The Greater Brixton Street Wetlands/Bush Forever 387: Causes for concern related to the Maddington-Kenwick Strategic Employment Area

Values and Setting of the Greater Brixton Street Wetlands

The Greater Brixton Street Wetlands (GBSW), Bush Forever site 387, is the most floristically diverse bushland in Urban Perth in spite of only covering approximately 143 hectares. These wetlands lie in Kenwick, south of Welshpool Road, and host 11 EPBC (Environment Protection and Biodiversity Conservation) Act threatened plant species, over twenty priority flora species, four different TECs (Threatened Ecological Communities), plus protected fauna and birds (see accompanying list of conservation values). This enormous biodiversity includes more carnivorous plant species than can be found in the whole of Europe, and a number of native vascular plant species that is close to a third of what can be found in England. Over 500 of the 7239 species of vascular plants that make up the internationally recognised South Western Australia biodiversity hotspot occur in the GBSW, an extraordinary number considering that it makes up only 0.0002% of the total area. This diversity has earned the GBSW its place on the Register of the National Estate. The GBSW and the adjacent Yule Brook contain significant aboriginal heritage values and, together, form the best remaining ecological corridor from the scarp to the Canning River (Fig. 1). This corridor provides an exceptional opportunity for leisure, recreational and education purposes, if the link and the wetlands-Yule Brook relationship can be preserved.

The uniquely diverse nature of the GBSW derives from its location. The GBSW lies at the nexus between the Darling Scarp and the Swan Coastal Plain. Its varied soils record a complex evolving interplay between scarp- and plain-derived sediments plus riverine deposits of the Yule Brook, which currently lies to the west of the GBSW, but which has meandered and flooded over the GBSW in the past. The hydrology of the wetlands is critical to their functionality and survival. Broadly speaking, the wetlands are thought to be largely rainwater fed, with a smaller groundwater component. A report by the Endemic consultancy group proposed that water is held, or perched, within the wetlands by a relatively impermeable hardpan or calcrete layer up to two metres below the surface. However, the nature, permeability, lateral extent, and degree of heterogeneity of this layer are not well understood.

The Threat

Over the last few decades, the GBSW has been surrounded by rural-zoned properties. There has been some drying of the wetlands associated with the drying climate and, locally and anecdotally, with construction of deep drainage ditches that transfer water to the Canning River. This drying has resulted in the loss of key species from certain localities, emphasising the vulnerability of this national treasure. Even if development were not to occur, this degradation would continue and species would be lost.

Further, the pace of change and the threat from urban development is increasing. Over the last fifteen years, the City of Gosnells has been developing plans for the MKSEA (Maddington Kenwick Strategic Employment Area: Figs 2,3). MKSEA surrounds about sixty percent of the GBSW, including the Alison Baird Reserve, which hosts many of its rare species, especially the carnivorous plants. MKSEA has the potential to affect other sections of the GBSW via changes to the local hydrology.

The Environmental Protection Authority assessment of the Metropolitan Regional Scheme (MRS) amendment to rezone MKSEA for development did not cover the GBSW formally because, as Bush Forever, the wetlands were not rezoned themselves. The EPA did advise that, “Future development will need to adequately retain, manage and protect key environmental values”, but the lack of inclusion of GBSW in previous environmental assessments means that the impacts of development on the wetlands have never been considered explicitly. Buffer zones have not yet been set for Bush

Forever Site 387 and this critical step in the next six to twelve months could determine the future of the GBSW. In many cases, Threatened Species populations occur within 50 m or less of the border with future industrial areas. Without adequate buffer zones the wetlands will degrade and threatened species and diversity will be lost. A major concern is that roads may be considered an adequate buffer, whereas in fact roads kill wildlife and act as a vector for transport of pathogens, arsonists, weeds, and contamination into the wetlands.

A further concern is that legal protection afforded to wetlands has decreased over the last two decades. The GHD consultancy group reported on the MKSEA in 2005 and stated that, "Traditional industrial development of land identified as CCW (Conservation Class Wetland) and REW (Resource Enhancement Wetland) is contrary to State Government policies and position statements", but approval of the MRS rezoning of the area for this very purpose occurred in 2016. On a similar note the proposed state Wetland Buffer Policy finalized in 2009 has never been gazetted in spite of repeated calls for its release by the EPA. This Wetland Buffer Policy recommends a buffer zone of 100 m around the functional area of CCW, but the default recommendation from DBCA (Department of Biodiversity, Conservation and Attractions) is only 50 metres and does not include functional area. In 2007, the concept plan for MKSEA was compatible with healthy wetlands (Fig. 2); the 2015 version spells disaster for the GBSW (Fig. 3). Without a good understanding of the factors that control the hydrology of the wetland, such as the lateral extent and permeability structure of the hardpan/calcrete layer, the functional area of the wetland cannot be defined, and a safe buffer can only be guessed; an unsatisfactory situation.

Regardless of the buffer size, a further threat to the GBSW is that funding for purchase of buffers will be difficult or impossible to find in the current financial climate, and without legislation to necessitate their purchase. In the worst-case scenario, landowners could simply be told that the full area of their blocks cannot be zoned for industrial development in the Town Planning Scheme amendments. This outcome could be devastating to the wetlands, because blocks that contain buffer zones may appeal only to the least scrupulous of the developers.

What is needed?

This site is unique, of international importance, and provides an irreplaceable resource to the community. Without careful development of MKSEA the site will degrade. To preserve the wetlands and optimise their value, the site needs:

1. A government buffer zone policy sufficient to preserve the wetlands. Such a policy would include: acknowledgement that a road is not a suitable buffer; 100 metre buffers around the functional area; and sufficient assessment of the wetland that the functional area can be defined.
2. A mechanism for purchase of buffer zones around wetlands of international significance, such as the GBSW.
3. Legislation to ensure that developers and local government authorities include modern best practice and the triple bottom line in a transparent decision making process when decisions have the potential to affect wetlands of national significance.
4. Amalgamation of Yule Brook and GBSW into a state-government held environmental asset, which will provide massive tangible and intangible benefits for ecological connectivity, community, education, and the environment.

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