Site 12. Bayview Crescent Water Tank, The Basin

South East Water property with a large water tank, ancillary equipment, a plantation of 'Australian natives' and bushland, adjoining the Dandenong Ranges National Park. Melway ref. 65 G9.

Site Significance Level: *State*

- The native vegetation grades between three Ecological Vegetation Classes, one of which (Grassy Forest) is regionally Vulnerable;
- There are seven plant species that are threatened in Knox, two of which are also rare throughout the Melbourne area;
- The site represents a small extension to the flora and fauna habitat of the abutting Chandlers Hill block of the Dandenong Ranges National Park;
- A range of fauna found in the national park, including rare species, are likely to periodically use the reserve;
- The reserve has rich birdlife.

Aerial photograph: See page 53, which covers this site and the adjoining Council reserve (Site 11).

Boundaries

This 9,005 m² site comprises the whole parcel of land outlined in red and marked 'Site 12' on the aerial photograph on p. 53. According to Land Victoria, the site comprises three separate properties (indicated by the yellow lines on the aerial photograph) that are subdivided into a total of seven parcels (Lots 235-6 and Lots 237-9 of LP6712, and TP193102-3).

Land use & tenure: The principal use is for water storage. The land is zoned 'Public Park and Recreation Zone' (PPRZ) but a tall fence prevents public access to most of the site.

Note: Permission was not obtained to enter this site, so the inspection was done from outside the fence with the aid of aerial photographs. Some native ground flora could have gone undetected.

Site description

The site and the abutting Site 11 are on the northern flank of a gully that drains westward from the northern slopes of Chandlers Hill. It has a steep southwesterly slope of typically 30% and an elevation range of approximately 250-285 m. There has been extensive excavation to provide vehicle access and a platform for the tank.

The soil is stony clay derived from the Kalorama rhyodacite formation. On the upper (northeastern) part of the site, the steepness and the soil composition result in rapid drainage, and the soil becomes very dry during the first quarter of each year. The lowest parts of the site (along the southern boundary) are topographically sheltered and receive runoff water from, thereby retaining higher soil moisture.

There has been extensive planting of 'Australian native' species along Bayview Crescent and northeast of the tank. Elsewhere, the types of native vegetation can be described the same as for Site 11, but there have been different histories of clearing between the sites. Excavation has been much more extensive in the water tank property.

The native vegetation's ecological condition is good (rating B) in the southwestern corner, and fair (rating C) elsewhere.

A neighbour to the west has planted ornamentals within the site recently. Neighbours also use the western edge of the site, just outside the fence, as a walkway between Bayview Av and the Dandenong Ranges National Park to the south.

Relationship to other land

See the discussion for Site 11 on p. 54.

Bioregion: Highlands Southern Fall

Habitat types

Grassy Dry Forest (EVC 22, conservation status rated 'Least Concern' in the bioregion): estimated as 1,000 m² in fair ecological condition (rating C). The composition is effectively the same as for Site 11.

Grassy Forest (EVC 128, **regionally Vulnerable**): estimated as 1,400 m² in area (but imprecise due to intergradation with the other EVCs), all in fair ecological condition (rating C). The composition is effectively the same as for Site 11, where the Grassy Forest is more expansive and less modified.

Herb-rich Foothill Forest (EVC 23, conservation status rated 'Least Concern' in the bioregion): estimated as 2,500 m² in area (but imprecise due to intergradation with the Grassy Forest), with 900 m² in good ecological condition (rating B) and 1,600 m² in fair ecological (rating C).

Dominant canopy trees: *Eucalyptus obliqua, E. goniocalyx, E. macrorhyncha* and *E. radiata*. *E. cypellocarpa* is sparingly present.

Dominant lower trees: *Exocarpos cupressiformis*, *Acacia melanoxylon* and *Acacia dealbata*.

Shrubs: *Coprosma quadrifida, Olearia lirata* and *Polyscias sambucifolia* are characteristically present, along with *Cassinia aculeata* and *Pultenaea scabra*.

Vines: *Pandorea pandorana* is abundant. There is less coverage of *Billardiera mutabilis, Clematis aristata, Glycine clandestina* and *Rubus parvifolius*.

Ferns: *Adiantum aethiopicum* forms large patches, while *Calochlaena dubia* and *Pteridium esculentum* form smaller patches. *Blechnum cartilagineum* is scarce within the site, but extends into the adjoining national park.

Ground flora: Dominated by *Tetrarrhena juncea* and *Poa ensiformis*. Characteristically, the ground flora includes *Acaena novae-zelandiae, Austrocynoglossum latifolium, Desmodium gunnii, Galium gaudichaudii, Platylobium formosum, Poa tenera* and *Tetratheca ciliata*.

Plant species

As listed below, 68 indigenous plant species were recorded on 6th November 2002, plus *Cymbonotus preissianus* on 16th July 2004. 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 two species with names in bold are rare throughout the Melbourne region.

Risk	Indigenous Species
	Acacia dealbata
V	*Acacia melanoxylon*
E	*Acacia stricta*
V	*Acaena ?echinata*
	Acaena novae-zelandiae
V	*Acrotriche prostrata*
V	*Adiantum aethiopicum*
C	*Arthropodium ?milleflorum*
	Arthropodium strictum
C	*Asperula conferta*
E	***Austrocynoglossum latifolium***
	Billardiera mutabilis
E	***Blechnum cartilagineum***
	Burchardia umbellata
	Bursaria spinosa
V	*Calochlaena dubia*
	Carex breviculmis
	Cassinia aculeata
V	*Clematis aristata*
V	*Coprosma quadrifida*
C	*Cymbonotus preissianus*
E	*Desmodium gunnii*
	Deyeuxia quadriseta
V	*Dianella longifolia* s.l.
V	*Dianella tasmanica*
	Dichondra repens
V	*Epacris impressa*
V	*Eucalyptus cypellocarpa*
	Eucalyptus goniocalyx
E	*Eucalyptus macrorhyncha*
V	*Eucalyptus obliqua*
E	*Eucalyptus radiata*
V	*Exocarpos cupressiformis*
	Gahnia radula
E	*Galium gaudichaudii*
V	*Geranium potentilloides*
V	*Glycine clandestina*
	Gonocarpus tetragynus
	Goodenia ovata
V	*Hydrocotyle hirta*
E	*Indigofera australis*
	Kunzea ericoides spp. agg.
E	*Lagenophora stipitata*
	Lomandra filiformis subsp. *coriacea*
	Lomandra filiformis subsp. *filiformis*
	Lomandra longifolia
	Microlaena stipoides
V	*Olearia lirata*
E	*Olearia myrsinoides*
	Oxalis exilis/perennans
	Pandorea pandorana
V	*Platylobium formosum*
	Poa ensiformis
	Poa morrisii
E	*Poa tenera*
E	*Polyscias sambucifolia*
	Poranthera microphylla
	Pteridium esculentum
C	*Pterostylis alpina*
C	*Pultenaea scabra*
E	*Rubus parvifolius*
	Rytidosperma pallidum
	Rytidosperma ?penicillatum
	Senecio glomeratus
E	*Stylidium armeria/graminifolium*
	Tetrarrhena juncea
E	*Tetratheca ciliata*
	Themeda triandra
E	*Viola hederacea*

Introduced Species

Anthoxanthum odoratum	*Genista linifolia*	*Pittosporum undulatum*
Asparagus scandens	*Genista monspessulana*	*Plantago lanceolata*
Centaurium erythraea	*Hedera helix*	*Prunus cerasifera*
Cotoneaster glaucophyllus	*Holcus lanatus*	*Rubus anglocandicans*
Cotoneaster simonsii	*Hypochoeris radicata*	*Vicia disperma*
Cytisus scoparius	*Ixia polystachya*	*Vicia sativa*
Dactylis glomerata	*Leontodon taraxacoides*	
Erica lusitanica	*Pinus radiata*	

Notes concerning some of the locally threatened plant species

Arthropodium ?*milleflorum*. Not able to be precisely identified due to absence of any reproductive organs, but believed to be a species that is Critically Endangered in Knox. There are substantial numbers near the site's southwestern corner.

Asperula conferta (Common Woodruff). Only one plant could be found from outside the fence.

Austrocynoglossum latifolium (Forest Hound's-tongue). 2 or 3 in a drain near the site's southeastern corner.

Blechnum cartilagineum (Gristle Fern). Scarce within the site, but part of a secure population that extends into the national park.

Cymbonotus preissianus (Austral Bear's-ear) – one plant found in 2004, the only one ever recorded in Knox.

Desmodium gunnii (Southern Tick-trefoil). Substantial numbers, also extending into the adjoining national park.

Galium gaudichaudii (Rough Bedstraw). Apparently scarce when viewed from outside the fence.

Lagenophora stipitata (Common Lagenophora). Apparently scarce when viewed from outside the fence.

Pterostylis alpina (Mountain Greenhood). Only one individual seen, but probably more would be seen in season from inside the site's fence.

Pultenaea scabra (Rough Bush-pea). A dominant species in the shrub layer.

Tetratheca ciliata (Pink-bells). Secure; numbers not recorded.

Fauna of special significance

A Restless Flycatcher was observed during the fieldwork. This species is listed by the Land Conservation Council (1991) as uncommon in the 'Melbourne Area District 2', which extends eastwards slightly beyond Walhalla.

Local resident, Mr Don Hartland, reports having seen Koalas, Short-beaked Echidnas and Tawny Frogmouths periodically until shortly before he spoke to the author in November 2002. He also reported having seen a White-lipped Snake (a regionally uncommon species) around 1995.

Because the site abuts the Dandenong Ranges National Park, it is bound to be regularly visited by various rare or threatened fauna from the park; e.g. Powerful Owl. The site provides a small extension to the native habitat available for such species.

Fauna habitat features

- Native vegetation as intact as on this site provides habitat for a variety of native fauna;
- There are tree hollows that provide suitable roosting or nesting sites for certain fauna;
- Logs provide the type of cover required by ground-dwelling fauna.

Significance ratings

Vegetation Type and Condition

The Grassy Forest gives the site **State** significance on the same basis as Site 11.

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

The proximity to known habitat of Powerful Owls, and the suitability of habitat on this property, give the site **Regional** significance on the same basis as Site 11.

Threats

- Invasion by environmental weeds as listed below, with asterisks marking those that are controlled under the *Catchment and Land Protection Act 1994*:
  - Very serious: English Broom* (*Cytisus scoparius*), Montpellier Broom* (*Genista monspessulana*);
  - Serious: Sweet Vernal-grass (*Anthoxanthum odoratum*), Bridal Creeper* (*Asparagus scandens*); and

- Moderate: Cotoneaster (*Cotoneaster glaucophyllus* and *C. divaricatus*), Cocksfoot (*Dactylis glomerata*), Spanish Heath* (*Erica lusitanica*), Flax-leafed Broom* (*Genista linifolia*), Ivy (*Hedera helix*), Yorkshire Fog (*Holcus lanatus*), Cat's Ear (*Hypochoeris radicata*), Variable Ixia (*Ixia polystachya*), Monterey Pine (*Pinus radiata*), Sweet Pittosporum (*Pittosporum undulatum*), Ribwort (*Plantago lanceolata*), Blackberry* (*Rubus discolor*) and vetches (*Vicia disperma* and *V. sativa*).

Management issues

- A persistent effort over several years will be required to get the weeds under control and prevent reinfestation. Brooms, in particular, are expected to keep germinating from a large bank of soil-stored seed.
- South East Water has been liaising with Knox City Council about complementary weed control work on this site and the adjoining Council reserve (Site 11);
- The site's fire risk needs to be managed, and this can be done harmoniously with proper care of the native vegetation. Burning would not be desirable because it would stimulate broom seeds to germinate and pose unnecessary risk and nuisance to neighbours. A much preferable alternative would be annual cutting and removal of fine ground fuel each year, around Christmas or New Year.

Administration matters

- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of the threatened EVC, the significant plant species and the effective extension of habitat that the site provides to the Dandenong Ranges National Park;
- The land is zoned 'Public Park and Recreation Zone' even though a tall fence prevents public access to most of it;
- The site is protected under the existing Vegetation Protection Overlay Schedule 1 of the Knox Planning Scheme, and partly by Significant Landscape Overlay Schedule 2;
- The site was included in 'Composite Area A' by Water Ecoscience (1998) without any substantial assessment;
- Cooperation should be sought from a neighbour to stop planting ornamentals within the site.

Information sources used in this assessment

- A site survey undertaken during this study by Dr Lorimer on 6/11/02 using this study's standard procedures discussed in Section 2.4 of Volume 1. This included a description of the vegetation composition, compilation of lists of indigenous and introduced plant species, incidental fauna observations, and checks for fauna habitat, ecological threats and management issues;
- A brief re-inspection of the site by Dr Lorimer on 16/7/04, primarily to see if EVCs could be better delineated (but in vain);
- 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.