

Site 36. Burke Road Reserve and Knox Reservoir, Ferntree Gully

Reserve in Burke Rd opposite Elmstead Ct and adjoining land around the Knox Reservoir water storage tank.
Melway ref. 73 H1.

Site Significance Level: *State*

- Contains remnants of a regionally endangered Ecological Vegetation Class (Valley Heathy Forest) in fair to poor ecological condition due to previous clearing and mowing but with good potential for rehabilitation;
- Provides good habitat for forest birds, including the occurrence of large remnant Yellow Box trees;
- Forms a component of a fragmented habitat link between Blind Creek and the Ferny Creek / Monbulk Creek valley.



Aerial photograph taken April 2003



Scale 1:2,000
10 0 20 40 60 80 100m

Boundaries

The site comprises the whole of a single lot, Lot 6 LP6617, which includes the 'Burke Road Reserve' and adjoining fenced land to the north around the water storage tank known as the Knox Reservoir. The lot measures 1.98 ha.

Note: Permission was not obtained to enter the fence around the reservoir. Most vegetation was evident from around the boundaries, but some ground flora could well have been undetected.

Land use & tenure: Zoned 'Public Park and Recreation Zone'. There is a public park in the southern corner and the remainder of the property is a fenced enclosure with a South East Water storage tank (the 'Knox Reservoir') and associated facilities.

Site description

The site is on the upper slope of a broad, low ridge, which is oriented roughly northwest to southeast. The slope of the natural soil surface is shallow and faces west. The elevation is approximately 110-115 m. About one third of the site has been cleared and levelled, leaving an embankment rising from the eastern edge of the cleared area and water tank visible on the aerial photograph.

The soil is shallow, light grey loam over clay subsoil, derived from decomposition of the underlying Lower Devonian sedimentary rocks of the Humevale formation.

The density of remnant trees in two-thirds of the site is not much different from pre-European times. This includes a few large specimens of Yellow Box (*Eucalyptus melliodora*) likely to be over 100 years old. Indigenous understorey vegetation has been substantially depleted by previous clearing but persists in some areas. The highest quality remnant ground layer vegetation occurs in the northeastern corner of the public park and on an embankment along the southern boundary of the water tank enclosure.

Mowing activities appear to have relatively recently been discontinued in areas supporting remnant ground layer vegetation within the public park.

Relationship to other land

Residential properties and nature strips in the surrounding area contain scattered remnant indigenous and planted native trees. This includes a large remnant Yellow Box along the frontage of 60 Burke Rd, almost opposite the reserve.

The site forms a component of a fragmented habitat link between Blind Creek and the Ferny Creek / Monbulk Creek valley, extending through residential areas in Ferntree Gully.

Bioregion: Gippsland Plain

Habitat type

Valley Heathy Forest (EVC 127, **regionally Endangered**), approaching Valley Grassy Forest (EVC 47, regionally vulnerable). There is approximately 1.25 ha of native vegetation, of which it is estimated that 10% (1,200 m²) is in fair ecological condition (rating C) and 90% (1.13 ha) is in poor ecological condition (rating D).

Canopy trees: A fair cover of remnant *Eucalyptus melliodora* and *E. goniocalyx* trees up to 25m tall, with some *E. macrorhyncha* and *E. cephalocarpa*.

Lower trees: Several scattered specimens of *Exocarpos cupressiformis*.

Shrubs: Scattered *Bursaria spinosa* shrubs. Shrub layer vegetation has been substantially depleted by previous clearing.

Vines and ferns: Absent.

Ground flora: Substantially depleted by previous clearing but recovering in some unmown areas, including (*Austro-*) *Rytidosperma* spp., *Microlaena stipoides* and *Themeda triandra*. Additional indigenous ground layer species potentially occur within the least disturbed sections of the water tank enclosure.

Plant species

The following plant species were observed by Mr Rik Brown on 8th May 2002. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox with 'E'=Endangered and 'V'=Vulnerable. Additional species would no doubt be found in spring or early summer.

| Risk | Indigenous Species | Risk | Indigenous Species |
|---------------------------|---|------|---|
| | <i>Acacia dealbata</i> | V | <i>Exocarpos cupressiformis</i> |
| E | <i>Acacia stricta</i> | | <i>Goodenia ovata</i> |
| | <i>Bursaria spinosa</i> | | <i>Juncus</i> sp. |
| | <i>Cassinia arcuata</i> | | <i>Lomandra filiformis</i> subsp. <i>coriacea</i> |
| V | <i>Eucalyptus cephalocarpa</i> | | <i>Microlaena stipoides</i> |
| | <i>Eucalyptus goniocalyx</i> | | <i>Rytidosperma penicillatum</i> |
| E | <i>Eucalyptus macrorhyncha</i> | | <i>Rytidosperma</i> sp. |
| V | <i>Eucalyptus melliodora</i> | | <i>Themeda triandra</i> |
| Introduced Species | | | |
| | <i>Acacia longifolia</i> subsp. <i>longifolia</i> | | <i>Hakea salicifolia</i> |
| | <i>Coprosma repens</i> | | <i>Hedera helix</i> |
| | <i>Cotoneaster glaucophyllus</i> | | <i>Pinus radiata</i> |
| | <i>Genista monspessulana</i> | | <i>Pittosporum undulatum</i> |
| | | | <i>Prunus cerasifera</i> |
| | | | <i>Rubus anglocandicans</i> |

Fauna of special significance

None recorded during field surveys.

Fauna habitat features

The cover of remnant trees occurring within the site and scattered throughout the surrounding area provides good habitat for forest birds. The remnant Yellow Box trees are likely to provide an important nectar source for lorikeets and nomadic honeyeaters when in flower. A substantial population of Musk and Rainbow Lorikeets was apparent in the area during field surveys and are also likely to be attracted by nature strip plantings of Red Ironbark in the area.

Significance ratings

Regionally Endangered Ecological Vegetation Class

This site contains a 'remnant patch' of an endangered EVC. According to 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), vegetation belonging to an endangered EVC has a conservation significance rating of either High or Very High, depending on its ecological condition. In either case, any site containing a remnant patch of such vegetation is of **State** significance under the Department of Sustainability & Environment's standard criteria (Amos 2004 – criterion 3.2.3).

The author has misgivings about such a high rating when the ecological condition of the vegetation is so poor, but these misgivings are overridden by the importance of consistency with the standard criteria.

Regionally Threatened Plant Species

Some of the locally threatened plant species listed above have viable populations (in combination with surrounding vegetation), thereby meeting criterion 3.1.5 for a site of **Local** significance.

The large remnant Yellow Box (*Eucalyptus melliodora*) trees in the area are locally significant in view of their size and the habitat they provide for native birds, but this does not meet any criterion of Amos (2004).

Threats

- Invasion by environmental weeds, particularly woody weeds within the reservoir enclosure;
- Dieback disease of remnant trees;
- Loss or decline of plant species whose populations are so small that they are vulnerable to inbreeding, poor reproductive success or elimination by incidents such as digging by dogs;
- Reduced visitation of the site by small insect-eating birds due to its isolation from other areas with indigenous understorey, possibly leading to a worsening of plant pests and diseases;
- Lack of recruitment of indigenous vegetation because of mowing and other physical disturbances;
- Clearing or damage to remnant vegetation associated with potential further development or construction works within the fenced reservoir enclosure.

Management issues

- Provide specific protection for remnant vegetation in any development or construction works;
- Incorporate remnant trees within indigenous revegetation areas wherever possible to provide ongoing protection and opportunities for regeneration;
- Continue to reduce mowing of areas supporting remnant ground layer vegetation, which appears to have been facilitating natural regeneration of indigenous flora within the public section of the site. Prospects for rehabilitation of these areas are good;
- Selective weed control, particularly of woody weeds;
- Monitor the recovery of indigenous ground layer vegetation in areas where mowing has been discontinued.

Administration matters

- This site is suited to inclusion under the proposed ESO2 overlay because of its biological significance and because it contains a viable remnant of an endangered EVC;
- It was not recognised as a site of significance in the study by Water Ecoscience (1998);
- It is not presently covered by any Vegetation Protection Overlay;
- There should be liaison between Council and South East Water Ltd to ensure awareness of the environmental values of the land and requirements for their protection and rehabilitation.

Information sources used in this assessment

- A site survey undertaken during this study by Rik Brown on 8/5/02, following this study's standard procedures discussed in Section 2.4 of Volume 1. This included a description of the composition and condition of the vegetation, compilation of lists of indigenous and introduced plant species, incidental fauna observations, and checks for fauna habitat, ecological threats, management issues and populations of scarce or threatened plant species;
- 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.