

## Site 76. Dandenong Police Paddocks Reserve, Rowville

A part of the small section of the Dandenong Police Paddocks Reserve that lies within Knox, north of Dandenong Creek and east of Stud Rd. Melway ref. 81 G9-H9.

### Site Significance Level: *State*

- Contains remnants of a regionally endangered Ecological Vegetation Class (Swamp Scrub) which are significant despite previous clearing and grazing activities;
- The Dandenong Creek and adjoining floodplain areas provide relatively extensive habitat for a range of birds, possums, frogs and other aquatic fauna (including significant waterbirds);
- Contains a population of Upright Milfoil *Myriophyllum crispatum* that is rare in the Melbourne area, and five other known plant species that are rare or threatened in Knox;
- Forms a component of the Dandenong Creek habitat corridor, contributing to the daily and seasonal movements of birds and other native fauna;
- Forms a component of a habitat link between the Dandenong Creek corridor and Lysterfield Hills.

**Aerial photograph and plan:** See page 377, which covers this site and Site 75.

### Boundaries

The Dandenong Police Paddocks Reserve is located on the eastern side of Stud Rd north of the Dandenong Creek crossing. Because this is a municipal study, only the section of the reserve located within the City of Knox, close to Stud Rd and Rowville Reserve, has been examined. Most of the Police Paddocks Reserve is located within the City of Casey.

The site boundary is shown in red on the aerial photograph on p. 377, marked as 'Site 76'. The western boundary is the edge of the road reservation for Stud Rd. The southern boundary is Dandenong Creek, with the City of Greater Dandenong on the other side. Northward from the creek, the eastern boundary follows the municipal boundary until it intercepts the fence of the tennis courts at Rowville Reserve. The rest of the boundary follows the fence of Rowville Reserve.

Areas of predominantly native vegetation within the site are outlined in white. The rest of the site is pasture with scattered native plants, including some locally rare ones.

**Land use & tenure:** Reserve managed by Parks Victoria with paddocks used for grazing; zoned PCRZ – Public Conservation and Resource Zone.

### Site description

The site is along Dandenong Creek and the adjoining floodplain at the foot of the Lysterfield Hills. It measures 15.5 ha. The elevation is 30 m where the creek exits the site (in the southeastern corner) and rises to approximately 37 m in the north. Apart from the creek channel and the drains, the site is almost flat. The soil is alluvium washed down by the creek.

The area has a long history of grazing, and was almost totally cleared long ago. Old maps show a natural drainage line to the north of Dandenong Creek, but now there are just constructed drains.

The two marked drains on the aerial photograph are fringed by occasional Swamp Gum (*Eucalyptus ovata*) and Blackwood (*Acacia melanoxylon*) trees, and there are patches of indigenous reeds and other wetland vegetation in the drains where grazing has been less intensive. There are even some plants of Upright Millfoil (*Myriophyllum crispatum*), which is rare throughout the Melbourne area and found in Knox at only three other sites (all along Dandenong Ck).

There are moderate weed infestations in the pasture, particularly of Gorse (*Ulex europaeus*).

The rushland areas at the northern tip of the site (marked on the aerial photograph) are dominated by indigenous species of rushes (which are unpalatable to the grazing cattle), interspersed with a mixture of introduced pasture species (weeds and fodder) and native wetland species such as Fen Sedge (*Carex gaudichaudiana*) and knotweeds (*Persicaria* species). There are more plants of Upright Millfoil (*Myriophyllum crispatum*) in the rushland, trampled by cattle.

The riparian vegetation on the northern bank of Dandenong Creek, extending as far north as the nearest white line on the aerial photograph, supports a fair to good cover of remnant Swamp Paperbarks (*Melaleuca ericifolia*). Past clearing has reduced the overstorey to a few specimens of Manna Gum (*Eucalyptus viminalis*) and Swamp Gum (*Eucalyptus ovata*). The pre-European vegetation would have been Floodplain Riparian Woodland or perhaps Swampy Riparian Woodland, but the loss of so many eucalypts and the regrowth of paperbarks have made the vegetation a reasonable fit for Swamp Scrub. Remnant and regenerating wattles and other indigenous shrubs are scattered within the area. They include a few large specimens of Sweet Bursaria (*Bursaria spinosa*) up to 8 m tall. Some patches of indigenous grasses persist in the least disturbed areas. Indigenous reeds, rushes and other semi-aquatic plants occur along drainage lines within the riparian zone, and a small dam is dominated by Common Spike-rush (*Eleocharis acuta*).

Most of the banks of Dandenong Creek have previously been grazed but the area is now fenced to exclude access by livestock. Ongoing disturbances along the creek are now mainly associated with riding of trail bikes and horses within the fenced area. Some bank stabilisation works have been undertaken along the creek.

The areas marked 'Reveg.' on the aerial photograph are indigenous revegetation areas up to approximately 7 years old.

There are no existing recreational facilities within the Knox section of the Dandenong Police Paddocks Reserve. The Dandenong Creek Trail is on the opposite side of the creek, in the City of Greater Dandenong.

### Relationship to other land

The site is a component of the Dandenong Creek wildlife corridor. In addition to the obvious linkage of the stream itself, daily and seasonal migrations of birds (particularly waterbirds) can be readily observed along the corridor. Frogs and insects no doubt also move along the corridor.

The most direct connections are with neighbouring areas of habitat in the rest of the Dandenong Police Paddocks Reserve, the other side of the creek, Tirhatuan Park and the Tirhatuan Lakes Public Golf Course (Site 75).

The Dandenong Police Paddocks Reserve and Churchill National Park to its east also provide habitat linkage between the Dandenong Creek corridor and the Lysterfield Hills, across to Lysterfield Park and the Dandenong Ranges via Belgrave South.

**Bioregion:** Gippsland Plain

### Habitat type

Floodplain Riparian Woodland (EVC 56, **regionally Endangered**): Approximately 0.97 ha, of which it is estimated that 0.3 ha is in fair ecological condition (rating C) and 0.67 ha is in poor ecological condition (rating D). 25 indigenous plant species were recorded on 15th July 2002.

Canopy trees: A few remnant *Eucalyptus viminalis* and *E. ovata* trees remain, but most overstorey trees have been cleared.

Lower trees: Scattered specimens of *Acacia mearnsii* and *A. dealbata*, with some *A. melanoxylon* and *Exocarpos cupressiformis*.

Shrubs: A fair to good cover of *Melaleuca ericifolia* and other scattered indigenous shrubs, including *Leptospermum lanigerum*, *L. scoparium*, *Melicytus dentatus*, *Coprosma quadrifida* and some large specimens of *Bursaria spinosa*. Fair levels of natural regeneration have appeared since this area was fenced several years ago.

Vines and ferns: Absent.

Ground flora: Patches of indigenous grasses where least disturbed, including *Poa labillardierei* and *Microlaena stipoides*. Otherwise dominated by exotic pasture grasses, particularly Paspalum, Kikuyu and Toowoomba Canary-grass.

Wetland (EVC 74, **regionally Endangered**), comprising a dam and natural depressions close to Dandenong Ck and the areas marked on the aerial photograph of p. 377 as rushland and drains. The part of the rushland area that is on the Knox side of the municipal boundary occupies 0.45 ha and is in fair ecological condition (rating C), with 11 indigenous plant species recorded on 8th May 2004. The other wetland areas occupy approximately 0.2 ha and are all in poor ecological condition (rating D), with 8 indigenous plant species recorded on 15th July 2002. Larger numbers of species would be detected in midsummer.

Woody vegetation: None within the wetland vegetation. Immediately to the northwest of the more southerly drain there are a few scattered *Eucalyptus ovata* trees, and the rest of the drains are lined by scattered *Acacia melanoxylon* and *Bursaria spinosa*.

Aquatic and semi-aquatic flora: The rushland is dominated by *Juncus sarophorus*. Other wetland areas are variously dominated by *Phragmites australis*, *Eleocharis acuta*, *Typha domingensis* or *Juncus sarophorus*. There are various non-dominant *Juncus* species, as well as *Persicaria decipiens*, *Schoenus apogon* and localised populations of *Lemna disperma* and *Myriophyllum crispatum*.

### Plant species

The following list of plant species were compiled by Mr Rik Brown on 15th July 2002 and the author on 8th May 2004. Additional species would no doubt be detectable in other seasons. 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, *Carex gaudichaudiana* and *Myriophyllum crispatum* are rare throughout the Melbourne region.

Risk	Indigenous Species	Risk	Indigenous Species
	<i>Acacia dealbata</i>		<i>Juncus bufonius</i>
V	<i>Acacia mearnsii</i>		<i>Juncus pallidus</i>
V	<i>Acacia melanoxylon</i>		<i>Juncus sarophorus</i>
	<i>Acaena novae-zelandiae</i>		<i>Juncus</i> sp.
C	<i>Amyema pendula</i>	E	<i>Lemna disperma</i>
V	<i>Amyema quandang</i>	E	<i>Leptospermum lanigerum</i>
	<i>Bursaria spinosa</i>	E	<i>Leptospermum scoparium</i>
	<i>Carex appressa</i>	V	<i>Lythrum hyssopifolia</i>
E	<i>Carex gaudichaudiana</i>	E	<i>Melaleuca ericifolia</i>
	<i>Cassinia arcuata</i>	E	<i>Meliccytus dentatus</i>
V	<i>Coprosma quadrifida</i>		<i>Microlaena stipoides</i>
V	<i>Eleocharis acuta</i>	C	<i>Myriophyllum crispatum</i>
	<i>Epilobium hirtigerum</i>	E	<i>Ozothamnus ferrugineus</i>
V	<i>Eucalyptus ovata</i>		<i>Persicaria decipiens</i>
E	<i>Eucalyptus viminalis</i> subsp. <i>viminalis</i>	E	<i>Phragmites australis</i>
V	<i>Exocarpos cupressiformis</i>	E	<i>Poa labillardierei</i> var. <i>labillardierei</i>
	<i>Goodenia ovata</i>		<i>Schoenus apogon</i>
E	<i>Gynatrix pulchella</i>	V	<i>Solanum laciniatum</i>
V	<i>Hemarthria uncinata</i>	E	<i>Typha domingensis</i>
	<i>Juncus amabilis</i>		
Introduced Species			
	<i>Acacia longifolia</i> subsp. <i>longifolia</i>		<i>Hakea salicifolia</i>
	<i>Agrostis capillaris</i>		<i>Holcus lanatus</i>
	<i>Anthoxanthum odoratum</i>		<i>Hypochoeris radicata</i>
	<i>Chrysanthemoides monilifera monilifera</i>		<i>Juncus articulatus</i>
	<i>Cirsium vulgare</i>		<i>Leontodon taraxacoides</i>
	<i>Cortaderia selloana</i>		<i>Lythrum junceum</i>
	<i>Crataegus monogyna</i>		<i>Paspalum dilatatum</i>
	<i>Cynodon dactylon</i>		<i>Pennisetum clandestinum</i>
	<i>Cyperus eragrostis</i>		<i>Phalaris aquatica</i>
			<i>Pittosporum undulatum</i>
			<i>Plantago coronopus</i>
			<i>Plantago lanceolata</i>
			<i>Prunella vulgaris</i>
			<i>Rubus anglocandicans</i>
			<i>Rumex crispus</i>
			<i>Ulex europaeus</i>
			<i>Watsonia meriana bulbifera</i>

#### Notes concerning some of the locally threatened plant species

*Carex gaudichaudiana* (Fen Sedge). Fairly abundant, particularly in the rushland.

*Gynatrix pulchella* (Hemp Bush). A few shrubs were found, scattered along a drainage line adjacent to Dandenong Ck.

*Lemna disperma* (Common Duckweed). Patches occur in a drainage line within the pasture.

*Leptospermum lanigerum* (Woolly Tea-tree). Several shrubs were found, scattered along Dandenong Ck.

*Meliccytus dentatus* (Tree Violet). A few shrubs scattered were found along a drainage line adjacent to Dandenong Ck.

*Myriophyllum crispatum* (Upright Milfoil). Patches occur along a drainage line and within the pasture and rushland.

*Poa labillardierei* (Common Tussock-grass). A few small patches were found along Dandenong Creek.

The large remnant Sweet Bursaria (*Bursaria spinosa*) shrubs along Dandenong Creek are locally significant because they are exceptionally large.

Milky Beauty-heads (*Calocephalus lacteus*) occurs within a few tens of metres (at most) east of the municipal boundary, and also at the foot of the slope slightly further east. There is no record of this species anywhere in Knox, but it may have been overlooked within this site.

#### Fauna of special significance

##### Vulnerable in Victoria

Great Egret (*Ardea alba*). A single bird was observed foraging along Dandenong Creek during the site inspection on 15th July 2002. This species has been reported here previously, and the creek and adjoining floodplains provide substantial habitat for it.

Other significant waterbirds associated with the Dandenong Creek floodplain are likely to be frequent visitors. Significant frogs, freshwater fish and other aquatic fauna also potentially occur within the creek and wetland areas.

Some significant forest birds occurring within the Dandenong Ranges National Park are likely to visit the site via the Lysterfield Hills.

## Fauna habitat features

The fair to good cover of shrub layer vegetation within the fenced frontage along Dandenong Creek provides habitat for native birds and possums. This includes a range of smaller birds, such as the Golden Whistler, Grey Fantail, Striated Thornbill, Superb Fairy-wren and White-plumed Honeyeater recorded during field surveys. Common Ringtail Possum dreys were also apparent in shrubs along the creek. Infestations of Gorse and other woody weeds in the area contribute to habitat for small birds and possums to some degree.

The Dandenong Creek and adjoining floodplain provide relatively extensive foraging habitat for waterbirds and breeding locations for frogs and other aquatic fauna. There are many yabby holes, which are sometimes said to be drought refuges for the vulnerable Dwarf Galaxias in this vicinity. Foraging activities by birds of prey also occur on the floodplain, including a Nankeen Kestrel observed during a site inspection for this study.

The indigenous vegetation and floodplain/wetland habitat within the site would inevitably contribute to the daily and seasonal movements of native fauna along the Dandenong Creek wildlife corridor.

## 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 & Viability*

Criterion 1.1.1 attributes **Local** significance to 'All parts of riparian systems with riparian vegetation present', which applies to this site.

The site provides a substantial amount of habitat for native wildlife associated with the Dandenong Creek and its floodplain and forms a component of the Dandenong Creek habitat corridor. This corridor is important on a scale larger than just local and smaller than state-wide. This represents **Regional** significance under criterion 1.2.6.

### *Regionally Threatened Ecological Vegetation Class*

This site contains remnant patches of regionally endangered EVCs. It follows from Appendix 3 of *Victoria's Native Vegetation Management - a Framework for Action* (NRE 2002a) that the native vegetation of these patches is of at least High conservation significance. This, in turn, gives the site **State** significance under criterion 3.2.3 of Amos (2004).

### *Rare or Threatened Flora*

At least some of the locally threatened species listed under the heading 'Plants of special significance' have viable populations within the site. This gives the site **Local** significance under criterion 3.1.5.

### *Rare or Threatened Fauna*

The Great Egret seen on the site in this study is listed as vulnerable in Victoria and has substantial habitat within the site. According to criterion 3.1.2 of the standard criteria of Amos (2004), a site with known habitat for a listed threatened species is of at least Local significance, and the significance level depends on how many sites support larger populations.

For the purposes of assessing population sizes of the Great Egret in this context, one should consider a 'site' that encompasses far more than just the small part of the Dandenong Creek floodplain within this part of the Dandenong Police Paddocks Reserve. Depending on how large a 'site' one chooses, it could be taken to be of **Local** or **Regional** significance under the standard criteria. The latter is deemed more reasonable here.

### *Waterway Protection*

All riparian vegetation has a Very High hazard rating for waterway protection according to Appendix 1 of Victoria's Native Vegetation Framework (NRE 2002a). This is separate from conservation significance, and indicates the level of importance that should be placed on protecting, restoring and revegetating riparian vegetation such as in the present site.

## Threats

- Climate change and drought, particularly affecting wetland vegetation;
- Fragmentation of habitat associated with the depletion of indigenous trees along the creek;
- Consequently, reduced visitation of the site by small insect-eating birds, possibly leading to a worsening of plant pests and diseases;
- Loss of indigenous vegetation and degradation of wetland habitat due to grazing on the floodplain;
- Invasion by environmental weeds:
  - Serious: Brown-top Bent (*Agrostis capillaris*), Cat's Ear (*Hypochoeris radicata*), Hairy Hawkbit (*Leontodon taraxacoides*), Bird's-foot Trefoil (*Lotus ?corniculatus*), Gorse (*Ulex europaeus*), Paspalum (*Paspalum dilatatum*);

- Moderate: Sweet Vernal-grass (*Anthoxanthum odoratum*), Spear Thistle (*Cirsium vulgare*), Hawthorn (*Crataegus monogyna*), Couch (*Cynodon dactylon*), Drain Flat-sedge (*Cyperus eragrostis*), Yorkshire Fog (*Holcus lanatus*), Jointed Rush (*Juncus articulatus*), Mediterranean Loosestrife (*Lythrum junceum*), Kikuyu Grass (*Pennisetum clandestinum*), Ribwort (*Plantago lanceolata*), Buck's-horn Plantain (*Plantago coronopus*), Toowoomba Canary-grass (*Phalaris aquatica*), Blackberry (*Rubus discolor*), Curled Dock (*Rumex crispus*);
- 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 being eaten or trodden on by cattle;
- Disturbance to remnant vegetation and habitat along Dandenong Creek by recreational uses (particularly riding of trail bikes and horses).

### Management issues

- Extend revegetation areas along the creek with indigenous plants on an ongoing basis to increase habitat connectivity;
- Install stock-proof fencing to protect remnant vegetation along drainage lines and floodplain wetlands within paddock areas;
- Control the weeds listed under the heading 'Threats' above. Removal of woody weeds should be integrated with indigenous revegetation activities to minimise the loss of habitat for birds and possums;
- Signs and other measures are required to prevent inappropriate recreational activities within the reserve along the creek.

### Administration matters

- This site is suited to the proposed Environmental Significance Overlay (ESO2) because of its State significance;
- Most of the native vegetation in this site is presently covered by Vegetation Protection Overlay 1. This is partly because of the study by Water Ecoscience (1998), in which this is Site 94 (under the erroneous title of Rowville Reserve).

### Information sources used in this assessment

- A site survey undertaken during this study by Rik Brown (15/7/02), including compilation of lists of indigenous and introduced plant species, incidental fauna observations and vegetation mapping/descriptions according to the procedures discussed in Section 2.4 of Volume 1;
- An additional inspection by Dr Lorimer during 45 minutes on 8/5/04, to do the same things as above, but for the rushlands south of the Rowville Reserve tennis courts (not inspected by Mr Brown);
- Verbal information from respected naturalist, Mr Darren Wallace, about *Calocephalus lacteus* and any other rare or threatened species that may occur within the site;
- The Atlas of Victorian Wildlife;
- 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.