butterfly caterpillars and other invertebrates;
- Fallen timber on the upper slopes provides the sort of cover required by many reptiles and invertebrates;
- Piles of corrugated iron and building waste may provide cover for reptiles and invertebrates around the camp.

Significance ratings

The following is an assessment of the site's significance against the Department of Sustainability & Environment's standard criteria (Amos 2004).

Ecological Integrity and Viability

This site and the adjacent Site 81 represent a link in a large habitat corridor extending from Dandenong Ck in the Dandenong Police Paddocks Reserve to Birdsland Reserve in Belgrave Heights, and beyond. Criterion 1.2.6 attributes

Regional significance to any corridor that meets the description 'Important at regional scale (link within bioregion or catchment)', which is a reasonable description of the corridor of interest here.

Regionally Threatened Vegetation Types

Valley Heathy Forest is endangered. It follows from Appendix 3 of *Victoria's Native Vegetation Management - a Framework for Action* (NRE 2002a) that Heany Park's native vegetation is necessarily of at least High conservation significance. This, in turn, gives the park **State** significance under criterion 3.2.3 of Amos (2004).

The regionally vulnerable Valley Grassy Forest is in poor ecological condition and represents **Regional** significance under criterion 3.2.3.

The conservation status of Lysterfield Grassy Dry Forest is Vulnerable or (more likely) Endangered according to the criteria of NRE (2002a). The ecologically healthy patch at Heany Park gives the park **State** significance under criterion 3.2.4 of Amos (2004).

The significance of the reservoir's wetland vegetation is not amenable to consideration under the guidelines of Amos (2004) because the reservoir is an artificial feature.

Rare or Threatened Flora

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

Rare or Threatened Fauna

Apart from Blue-billed Ducks, the species listed as 'Fauna of special significance' above are rare or threatened locally or in the Melbourne area, but not throughout the whole of the relevant bioregion. This represents **Local** significance on the same basis as the rare flora just discussed.

The reservoir is good habitat for visits of Blue-billed Ducks, five of which were seen there. These birds are likely to be part of the wider-ranging, viable population seen in nearby lakes such as Caribbean Lake and Lakewood Nature Reserve. Heany Park could not support a viable population in its own right. This gives the site **Regional** significance under criterion 3.1.2.

The Powerful Owl is a vulnerable species in Victoria. It is known to frequent the adjoining Hanson Quarry, and Heany Park provides suitable habitat. However, no evidence has been found that the site has, or is likely to have, a viable population of Powerful Owls in its own right. This represents **Regional** significance under criterion 3.1.2.

Threats

- Invasion by environmental weeds, as follows;
  - Serious: Boneseed (*Chrysanthemoides monilifera* ssp. *monilifera*), Panic Veldt-grass (*Ehrharta erecta*), Sweet Pittosporum (*Pittosporum undulatum*), Gorse (*Ulex europaeus*);
  - Moderate: Sweet Vernal-grass (*Anthoxanthum odoratum*), Large Quaking-grass (*Briza maxima*), Drain Flat-sedge (*Cyperus eragrostis*), Cat's Ear (*Hypochoeris radicata*), Jointed Rush (*Juncus articulatus*), Kikuyu (*Pennisetum clandestinum*), Monterey Pine (*Pinus radiata*), Blackberry (*Rubus discolor*), Indian Rat-tail Grass (*Sporobolus africanus*);
- Eucalypt dieback, which is presently severe in places on the lower slopes, and includes substantial psyllid attack;
- Trampling;
- Removal of fallen timber for firewood at the campsites;
- Casual cutting of live plants;
- Rabbit grazing;
- Loss or decline of plant species that have such small populations that they are vulnerable to inbreeding, poor reproductive success or random events such as trampling.

Management issues

- Knox City Council intends to have a management plan prepared for this site. Management recommendations beyond the ones below should preferably have the benefit of a site survey in October to December;
- Weed control has been effective in recent years and should be kept up;
- Fire would be likely to regenerate many indigenous plant species on the lower slopes.

Administration matters

- The Planning Scheme zoning is Public Park and Recreation Zone (R1Z) and the site is outside the Urban Growth Boundary;
- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of the endangered EVCs and the matters discussed under the heading, 'Significance ratings';

- Heany Park is included under the existing Vegetation Protection Overlay Schedule 1 of the Knox Planning Scheme, based on the description of Site 56 of the report by Water Ecoscience (1998). Note that Water Ecoscience did not visit the site.

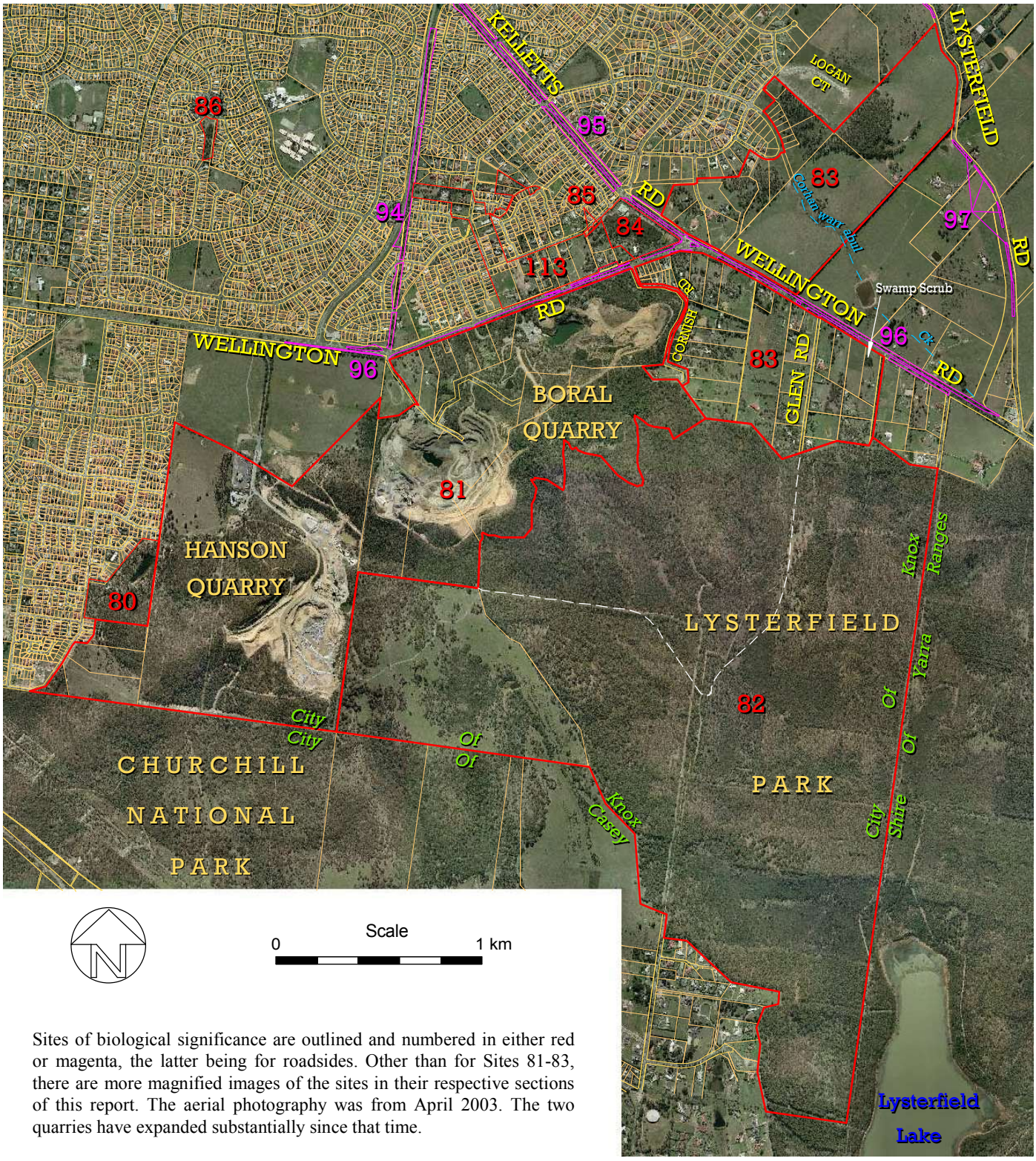
Information sources used in this assessment

- Yugovic J. and Timewell C.A. (2001). *'Draft Flora and Fauna Assessment of Heany Park, Rowville, Victoria'*, a draft report prepared for Knox City Council;
- A document from Mr Yugovic titled 'Changes to Heany Park Report', providing corrections and updates to the report just cited;
- A site survey by Dr Lorimer for 50 minutes on 24/4/03 to fill gaps between the above documents and this study's standards described in Section 2.4 of Vol.1. This included:
  - Compilation of lists of indigenous and introduced plant species in each of four sections of the park;
  - Description of the structural and floristic composition of each type of native vegetation;
  - Mapping of the ecological condition of the vegetation; and
  - Checks for ecological threats and management issues;
- A brief inspection of the site in January 2008, which confirmed that there had been no significant changes to the site's natural assets described above;
- Verbal reports of flora and fauna from respected local naturalist, Mr Darren Wallace, and Council land manager, Mr John Erwin;
- Aerial photography from February 2001 and April 2003;
- Satellite imagery of the district;
- The Department of Sustainability & Environment's BioMaps of the area;
- Maps of geology and topography produced by agencies of the Victorian government.

Acknowledgments

Thanks to Messrs Darren Wallace and John Erwin for records of flora and fauna sightings cited above, and Mr Jeff Yugovic for providing an update to his draft flora and fauna assessment report of 2001.

Aerial Photograph and Plan of Sites in the Lysterfield Hills



Sites of biological significance are outlined and numbered in either red or magenta, the latter being for roadsides. Other than for Sites 81-83, there are more magnified images of the sites in their respective sections of this report. The aerial photography was from April 2003. The two quarries have expanded substantially since that time.