

## Site 1. Glenfern Road Woodland, Upper Ferntree Gully

A grazing property abutting the Melbourne metropolitan area, plus abutting roadside. There is a hillside with woodland and native pasture, and a narrow strip of Riparian Forest along Ferny Ck on one boundary. Melway ref. 74 E8.

### Site Significance Level: *Regional*

- Valley Grassy Forest is listed as regionally Vulnerable, and is rare in the Dandenong Ranges;
- There are many large, old trees in the Valley Grassy Forest and the Riparian Forest;
- Many regionally rare fauna species have been observed on adjoining land and there is strong potential for some of these species to be found within the site if a survey were to be conducted.



*Aerial photograph taken February 2001*

### Boundaries

This site comprises 157 Glenfern Rd and the abutting road verges, as outlined in red and labelled ‘Glenfern Road Woodland’ above. The wavy part of the boundary follows either the creek or an adjacent fence. Site 2 can be seen abutting to the northeast, and part of Site 99 to the north.

The Knox Planning Scheme maps show a more complicated boundary between 157 Glenfern Rd and Gilmour Park than that shown above. The former does not accurately reflect the reality that there is a fence along the red line shown above, which divides the land between private grazing and public park management.

**Land use & tenure:** A single, private Rural Living lot, used for grazing.

**Note:** Permission was not obtained to enter this property, so the inspection was done from the fence and aerial photographs. The extent of native ground flora could not be reliably determined.

### Site description

This 31-hectare site is on a ridge at the edge of the Dandenong Ranges volcanic geological formation, descending to the floodplain of Ferny Ck. Glenfern Rd runs along the ridge top, and there is a minor spur running roughly parallel to New Rd, as marked above. The ridgeline and spur appear on the aerial photograph above as paler areas. The western half of the site faces north, and the eastern half has contours encircling the knoll marked above. Elevations vary from 113 m where Ferny Ck exits the site (in the northwest) to 167 m on the top of the knoll.

The slope is very shallow in the untreed, alluvial floodplain of Ferny Creek. The slope becomes rather steep (approaching 30%) beside New Rd and near the boundary with Site 2, facing northeast to southeast. The remainder of the site has a typical slope of 20%, facing all directions (but mostly with northerly or easterly components).

The native vegetation on the site comprises Riparian Forest on the floodplain and Valley Grassy Forest elsewhere. The former would once have covered the floodplain, but is now probably confined to a narrow, fragmented strip along both banks of Ferny Ck. There is a slight chance that there are patches of Riparian Forest ground flora south of this strip, on the floodplain, but this could not be checked without obtaining permission to enter the property. There are substantial numbers of very large, old Manna Gums on the creek banks, as well as several locally rare shrubs (e.g. *Gynatrix pulchella*). Environmental weeds are a serious degrading influence, as usual along creek corridors.

The occurrence of Valley Grassy Forest is very unusual in the Dandenong Ranges. It contains some fine specimens of Yellow Box and there are Candlebarks, which are rare in Knox and the Dandenongs. The density of trees probably reaches the pre-European density in some parts, but is mostly thinner than natural. Even where trees are very sparse, the ground flora is often native pasture with a large or substantial component of indigenous ground flora. Therefore, the area of native vegetation is larger than the area of tree cover. The richness of ground flora species appears to be rather low, looking from the fenceline, which could be because the area is grazed. Environmental weeds seem not to be a significant problem in the Valley Grassy Forest at this site.

There has been some infill planting of indigenous species on the verge of Glenfern Rd, just northwest of the slight bend.

### Relationship to other land

This site and Site 2 appear separately in this report because one is public land and the other is private. From an ecological point of view, the two should be considered together, and also in conjunction with the larger area of bushland on the other side of New Rd, in the Shire of Yarra Ranges. Some fauna no doubt rely on each site to provide different habitat needs; e.g. the lake in Site 2 provides water for woodland birds that forage in Site 1. Native birds and mammals are often seen moving across New Rd.

Probably the most biologically significant area on the other side of New Rd is the 'Glenfern Valley Bushlands' – a 40-hectare area of Crown Land recently reserved as a 'Conservation Area of Natural Interest and Recreation' and managed by a Committee of Management.

Ferny Ck no doubt acts to some degree as a habitat corridor through the area but it reaches a dead end in Site 1 due to the creek's highly unnatural state further downstream. The amount of Riparian Forest in Site 1 is similar to that on the opposite side of Ferny Ck, which is in Site 99 (the Dandenong Ranges buffer zone). Both sides of the creek are equally important for the ecological function and aesthetic appeal of the creek corridor.

Some native birds, mammals and insects that reside in, or visit, the treed neighbourhood to the north (in Site 99) no doubt use the creek corridor as a source of water and food and as a refuge from hot weather.

**Bioregion:** Highlands Southern Fall

### Habitat types

The total area and ecological condition of native vegetation in either EVC is not known, due to absence of permission to enter the site. All the vegetation seen was in fair to poor ecological condition (rating C or D).

**Perennial Stream** (No EVC number). 6 aquatic flora species found.

**Riparian Forest** (EVC 18, 'Least Concern' conservation status in the bioregion): 22 indigenous plant species were found by Mr John Reid on 26/3/1997 along both sides of the creek.

Dominant canopy trees: *Eucalyptus viminalis*.

Dominant lower trees: *Acacia melanoxyton*, with fewer *Pomaderris aspera*.

Shrubs: *Coprosma quadrifida*, *Bursaria spinosa*, *Gynatrix pulchella*, *Ozothamnus ferrugineus* and *Prostanthera lasianthos*.

Vines: *Calystegia marginata* is present but very scarce.

Ferns: *Pteridium esculentum* is present.

Ground flora: Mostly weeds. Indigenous species include *Epilobium hirtigerum*, *Juncus gregiflorus*, *J. sarophorus*, *Lobelia anceps*, *Lomandra longifolia*, *Poa ensiformis*, *Senecio minimus* and *S. quadridentatus*.

**Valley Grassy Forest** (EVC 47, **regionally Vulnerable**): 32 indigenous plant species were found by G. Lorimer looking from the roadside. A substantially larger number might be detected with the benefit of being able to enter the private land.

Dominant canopy trees: *Eucalyptus melliodora* and *E. goniocalyx*, with fewer *E. rubida* and *E. radiata*, widely spaced.

Dominant lower trees: *Exocarpos cupressiformis*, with fewer *Acacia melanoxyton* and *Acacia mearnsii*.

**Shrubs:** Practically absent on the private property. On the roadsides, *Bursaria spinosa* and *Kunzea ericoides* are the dominant shrubs, and there are also small numbers of *Acacia myrtifolia*, *A. paradoxa* and *A. stricta*.

**Vines:** none could be seen from the roadside.

**Ferns:** none could be seen from the roadside.

**Ground flora:** The private property appears to have extensive areas of native pasture dominated by *Microlaena stipoides*, *Rytidosperma penicillatum*, *Themeda triandra* and other native grasses. The character species *Veronica gracilis* is also present.

### Plant Species

The following plant species were observed in 1997. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox as follows: 'C'=Critically Endangered, 'E'=Endangered; and 'V'=Vulnerable. The *Calystegia* and *Potamogeton* are rare throughout the Melbourne area.

Risk	Indigenous Species (alphabetical)	Risk	Indigenous Species (alphabetical)
V	<i>Acacia mearnsii</i>		<i>Juncus sarophorus</i>
V	<i>Acacia melanoxylon</i>		<i>Kunzea ericoides</i> spp. agg.
	<i>Acacia paradoxa</i>	E	<i>Lobelia anceps</i>
E	<i>Acacia stricta</i>		<i>Lomandra filiformis</i> subsp. <i>coriacea</i>
V	<i>Acaena echinata</i>		<i>Lomandra filiformis</i> subsp. <i>filiformis</i>
	<i>Alisma plantago-aquatica</i>		<i>Lomandra longifolia</i>
	<i>Austrostipa rudis</i> subsp. <i>rudis</i>		<i>Microlaena stipoides</i>
	<i>Bursaria spinosa</i>	E	<i>Ozothamnus ferrugineus</i>
E	<i>Calystegia marginata</i>		<i>Persicaria decipiens</i>
V	<i>Coprosma quadrifida</i>	E	<i>Persicaria hydropiper</i>
	<i>Dianella admixta</i>		<i>Poa ensiformis</i>
V	<i>Dianella longifolia</i> s.l.		<i>Poa morrisii</i>
	<i>Dichondra repens</i>	E	<i>Pomaderris aspera</i>
	<i>Elymus scaber</i>	V	<i>Potamogeton crispus</i>
	<i>Epilobium hirtigerum</i>	E	<i>Prostanthera lasianthos</i>
	<i>Eucalyptus goniocalyx</i>		<i>Pteridium esculentum</i>
E	<i>Eucalyptus macrorhyncha</i>	E	<i>Rubus parvifolius</i>
V	<i>Eucalyptus melliodora</i>		<i>Rytidosperma laeae</i>
E	<i>Eucalyptus radiata</i>		<i>Rytidosperma penicillatum</i>
C	<i>Eucalyptus rubida</i>		<i>Rytidosperma racemosum</i>
E	<i>Eucalyptus viminalis</i> subsp. <i>viminalis</i>	E	<i>Senecio minimus</i>
V	<i>Exocarpos cupressiformis</i>		<i>Senecio quadridentatus</i>
E	<i>Gynatrix pulchella</i>		<i>Themeda triandra</i>
V	<i>Isolepis inundata</i>	E	<i>Typha ?orientalis</i>
	<i>Juncus gregiflorus</i>	V	<i>Veronica gracilis</i>

### Introduced Species

<i>Anthoxanthum odoratum</i>	<i>Fraxinus angustifolia</i>	<i>Ranunculus repens</i>
<i>Aster subulatus</i>	<i>Genista monspessulana</i>	<i>Rosa rubiginosa</i>
<i>Callitriche stagnalis</i>	<i>Hedera helix</i>	<i>Rubus anglocandicans</i>
<i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i>	<i>Helminthotheca echioides</i>	<i>Rumex crispus</i>
<i>Cirsium vulgare</i>	<i>Ipomoea indica</i>	<i>Salix babylonica</i> s.l.
<i>Crataegus monogyna</i>	<i>Jasminum</i> sp.	<i>Solanum mauritianum</i>
<i>Crocasmia</i> × <i>crocosmiiflora</i>	<i>Nassella trichotoma</i>	<i>Tradescantia fluminensis</i>
<i>Cyperus eragrostis</i>	<i>Pennisetum clandestinum</i>	<i>Ulex europaeus</i>
<i>Dactylis glomerata</i>	<i>Phalaris aquatica</i>	<i>Verbena bonariensis</i> s.l.
<i>Ehrharta erecta</i>	<i>Pittosporum undulatum</i>	
<i>Foeniculum vulgare</i>	<i>Prunus cerasifera</i>	

### Fauna of special significance

Powerful Owls are Vulnerable in Victoria (DSE 2003b) and have been recorded as recently as 2003 in the adjacent Glenfern Valley Bushlands. They are likely to occasionally visit any forest in the district.

Platypus were found in the creek during a 1996-7 trapping campaign (Serena *et al.* 1998) but subsequent attempts to find platypus have failed and this species has probably ceased to visit this area, at least for the time being.

Many of the significant fauna listed for Site 2 would also occur occasionally in Site 1, but no data could be obtained in the absence of permission to enter the private property.

### Fauna habitat features

- There are many large eucalypts with hollows that would suit roosting or nesting of certain birds and mammals;
- The stream supports Platypus (or at least, was known to do so until 1997) and hence is likely to have reasonable habitat for stream invertebrates.

### 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), even quite degraded examples of a regionally vulnerable EVC (including Valley Grassy Forest) have a conservation significance rating of Medium. This status applies to at least some of the vegetation in this site, and it is possible that the highest quality vegetation may reach High conservation significance. As a consequence, the site meets criterion 3.2.3 for a site of at least **Regional** significance. If a more detailed site inspection in accordance with the Framework were to show that the most significant part of the Valley Grassy Forest has a habitat score of at least 0.3 (which seems unlikely), the site's significance rating should be raised to State.

#### *Threatened flora and fauna*

The likely occasional visits of Powerful Owls to the site represent **Local** significance under criterion 3.1.3, given that Powerful Owl is a vulnerable species in Victoria.

The other species listed as 'Fauna of special significance' above, and all the locally threatened plant species listed under the heading 'Plant species', give the site **Local** significance under criterion 3.1.5 (except perhaps a few species that may not have viable populations).

### Threats

- Possible future residential development;
- Rapid escalation of environmental weeds if grazing ceases and other control measures are not taken;
- Environmental weeds invading the Riparian Forest from properties to the north of the creek, the worst species being: Hawthorn (*Crataegus monogyna*), Ivy (*Hedera helix*), Sweet Pittosporum (*Pittosporum undulatum*), Blackberry (*Rubus discolor*), Willows (*Salix* species), Wandering Jew (*Tradescantia albiflora*) and introduced grasses such as Cocksfoot (*Dactylis glomerata*);
- Environmental weeds invading the Valley Grassy Forest, the worst species being: Sweet Vernal-grass (*Anthoxanthum odoratum*), Hawthorn (*Crataegus monogyna*), Montpellier Broom (*Genista monspessulana*) and Sweet Briar (*Rosa rubiginosa*);
- Possibly 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, but population sizes could not be checked in this study;
- Predation of wildlife by pets;
- Damage to creek banks by stock.

### Administration matters

- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of its biological significance (known and potential), the possibility of future subdivision, the presence of riparian habitat and the presence of a threatened vegetation class (Valley Grassy Forest) that is highly fragmented and highly concentrated on private land;
- The site is included within Vegetation Protection Overlay VPO1 of the Knox Planning Scheme. This was partly because part of the site was recognised as biologically significant by Water Ecoscience (1998, Site 27), but the presence of indigenous ground flora had been overlooked. The site is also covered by Significant Landscape Overlay Schedule 2;
- The site is zoned Green Wedge Zone Schedule 2 (GWZ2). It abuts, and is just outside, the Urban Growth Boundary for Melbourne;
- The granting of planning permits for land development within areas of Valley Grassy Forest 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). Any development proposal for the site would have to be accompanied by an ecological assessment that is much more thorough than was possible from the perimeter;

- Some of the site has a slope exceeding 20% and some lies within a riparian zone. Both of these attributes are given a Very High land protection hazard rating by the Native Vegetation Management Framework (NRE 2002a) and they trigger certain planning controls.

#### **Information sources used in this assessment**

- A site survey by Dr Lorimer on 19th December 1997 for the report, '*A Survey and Management Plan for Significant Vegetation of Roadsides in Knox*' by G.S. Lorimer for Knox City Council (May 1998, 137 pp.). This included a map of vegetation quality around the perimeter of the site and two lists of plant species (indigenous and introduced) for different areas of Valley Grassy Forest;
- The report '*Vegetation Survey of Linear Reserves – A Management Strategy for Riparian and Flood Plain Vegetation*' by J.C. Reid, H. Moss and G.S. Lorimer for Knox City Council (September 1997, 130 pp.), along with supporting field data gathered along the creek by Mr John Reid on 26th March 1997. This included a vegetation map showing EVCs and vegetation quality along the creek, and two lists of plant species (indigenous and introduced) – one for aquatics in the creek and the other for the Riparian Forest;
- A list of fauna observed during each of the above botanical surveys;
- Lists of fauna observed in the area during 2001-2003, carefully compiled by Mr Mark Fanthorpe for this project, based on surveys by him and his fellow members of the Friends of Glenfern Valley Bushlands: I. Rainbow, L. Living & R. Sinclair;
- '*Status and Habitat Relationships of Platypus in the Dandenong Creek Catchment – II. Results of Surveys and Radio-Tracking Studies, September 1997 - March 1998*', a report by M. Serena, J.L. Thomas and G.A. Williams of the Australian Platypus Conservancy to Melbourne Water, September 1998;
- 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.

#### **Acknowledgment**

Thank you to Mr Mark Fanthorpe and his fellow volunteers in the Friends of Glenfern Valley Bushlands for their fauna list.