

Site 21. Dobson's Treed Paddock, The Basin

A treed area of 1.6 ha with grazed native understorey vegetation, in a semi-rural landscape, close to suburbia and also to more substantial areas of habitat for native flora and fauna. Melway ref. 65 G5.

Site Significance Level: State due to the presence of a Vulnerable EVC

Aerial photograph and plan: See page 114, which covers this site, Liverpool Road Retarding Basin and Sugarloaf Hill.

Boundaries

This site is outlined in red and labelled 'Dobson's Treed Paddock' on page 114. The site boundary is intended to be a simple shape that circumscribes the treed area that can be seen on the aerial photograph. It lies within a single lot, and while it is usually preferable to make site boundaries align with property boundaries, it does not seem reasonable in this case. Otherwise, if the lot is subdivided (as seems possible), there could be lots with no conservation significance, still covered by the Environmental Significance Overlay that is proposed here.

Land use & tenure: Part of a private Rural Living lot, used for horse agistment.

Site description

The site is on a lower, north-facing slope at the very edge of the Dandenong Ranges. The elevations are 143-165m and the slope is 1:8 (12-13%). The soil is loam over clay subsoil, derived from the Mt Evelyn rhyodacite formation of the Dandenong Ranges volcanic group.

This area has been previously fenced, but the only substantial fences that remain are on the southwestern and southeastern boundaries (corresponding to lot boundaries). Horses have grazed the native vegetation, eliminating many shrub species and stunting the remainder. The ground flora has survived rather better, retaining a substantial number of wildflowers. Environmental weeds have secured a foothold, particularly where there are signs of digging many years ago, but the grazing is suppressing many weeds as much as it is suppressing the indigenous species.

There are many mature Monterey Pines in the easternmost corner of the site. They are seriously degrading the quality of the native vegetation there, due to their shade, soil modification and competition for moisture and nutrients. This area also has serious eucalypt dieback, no doubt exacerbated or caused by the pines. Lesser dieback is spread across the rest of the site.

Overall, the site has many large eucalypts in fair to good condition, up to approximately 25 m tall. This is significant because of the importance of such trees for nesting and roosting of wildlife (bats, birds, possums) and the severe depletion of large eucalypts in Knox and the metropolitan area as a whole. Such trees become much more common east of nearby Sheffield Rd.

The treeless band of land through the northern projection of the site has very little native vegetation.

Relationship to other land

The site is 60 m from Liverpool Road Retarding Basin (Site 21) and 320m from native vegetation of the Dobsons Ck habitat corridor (Site 20), each of which are well connected to other native habitat. Dobson's treed paddock may act as an ecological stepping-stone between these sites for movement of birds, bats and insects. Apart from their intrinsic value, birds and insects can play an important role in dispersal of pollen and seeds.

Bioregion: The site is on the border between the Highlands Southern Fall and the Gippsland Plain, and is better taken as being in the former bioregion because the site is geologically and topographically part of the Dandenong Ranges and its vegetation best matches the form of Grassy Forest (EVC 128) that occurs in the Highlands Southern Fall.

Habitat type

Grassy Forest (EVC 128, **regionally Vulnerable**, or Endangered if the bioregion is taken to be the Gippsland Plain): Total area 1.6 hectares, of which approximately 0.5 ha is in fair ecological condition (rating C) and 1.1 ha is in poor ecological condition (rating D).

Dominant canopy trees: *Eucalyptus obliqua*, *E. goniocalyx*, *E. macrorhyncha* and *E. radiata*, to 25 m tall and typically not much more than 2 m apart.

Dominant lower trees: Abundant *Exocarpos cupressiformis* and some *Acacia melanoxylon*, both about 8 m tall.

Shrubs: Heavily grazed, allowing visibility up to 200 m. The main species left are *Coprosma quadrifida* and *Bursaria spinosa*. *Acacia stricta* and *Cassinia aculeata* are also present (the latter very scarce).

Vines: *Clematis aristata* is abundant and *Pandorea pandorana* is present, but both are grazed to ground level.

Ferns: *Pteridium esculentum* is abundant, no doubt encouraged by grazing.

Ground flora: Greatly reduced in density and depth by grazing. Dominated by *Microlaena stipoides*, *Rytidosperma penicillatum*, *Gahnia radula* and pasture grasses; also with many *Carex breviculmis* and *Austrostipa rudis*. Character species include *Gonocarpus tetragynus*, *Platylobium formosum* and *Veronica calycina*.

Plant species

The following plant species were observed by the author in April 2002. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox with 'E'=Endangered and 'V'=Vulnerable. A spring or summer survey would probably detect about 5-10 additional species.

Risk	Indigenous Species	Risk	Indigenous Species
V	<i>Acacia melanoxylon</i>		<i>Juncus amabilis</i>
E	<i>Acacia stricta</i>		<i>Lachnagrostis filiformis</i>
	<i>Acaena novae-zelandiae</i>	E	<i>Lagenophora stipitata</i>
V	<i>Acrotriche prostrata</i>	E	<i>Leptospermum scoparium</i>
	<i>Austrostipa rudis</i> subsp. <i>rudis</i>		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>
	<i>Billardiera mutabilis</i>		<i>Microlaena stipoides</i>
	<i>Bursaria spinosa</i>	V	<i>Opercularia ovata</i>
	<i>Carex breviculmis</i>	V	<i>Opercularia varia</i>
	<i>Cassinia aculeata</i>		<i>Oxalis exilis/perennans</i>
V	<i>Clematis aristata</i>		<i>Pandorea pandorana</i>
V	<i>Coprosma quadrifida</i>	V	<i>Platylobium formosum</i>
E	<i>Cynoglossum suaveolens</i>		<i>Poa morrisii</i>
	<i>Dichondra repens</i>		<i>Poranthera microphylla</i>
	<i>Eucalyptus goniocalyx</i>		<i>Pteridium esculentum</i>
E	<i>Eucalyptus macrorhyncha</i>		<i>Rytidosperma penicillatum</i>
V	<i>Eucalyptus obliqua</i>		<i>Rytidosperma racemosum</i>
E	<i>Eucalyptus radiata</i>		<i>Rytidosperma tenuius</i>
V	<i>Euchiton collinus</i>		<i>Senecio hispidulus</i>
V	<i>Exocarpos cupressiformis</i>	E	<i>Senecio prenanthoides</i>
	<i>Gahnia radula</i>		<i>Tetrarrhena juncea</i>
	<i>Gonocarpus tetragynus</i>		<i>Themeda triandra</i>
	<i>Goodenia ovata</i>	E	<i>Veronica calycina</i>
V	<i>Hardenbergia violacea</i>		
Introduced Species			
	<i>Acacia baileyana</i>		<i>Pittosporum undulatum</i>
	<i>Agrostis capillaris</i>		<i>Plantago lanceolata</i>
	<i>Anthoxanthum odoratum</i>		<i>Prunella vulgaris</i>
	<i>Centaurium erythraea</i>		<i>Rubus anglocandicans</i>
	<i>Crataegus monogyna</i>		<i>Trifolium repens</i>
	<i>Crepis capillaris</i>		<i>Vinca major</i>
			<i>Dactylis glomerata</i>
			<i>Ehrharta erecta</i>
			<i>Hedera helix</i>
			<i>Hypochoeris radicata</i>
			<i>Ilex aquifolium</i>
			<i>Pinus radiata</i>

Fauna of special significance

Powerful Owls are Vulnerable in Victoria (DSE 2003b) and are bound to visit occasionally, even though they were not actually observed in this study. This species was found roosting 500 m away in Site 20. The habitat on Dobson's treed paddock would form only a small fraction of the range of a Powerful Owl.

Fauna habitat features

- A substantial sized patch of large eucalypts (many of which are diseased), some with hollows;
- The possible role as a stepping-stone for movement of birds, bats and insects (see above).

Significance ratings

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

Regionally Threatened Ecological Vegetation Class

According to the criteria of 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), remnants of a regionally vulnerable EVC (including Grassy Forest) have a conservation significance rating of Medium

to Very High, depending on their habitat score (Volume 1, Section 2.4.4). No habitat score has been determined in the present site, but it is likely that some of the vegetation would reach the threshold of 0.3 that would make the conservation significance High according to the Framework criteria. On this basis, criterion 3.2.3 of Amos (2004) confers **State** significance to the site. This may reduce to Regional in light of a formal assessment of habitat scores after the vegetation is allowed to recover from grazing.

Faced with some uncertainty between the State and Regional ratings, it is recommended that the Precautionary Principle be applied, as summarised in the Glossary of Volume 1. This principle is well established in Australian and Victorian environmental law and would mean that the site should be treated almost the same as if it were definitely of State significance.

Locally Threatened Plant Species

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

Threatened Fauna

Criterion 3.1.3 confers **Regional** significance upon sites like Dobson's treed paddock that are likely to support Powerful Owl (a vulnerable species in Victoria) and are very close to known habitat of that species.

Threats

- Gradual loss of indigenous understorey due to the effects of grazing;
- Likely future residential development (although the planning scheme theoretically provides protection for the native vegetation);
- Rapid escalation of environmental weeds if grazing ceases and other control measures are not taken;
- Invasion by environmental weeds:
 - Very serious: Monterey Pine (*Pinus radiata*);
 - Serious: Sweet Vernal-grass (*Anthoxanthum odoratum*), Ribwort (*Plantago lanceolata*), Blue Periwinkle (*Vinca major*);
 - Lower level: Hawthorn (*Crataegus monogyna*), Cocksfoot (*Dactylis glomerata*), Panic Veldt-grass (*Ehrharta erecta*), Ivy (*Hedera helix*), Cat's Ear (*Hypochoeris radicata*), Holly (*Ilex aquifolium*), Blackberry (*Rubus discolor*);
- Eucalypt dieback disease that is severe in the eastern corner and moderately severe elsewhere;
- Loss or decline of plant species that are present in dangerously small numbers, due to inbreeding, poor reproductive success or vulnerability to localised chance events.

Management issues

The abundance of plants species such as *Kennedia prostrata* after fire on the nearby Mountain Valley property (part of Site 23) shows the value of fire in recovering plant species that have suffered massive decline in Knox. It is ecologically desirable for Council to support the use of fire on this site if the owner seeks it.

Administration matters

- As discussed above, the site should be administered almost the same as if it were definitely of State significance, based on the Precautionary Principle.
- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of its biological significance and the possibility of future subdivision;
- The site is not, and has not been, included within a planning overlay to protect the vegetation, even though the site was recognised as biologically significant by Water Ecoscience (1998) (included within their Site 267);
- The land is zoned RLZ, for which the schedule in the Planning Scheme specifies a minimum area of 4 ha for subdivision and for construction of a dwelling without a planning permit. The lot in question is slightly smaller;
- The granting of planning permits for land development within the site would be restricted because of the status of the vegetation as a regionally vulnerable EVC and the Victorian government's policy for native vegetation management (NRE 2002a; Victoria Planning Provisions).

Information sources used in this assessment

- Detailed vegetation data in accord with this study's standard approach described in Section 2.4 of Vol.1, including a list of indigenous and introduced plant species, compiled by Dr Lorimer over 1½ hours on 3rd April 2002;
- Aerial photography from February 2001 and April 2003;
- Satellite imagery of the district;

- The Department of Sustainability & Environment's BioMaps of the area (which are taken here to be inaccurate for this lot);
- Maps of geology and topography produced by agencies of the Victorian government.

Acknowledgment

Thanks to Mr Jim Dobson for granting permission to inspect the site.