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The Secretary  
Western Australian Planning Commission  
Locked Bag 2506  
PERTH WA 6001  
Email: [mrs@planning.wa.gov.au](mailto:mrs@planning.wa.gov.au)

Friday, 23 August 2013

To the Secretary,

RE: Section 57 Amendment (Minor) Metropolitan Region Scheme Amendment 1188/57 Wellard Urban Precinct East

The Urban Bushland Council WA Inc represent over 60 local community groups interested in the conservation and protection of Perth's urban biodiversity.

We fully endorse the concerns highlighted by the Wildflower Society of Western Australia (Inc.) in their submission, and like them believe that the impacts of the proposed amendment are too significant to be managed and therefore we recommend the EPA rejects the proposed amendment. In addition to this, we also agree with the Wildflower Society that the Bollard Bulrush Swamp is a significant bushland/wetland linkage and recommend that it instead be fenced off to promote regeneration of the wetland.

We request a meeting to discuss the issues surrounding unsustainable development highlighted by this proposed amendment:

- Wetland environmental values as a whole;
- Wetland buffer;
- Ecological linkages;
- ASS soils; and
- Hydrological regimes.

President  
Urban Bushland Council WA Inc.



20<sup>th</sup> August 2013

The Secretary

Western Australian Planning Commission

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PERTH WA 6001

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To the Secretary

**RE: Section 57 Amendment (Minor) Metropolitan Region Scheme Amendment 1188/57 Wellard Urban Precinct East**

The Wildflower Society of Western Australia (Inc.) is a non-profit community organisation that was established in 1958 for the purpose of encouraging the conservation and preservation of Western Australia's unique flora. The organisation's member base currently stands at over 500 members. The Society is writing to you today to provide comment on the Metropolitan Region Scheme Amendment 1188/57 Environmental Review (ER) that was recently released for comment by the Western Australian Planning Commission.

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The Society has invested a substantial amount of effort and time in reviewing the ER for the Metropolitan Region Scheme Amendment 1188/57. In light of this review the Society believes that the following factors have not been adequately addressed in the ER:

- Wetland environmental values as a whole;
- Wetland buffer;
- Ecological linkages;
- ASS soils; and
- Hydrological regimes.

The Society considers that the impacts of the proposed amendment are too significant to be managed and therefore recommends the EPA reject the proposed amendment. In addition to this, the Society considers that Bollard Bulrush Swamp is a significant bushland/wetland linkage and recommends it instead be fenced off to promote regeneration of the wetland. The following section outlines the Society's reasons for rejection of the proposed amendment.

## **1.0 Wetland Assessment**

The assessment of the wetland environmental values cannot be considered in its entirety based on the fact that only part of the wetland was assessed. DEC notes that the assessment only of the Eastern portion of the wetland biases the results for the fauna study, the values of the wetland habitat as a whole, the percentage cover as weeds and the overall vegetation condition of Bollard Bulrush Swamp (Correspondance between DEC and EPA August 2011).

Without assessing the baseline condition of the entire wetland, an adequate assessment of impacts to Bollard Bullrush Swamp associated with the proposed amendment cannot be made. Without adequate assessment Bollard Bullrush Swamp is unable to be properly protected under the *Environmental Protection Act 1986* and the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992*.

## **Wetland Buffer**

The wetland buffer has been not been properly assessed or designed. DEC has noted that the proposed 50m buffer is within the wetland boundary, that is, it does not extend outwards from the boundary. This buffer reduces the wetland area and extent. There is also no discussion of how this buffer will protect environmental values (vegetation, roosting, summer refuge, nesting, nursery and feeding) (Correspondance between DEC and EPA August 2011). The Society believes that the

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proposed wetland buffer boundary in Figure 16 is invalid until an appropriate Wetland Assessment is undertaken.

In order to determine the location of the buffer, it was also requested by the EPA that hydric soils mapping be undertaken for the whole of the site as per correspondance with the Western Australian Planning Commission in July 2011. The Environmental Review shows that although the locations of bores showing evidence of hydric soils were mapped, the hydric soil distribution of the entire wetland was not.

Once again, the failure to provide an adequate assessment and location of the wetland buffer affects the ability of the EPA to properly assess potential impacts to the wetland. On this basis the Society cannot support approval of the proposed amendment until adequate wetland assessment is carried out.

## **Ecological Linkage**

Although it was a requirement that the proponent consider the ecological linkage value of the wetland during the ER, there is no discussion of ecological linkage value. The fauna study discusses species found on site but omits any reference to significant or threatened species within the vicinity. For example the Department of Water's *Summary of Wetlands Within the Peel Main Drain Catchment* (Cardno 2006) lists eight threatened mammal species within 5km of Bollard Bulrush Swamp, indicating that the wetland has an important ecological value (Correspondance between DEC and EPA August 2011).

Aerial photography also highlights the importance of the wetland as an ecological linkage. As shown in Attachment 1, the wetland lies within one kilometre to the North of Leda Nature Reserve which then connects to Bush Forever sites 356, 495 and 349. These Bush Forever sites are then connected to Shoalwater Bay Islands Nature Reserve in the West which covers an area of approximatley 16 ha. In the North, the wetland is within one kilometre of Bush Forever site 272 (which is currently being transferred into conservation estate protection in perpetuity by the Department of Housing (EPBC referral 2013/6916). Bush Forever site 272 then connects to Bush Forever sites 270, 269 and 268 until the connection eventually reaches Wandj Nature Reserve in the North. This whole area of connectivity represents an area of over approximatley 30ha of native vegetation. There is a high liklihood that birds or mammals surrounding the wetland migrate through these corridors to use the wetland as either a water source, breeding, or nesting area.

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Bollard Bulrush Swamp acts as a stepping stone between the Bush Forever sites in the South (349, 356 and 495) and the North (272, 269, 270 and 268). The disintegration of Bollard Bulrush Swamp would separate the connectivity of the South and North Bush Forever sites. The complete disregard of the wetlands significance as a part of a significant contiguous bushland/wetland linkage is of major concern due to the fact that the proponent states 'the wetland as a whole remains within a highly fragmented setting, with little habitat connectivity with the surrounding area' (ER, p. 20). The Society therefore urges the WAPC and EPA to consider the ecological connectivity of the wetland as a key environmental factor in its assessment of the proposed amendment.

## Hydrological Regimes

### Surface Water

The lack of discussion on stormwater events greater than the one year/one hour event, the failure to disclose the mitigation measures of the Local Water Management Plan and the failure to use guidance material as requested by the DEC has led the Society to become concerned that hydrological regimes have also been inadequately considered and assessed. Plans should be prepared to the DEC's satisfaction and in accordance with *EPA Guidance Statement No. 33 – Environmental Guidance for Planning and Development* (2008). The ER states that a Local Water Management Plan will maintain the current hydrological regime of the wetland although there is no discussion of what this plan will entitle (p. 38). There is also no discussion on the stormwater management for stormwater events greater than the one year/one hour event. The Society supports the DEC's recommendation that the document be referred to the Department of Water (DoW) to review how it addresses drainage and to ensure it concurs with the *Stormwater Management Manual for Western Australia* (DoW 2004-2007). The DEC recommended that any planning for stormwater management should also concur with the updated guidance document *Decision Process for Stormwater Management in WA* (DoW 2009) however there is no mention of this document in the ER. The consideration of hydrological regimes in stormwater events is important to properly assess the hydrological regimes of the site. Without adequate assessment of hydrological regimes, the wetland cannot be protected from stormwater drainage designs that may permanently alter the baseline hydrology of the site. Since the proponent has not discussed mitigation measures that will be used in the Local Water Management Plan, the Society also does not have confidence in the ability of the proponent to appropriately manage the hydrological regimes of the wetland.

The importation of soil on site for development also has the potential to cause changes to wetland vegetation. Two monitoring bores - MW2-E and MW4-E have provided evidence to show that the areas they are located in could be waterlogged or inundated with water during Winter in an average year (p.24). This is due to the proposal site being partially located within the flood fringe of the Peel Main Drain (DoW 2009) (p.30). The ER states that the total flood area at Bollard Bulrush is estimated at 149 ha. Of this, less than 10 ha (or 10%) is considered to be within the subject site (p. 30). To protect against flooding the site will be filled to achieve finished floor levels at least 0.5m above the

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100 year peak water level. However when sand is brought into a wetland the soil type of the wetland often changes as the sand mixes with hydric soils. The change in soil type then changes the vegetation on site. This impact was not discussed or considered in the ER.

In addition to changes in vegetation associated with the filling of hydric soils, the ER has also shown that the surface water hydrology of the site will be significantly altered. Pre and Post Development Water Balance Tables showed that there will be a 250% increase in surface water discharge to the Bollard Bulrush Swamp which is typical of development of this density (p. 30). This means that rising surface water levels during rainfall events will likely drown flora species in the wetland that are otherwise used to low water levels.

Although the Peel Main Drain has likely altered the surface water levels of the wetland, a site visit conducted by the Society in August 2013 showed that Paperbark trees within the wetland were still healthy and in good condition (see Plate 1 and 2). There was no evidence of increased tree mortality due to altering of surface hydrology by the Peel Main Drain. Although it was noticed that there was a significant lack of understorey within the wetland, this was likely due to grazing pressures and with fencing off of the wetland, it is likely that this understorey would come back. Fencing off of wetlands from grazing animals on farmland has had a high success rate in the regeneration of wetland understorey and eco-system functions as shown in *A Guide to Managing and Restoring Wetlands in WA* (DEC 2012).

## **Groundwater**

Although the ER states that there will be monitoring of groundwater levels, the ER does not state what contingency measures will be put in place if pre-development groundwater levels are significantly altered. The ER states that monitoring of groundwater will occur over a 3 year period. A site specific contingency action plan with associated trigger values based on the predevelopment monitoring results will be developed and presented in the Local Water Management Strategy. (p. 40). However the trigger values are not discussed in the ER. The ER also states that groundwater will be extracted for irrigation (p. 41) and groundwater levels will be controlled through the use of imported soil and subsoil drainage. (p. 40). Since groundwater will be extracted for irrigation and will be altered through importation of soil and subsoil drainage, the hydrology of the site is once again likely to be significantly altered. This can have detrimental effects on vegetation and subsequently the provision of fauna habitat. The lack of contingency measures means that the proponent will likely be unable to properly mitigate and avoid impacts to hydrology. Given this, the Society recommends the proposed amendment not be approved on the basis that the amendment is likely to deteriorate the current condition of the wetland.

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## **Inability of Wetland Impacts to be Mitigated**

It is well known among academia that impacts to wetlands from development can often not be mitigated and although buffers may help in preventing partial clearing of the wetland, developments near wetlands have been known to accelerate the deterioration of the wetland's environmental values. The ER recognises this when it states although 'urbanisation of the adjacent area will provide the opportunity to exclude grazing and uncontrolled access to the swamp' (p.35) and the 'effectiveness of management of the area will be greatly improved through its transfer from private ownership to public ownership' (p.34), the 'impacts to migratory birds utilising the site would primarily stem from altered hydrological regimes impacting on the wetland, continued degradation of wetland vegetation from uncontrolled access, further weed dominance and predation by feral animals such as the domestic cats, dogs and rats'. In this case constructing a residential development in close proximity to the wetland will exacerbate problems already within the wetland at a much faster rate. Significant surface water run off will contribute nutrients from garden fertilisers and common garden weed seeds to the already high levels of nutrients found in the wetland. With increased nutrients in surface water run off there will also be increased populations of midges and mosquitos. Residential development next to the wetland will also bring with it increased human access from more destructive means such as trail bikes and four wheel drives. If the impacts of the proposed amendment cannot be adequately mitigated then the Society recommends the proposed amendment be rejected by the EPA.

## **ASS Risk**

The proponent's failure to adequately assess and consider the significance of ASS risk, once again jeopardises the ability of the wetland's environmental values to be protected under the *Environmental Protection Act 1986* and *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992*.

The ER states that some monitoring bore locations are showing evidence of disturbed wetlands (Acid Sulfate Soils) as pH was below the ANZECC (2000) default trigger value (7-8.5) (p.25). The *National Strategy for the Management of Coastal Acid Sulfate Soils* (National Working Part on Acid Sulfate Soils 2000) recognises that the disturbance of ASS soils in Australia creates significant environmental and economic impacts. The Strategy recommends that

1. wherever possible ASS should be left in an undisturbed state to avoid acid formation; and
2. If ASS must be disturbed then the development should be in accordance with the level of risk of acid formation and with appropriate management practices to mitigate the impacts of any acid produced.

The ER does not recognise that disturbance of ASS soils presents a significant environmental and economic impacts. The ER predicts that bringing in fill 'will reduce the likelihood of disturbing ASS through reducing the need for dewatering and large-scale excavations' (p. 42). However there is no

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discussion on what the likelihood of disturbing ASS soils is and there is also no mention of preparing an ASS management plan in the chance that ASS soils are disturbed.

**In conclusion, the proponent fails to properly address the impacts of the proposed amendment on the environmental values of Bollard Bulrush Swamp. In addition to this, the proponent also fails to recognise the significance of the wetland as an ecological linkage. In doing this, the proponent deliberately subjects Bollard Bulrush Swamp to degradation and given this, the Society recommends the EPA reject the proposed amendment on the basis that the wetland cannot be adequately protected under the *Environmental Protection Act 1986* and *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992*.**

If you have any queries regarding this letter, please feel free to phone 9330 1754 and we would be happy to meet with you to discuss the proposal in further detail.

Yours sincerely

Brian Moyle  
Chair, Conservation Sub Committee  
Wildflower Society of Western Australia (Inc.)

## References

Department of Environment and Conservation (DEC) 2012. *A Guide to Managing and Restoring Wetlands in WA*, Government of Western Australia.

ENV. Australia 2011. *Bollard Bulrush East Fauna Assessment*. Prepared for Wellard Landowners Group.

National Working Party on Acid Sulfate Soils 2000. *National Strategy for the Management of Coastal Acid Sulfate Soils*. Accessed 6 August 2013 from

<http://www.environment.gov.au/water/publications/quality/pubs/natass.pdf>

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**Plates**

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**Plate 1. Surface Water Inundation at Bollard Bulrush Swamp**

**Plate 2. Condition of Paperbark Trees at Bollard Bulrush Swamp**

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**Attachment 1**  
**- Ecological Linkage Value of Bollard**  
**Bulrush Swamp**

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- Area
- Linkage
- Ecological Linkage

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