

Whittlesea Planning Scheme Amendment C187: Wollert PSP

EXPERT WITNESS STATEMENT

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(Called by Friends of Merri Creek Inc.)

Qualifications and Experience

PhD. B.Sc. (hons) (Botany). BA (Economics and Geography)

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I am recognised nationally for my native grassland expertise. I completed my PhD investigating the ecology of native grasslands along an urban and rural gradient in 2006 and. I have conducted extensive botanical surveys of native grasslands and grassy woodlands in the north and west of Melbourne for both my research and as an ecological consultant. I have published 11 scientific papers on various aspects of native grassland ecology and in 2015 released the 450 page edited book *Land of Sweeping Plains: Managing and restoring the native grasslands of south-eastern Australia*, which has been acclaimed as an inspiring and stimulating essential resource for ecologists and planners.

My research was extensively cited by the Federal Threatened Species Advisory Committee when listing Western Basalt Plains Natural Temperate Grassland as critically endangered under the Environment Protection and Biodiversity Conservation (EPBC) Act. I have also been invited by the Commonwealth to review nominations to list grassland species under the EPBC act and have briefed federal backbencher Kelvin Thompson and the former federal environment minister Peter Garrett on the impact of changes to Melbourne's urban growth boundary on native grasslands.

Expert Witness Statement

My research has found that most of the best quality patches of the EPBC listed critically endangered natural temperate grasslands and grassy woodland remaining on the Victorian Volcanic Plain occur on the periphery of Melbourne. Conserving as much as possible is therefore essential if we are to avoid the extinction of ecological communities and the species that comprise them.

Conservation Area 32

A large proportion of the grassland excised from Conservation Area 32 has been classified as Creekline Tussock Grassland (Ecological Vegetation Class 654). This vegetation community is even rarer than the other EVC included in the definition of Natural Temperate Grassland, Plains Grassland, due to its restricted occurrence in broad drainage lines such as Curly Sedge Creek. Indeed there only two occurrences of the EVC in the Northern Growth Corridor (Fig 17 Biodiversity Conservation Strategy for Melbourne's growth corridors) and none mapped in the Western Growth Corridor (although I know small areas are present in grassland reserves in the Derrimut area).

A widely acknowledge goal of conservation reserve systems is that they are comprehensive, adequate and representative. Given its rarity, absence in the Western Grassland Reserves and the near impossibility of finding a suitable offset, a substantial area of Creekline Tussock Grassland should be reserved to achieve a representative reserve system. Excising a substantial area of Creekline Tussock Grassland from Conservation Area 32 for it to be destroyed is therefore against the principles of the conservation strategy for Melbourne's Growth Corridors. Conservation Area 32 is also the only opportunity to conserve an example of Creekline Tussock Grassland in the growth corridors. It is also a substantial area of Creekline Tussock Grassland which is agrees with the principle of creating as large reserves as possible.

Typically Creekline Tussock Grassland has lower levels of native herb diversity than the drier Plains grassland EVC. Consequently I am concerned that its relative habitat score may have been underreported. It is also a very patchy ecological community as diversity is determined by small microtopographic and moisture differences meaning that unless a very thorough survey was conducted it is easy to miss small high quality herb rich patches. These are additional reasons to maintain the existing size of Conservation Area 32 to preserve a representative area.

My research has shown that the deleterious ecological effects of edges are more pronounced in urban grasslands due to the intensity of the surrounding land use. Consequently it is very concerning that boundary of Conservation Area 32 has been altered so that it is now long, convoluted and allows a narrow finger of residential land to be surrounded by grassland. Its current shape will:

- Increase the risk of wildfire to the residential land surrounded by the conservation reserve
- Allow greater weed and domestic animal incursion into the grasslands, threatening biodiversity values
- Potentially prevent the ecological burning required to maintain native grassland
- Increase the management costs for the grassland and the public land (e.g. streetscapes) surrounding
- Reduce the habitat corridor along Curly Sedge Creek to 50 m when, because the creek has been identified as a regional habitat corridor, it should be at least 200 m.

Creating a long and convoluted reserve boundary goes against best practice for grassland reserve design which is summarised in my book (Chapter 13) and Adrian Marshall's *Start with the Grasslands guide*, the principles of which are being implemented in other PSP plans (e.g. Kororoit). Changing the boundary of Conservation Area 32 is also contrary to recommendations in the Biodiversity Strategy for Melbourne's growth corridors which state "*conservation areas for Matted Flax-lily and Spiny Rice-flower must be of a size and shape that enables their effective management, given the current and future urban land-use context*". Maximising the size and minimising the perimeter to area of conservation reserves are basic ecological principles derived from years of research in numerous ecosystems that apply to all native vegetation and should be implemented to reduce costs and maximise conservation outcomes. Consequently, I strongly recommend that the panel reinstates the original boundary of Conservation Area 32. Even if the boundary has been moved in response to surveys that suggest the edge of the grassland is of lower conservation value than its interior – which is to be expected – this is not a reason to reduce the area of the reserve and change its boundary. Effective buffer zones are required to reduce the impact of each land use on the other and it is likely that the conservation value of lower quality areas of grassland can be improved through more sympathetic management.

Conservation Area 31

The area of Plains Grassy Woodland (EVC 55) to be protected in Conservation Area 31 has been reduced by 2 ha in the PSP process. Given the Melbourne Strategic Assessment prescription of protecting 80% of the Plains Grassy Woodland has not been met, any reduction in reserved area of this EPBS listed community is unwarranted and counter-productive to Federal and State conservation aims.

When designing a reserve network it is desirable to ensure connectivity between different parts of the system. Currently Conservation Area 31 is isolated but it could be connected to the Conservation Area 32 and the wider network with a waterway corridor between the drainage assets on either side of north-south connector street.