

## Site 31. Knox Jaycees Reserve, Boronia

Part of a small park, retaining some significant indigenous plant species.

### Summary of significant features:

- **Nationally significant:** three patches of the flat-pea, *Platylobium infecundum*, which is Critically Endangered globally;
- **Regionally significant:** a small population of the spear-grass, *Austrostipa rudis* subsp. *australis*, which is Endangered in Victoria;
- **Locally significant:** viable populations of several plant species that are threatened with dying out in Knox.



### Boundaries

This 655 m<sup>2</sup> site is outlined in blue dashes above, in the western part of the Knox Jaycees Reserve.

In the previous (2010) edition of this report, Site 31 was much larger (5,816 m<sup>2</sup>), encompassing more of the reserve and also the treed kindergarten playground of the Haering Rd Child Centre. The contraction has been prompted by a reduction in the amount of native understorey, which was barely enough to warrant inclusion in the first place.

**Land use & tenure:** public park for passive recreation and children's play.

### Site description

This site has a shallow slope to the west, with the 112 m elevation contour running through the middle. The soil is shallow, poorly draining, clay loam over clay subsoil derived from Lower Devonian sedimentary bedrock of the Humevale formation.

Most of the site is fenced but with an opening in the fence to permit easy pedestrian access.

The aerial photograph above shows the fractured canopy of mature, remnant eucalypts within the site, contrasting with the more intact tree canopy in the kindergarten playground to the northwest. The aerial photograph also shows logs and dead boughs within the site – the result of the Millennium Drought, competition with pines and perhaps other factors. A number of pines were removed from the reserve's southern perimeter some years ago but some remain immediately west of the site, as seen on the aerial photograph.

In most of the site, the understorey is predominantly native. A history of decades of mowing almost totally eliminated the natural shrub layer, leaving just the highly persistent Sweet Bursaria (*Bursaria spinosa*). Native

grasses and low-growing groundcovers survived the mowing better. Those plants are represented by at least seventeen indigenous species, including such characteristic species of Valley Heathy Forest as Nodding Greenhood orchids (*Pterostylis nutans*) and Slender Speedwell (*Veronica gracilis*). There are also three patches of the flat-pea, *Platylobium infecundum* (Critically Endangered, globally) and at least ten plants of the spear-grass, *Austrostipa rudis* subspecies *australis* (Endangered in Victoria).

The part of the reserve that lies outside the site delineated here has a thin scattering of a small number of common indigenous groundcovers, predominantly grasses.

### Relationship to other land

Remnant eucalypts are scattered around the neighbourhood. They are evidently enough, in combination with Knox Jaycees Reserve and the kindergarten playground, to support native birds such as the Grey Butcherbirds, Laughing Kookaburras and many Crimson Rosellas observed by the author. Flying insects and tree frogs are also expected to move between these trees, the former aiding pollination. Planted Australian native trees on nature strips and in gardens (e.g. Red Ironbarks) further support the persistence of native birds and insects in the neighbourhood.

The reliance of the fauna on the combined habitat of Site 31 and the surrounding neighbourhood justifies the current coverage of the neighbourhood by Schedule 3 of the Vegetation Protection Overlay in the Knox Planning Scheme.

**Bioregion:** Gippsland Plain

### Habitat types

Valley Heathy Forest (EVC 127, **Endangered**): Estimated to occupy 600 m<sup>2</sup>, comprising 400 m<sup>2</sup> in fair ecological condition (rating C) and 200 m<sup>2</sup> in poor ecological condition (rating D).

Canopy trees: *Eucalyptus cephalocarpa* and *E. radiata*. There are also two *E. obliqua* and one *E. goniocalyx* in close proximity

Sub-canopy trees: Naturally-occurring *Acacia melanoxylon* is fairly abundant. *Acacia implexa* has been planted.

Shrubs: *Bursaria spinosa* has increased in numbers significantly from the three individuals present in 2002. *Acacia ulicifolia*, *Daviesia latifolia* and *Goodenia ovata* have been planted.

Ferns: None.

Vines: *Billardiera mutabilis* was present in 2002 but not detected in 2024. *Hardenbergia violacea* was absent in 2002 and the one plant present now may have been planted.

Creepers: There are three patches of *Platylobium infecundum*.

Other groundcover: Grassy and comparatively rich in herbs (considering the history of mowing). Dominated variously by *Themeda triandra*, *Microlaena stipoides*, *Rytidosperma racemosum* or exotic grass. Species that are less abundant but characteristic of Valley Heathy Forest include *Dianella longifolia*, *Poa morrisii*, *Pterostylis nutans* and *Veronica gracilis*.

### Plant species

In the following list of indigenous plant species, the only ones the author did not see on 5th June 2024 are indicated by asterisks (seen on 23rd May 2002). The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox, with 'C'=Critically Endangered, 'E'=Endangered and 'V'=Vulnerable. In addition, *Platylobium infecundum* is Critically Endangered, globally, and *Austrostipa rudis* subspecies *australis* is Endangered in Victoria. More wild indigenous species would probably be found in spring or summer.

Risk	Wild indigenous species	Risk	Wild indigenous species
V	<i>Acacia melanoxylon</i> , Blackwood		<i>Chiloscyphus semiteres</i> , Green Worms
V	<i>Acaena echinata</i> , Sheep's Burr		<i>Dianella longifolia</i> var. <i>longifolia</i> , Pale Flax-lily
	<i>Acaena novae-zelandiae</i> , Bidgee-widgee*		<i>Dianella revoluta</i> , Black-anther Flax-lily
V	<i>Austrostipa rudis</i> subsp. <i>australis</i> , Veined Spear-grass		<i>Dichondra repens</i> , Kidney-weed
	<i>Billardiera mutabilis</i> , Common Apple-berry*	E	<i>Eucalyptus cephalocarpa</i> , Mealy Stringybark
	<i>Bursaria spinosa</i> , Sweet Bursaria	E	<i>Eucalyptus radiata</i> , Narrow-leaved Peppermint
	<i>Carex breviculmis</i> , Short-stem Sedge*		

Risk Wild indigenous species

- C *Gahnia radula*, Thatch Saw-sedge  
*Gonocarpus tetragynus*, Common Raspwort
- E *Hardenbergia violacea*, Purple Coral-pea  
 (perhaps planted)  
*Juncus pallidus*, Pale Rush  
*Lomandra filiformis* subsp. *coriacea*, Wattle  
 Mat-rush  
*Lomandra filiformis* subsp. *filiformis*, Wattle  
 Mat-rush\*
- V *Luzula meridionalis*, Common Woodrush\*  
*Microlaena stipoides*, Weeping Grass
- V *Opercularia varia*, Variable Stinkweed\*  
*Oxalis exilis/perennans*, Wood-sorrel
- E *Platylobium infecundum*, a flat-pea  
*Poa morrisii*, Soft Tussock-grass  
*Poranthera microphylla*, Small Poranthera\*  
*Pterostylis nutans*, Nodding Greenhood

Risk Wild indigenous species

- Rytidosperma racemosum*, Clustered Wallaby-grass
- V *Solenogyne dominii*, Smooth Solenogyne\*  
 V *Solenogyne gunnii*, Hairy Solenogyne\*  
*Themeda triandra*, Kangaroo Grass
- V *Veronica gracilis*, Slender Speedwell
- E *Viola hederacea*, Ivy-leaf Violet\*

Risk Planted species

- V *Acacia implexa*, Lightwood
- C *Acacia ulicifolia*, Juniper Wattle  
*Calocephalus lacteus*, Milky Beauty-heads  
*Carex appressa*, Tall Sedge
- C *Daviesia latifolia*, Hop Bitter-pea  
*Dianella longifolia* var. *longifolia*, Pale Flax-lily  
*Dianella tasmanica*, Tasman Flax-lily  
*Goodenia ovata*, Hop Goodenia

**Fauna of special significance**

None observed.

**Fauna habitat features**

There are enough mature, remnant eucalypts to provide good basic habitat for forest birds such as the Grey Butcherbirds, Laughing Kookaburras and many Crimson Rosellas seen by the author.

**Significance ratings**

The following is an assessment of the site's biological significance against the Department of Energy, Environment & Climate Action's standard criteria (Amos 2004).

*Regionally Threatened Ecological Vegetation Class*

This site contains a small area of a regionally-endangered EVC, Valley Heathy Forest. Although that is objectively of biological significance, the criteria of Amos (2004) only recognise such significance in the case of a 'remnant patch', defined to be at least 0.25 ha in area. As the Valley Heathy Forest in this reserve is smaller, it escapes recognition by the standard criteria.

*Threatened Plant Species*

The flat-pea, *Platylobium infecundum*, is represented by three patches within the site. It is listed under the *Flora and Fauna Guarantee Act* as Critically Endangered and it does not occur outside Victoria. As a result, the habitat that this site provides for *Platylobium infecundum* qualifies as **National** significance under criterion 3.1.2.

*Platylobium infecundum* had not been scientifically described in 2010 when the previous edition of this report was written. As a result, the site's significance level has risen from State to National.

The spear-grass, *Austrostipa rudis* subspecies *australis*, is listed as 'Endangered' in Victoria. It also occurs interstate. Ten plants were seen in the site in June 2024, representing a viable population. Others would probably be detected at a more favourable time of year. As a result, the habitat this site provides for the species qualifies as **State** significance under criterion 3.1.2.

*Austrostipa rudis* subspecies *australis* had not been discovered in this site in 2010 when the previous edition of this report was written; nor had the subspecies been listed as Endangered.

Most of the surviving wild locally-threatened plant species listed above have viable populations, thereby meeting criterion 3.1.5 for **Local** significance.

## Threats

- Displacement of indigenous flora by environmental weeds such as Panic Veldt-grass (*Ehrharta erecta*);
- Trampling;
- Loss or decline of plant species that are present in such precariously small numbers that they are vulnerable to inbreeding, poor reproductive success or localised chance events such as being scratched out by a dog or struck by a falling tree limb;
- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves and storms, as well as substantially lower rainfall (particularly in winter).

## Strategic planning

- The reserve is smaller than 0.4 ha and therefore exempt from the state-wide baseline planning controls over removal of native vegetation (clause 52.17). The child centre with the kindergarten is larger than 0.4 ha and therefore not exempt;
- The very different version of Site 31 in the previous (2010) edition of this report site is covered by Schedule 2 of the Environmental Significance Overlay (ESO2). The new version of the site is similarly worthy of ESO2, taking into account its biologically significant natural assets described above. It is recommended that the ESO2 boundary be amended to match the new site;
- The current ESO2 is surrounded by Schedule 3 of the Vegetation Protection Overlay (VPO3), which requires a permit for removal of most Victorian-native trees over 8 m tall. The area that is recommended above to no longer be covered by ESO2 should instead be covered by VPO3;
- The reserve is zoned Public Park and Recreation (PPRZ).

## Information sources used in this assessment

- An ecological survey undertaken by Dr Lorimer for 1 hour 23rd May 2002 for the first edition of this report. This included a description of the vegetation composition, compilation of two lists of indigenous plant species (one for the reserve and one for the rest of the original version of this site), incidental fauna observations, and checks for fauna habitat, ecological threats and management issues;
- A botanical survey of the original and new versions of the site by Dr Lorimer for this report on 5th June 2024. For the new version, this included a list of indigenous plant species and their abundances, plus counts and precise locations of individuals, in the case of scarce species;
- Records of flora and fauna observations stored in the Atlas of Living Australia;
- The Victorian Government's 'NatureKit' website;
- Aerial and satellite imagery from between 1946 and 2024;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.