



20th April 2012

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Attention Leanne Thompson

**Mangles Bay Marina Based Tourist Precinct Public Environmental Review
Prepared for Cedar Woods Properties Ltd by Strategen, Feb 2012
Submission by Urban Bushland Council WA**

The Urban Bushland Council WA Inc. is a peak community conservation association of over 65 member groups. The Council encourages the protection and appropriate environmental management of bushland areas in and around the Perth Metropolitan Region and other urban centres in WA. The Council participates in research and education projects and has been active since 1993.

Summary

The Urban Bushland Council WA Inc does not support the above proposal in any form and strongly recommends that both the State Government and the Commonwealth Government declare this proposal to be environmentally unacceptable in any form. The proposal is destructive, unpopular and unnecessary. We recommend that the EPA advise the Minister for the Environment; Water that the proposal is environmentally unacceptable and that it cannot be made environmentally acceptable.

The many 'potential impacts' described in the PER would fill any reader with alarm.

Strategen's statement (PER p 127): *Clearing for the development may result in the potential fragmentation of Bush Forever site 355.....* is an overt understatement. In this proposal the benefits are seen as being over and above the costs. However the value of what is lost, if the proposal were to be approved and implemented, is far beyond any perceived benefit. In addition any shaky confidence that some might have that Bush Forever sites are a protection from development will be gone. This housing and canal development proposal is located **within a Bush Forever site** which is a regionally and nationally significant bushland and coastal landform identified by the State Government for protection in the conservation estate. It is akin to a large proposal for housing in the middle of Kings Park bushland, and this would not be tolerated by the people of Perth or any government authority.

Our comments relate first to the 2006 EPA identified primary environmental issues and other issues, and then to significant matters under the EPBC Act.

A. The EPA identified three primary environmental issues

Under the strategic assessment process, in 2006, the EPA identified three primary environmental issues:

1. Sea grass and water quality – direct and indirect loss
2. Lake Richmond (2 TECs)
3. Terrestrial vegetation - direct and indirect loss (PER p i)

Significance of geomorphology omitted

Notably this advice by the EPA does not include a section on the landform significance of the Pt Peron- Shoalwater Bay and sequence of dunes moving inland toward the Lake Richmond Bush Forever site. While this information is documented briefly in Bush Forever p395-6, the regional context of the conservation significance of the landforms of the intact coastal zone extending to Pt Becher and Pt Kennedy is not discussed. This is a serious omission in both the EPA's identification of significant environmental factors in 2006 and in the PER.

The UBC strongly recommends that the EPA address this factor before completing its assessment of the proposal. We recommend that technical advice be obtained from experts including the V & C Semeniuk Research Group.

1. SEAGRASS AND WATER QUALITY

The dredging of an entrance canal and construction of breakwaters through seagrass meadows will lead to the loss of seagrass of up to 5.36 ha and the total indirect loss of up to 0.3 ha. (PER p 24). The table in the PER, p xvi states the potential impacts. At best regrowth of existing seagrass using natural regrowth and transplantation of seagrass would fill mooring scars 'in around four to five years.' The proposal is to rehabilitate any loss of seagrass with an equal area of seagrass within Cockburn Sound. The UBC does not accept that this loss can be offset by rehabilitation. There will be an unacceptable net loss of sea grass habitat.

The construction of breakwaters and disturbance of benthic structure in Mangles Bay will alter the coastal processes, especially the currents and movement of sand. Sand might be deposited on intact sea grass eliminating more productivity and habitat functioning of seagrass meadows. We suggest that the whole area of seagrass in Mangles Bay could be and is likely to be destroyed. This would be a totally unacceptable impact. This is not adequately addressed in the PER.

The UBC does not support the disturbance of any of the sea grass meadows as it will result in a significant net loss of fish and other marine fauna and flora habitat. The Mangles Bay sea grass is a relatively intact coastal marine habitat which should be regarded by the EPA as a **critical asset** to be retained and protected in its entirety. The unacceptable impact on the seagrass meadows is we believe a **fatal flaw in this proposal** and is reason alone to reject it in any form.

2. LAKE RICHMOND AND THROMBOLITES TEC

The proposal has been designed to maximise the separation distance to Lake Richmond (5.3 p 40), but the proposed boundary is only 200m from the boundary of Lake Richmond. The proposal includes canal development in a relatively flat coastal landscape and the massive digging and dredging will significantly disturb groundwater relations, and include risk of sea water intrusion towards the fresh waters of Lake Richmond. This is a totally unacceptable impact and should not be permitted under any circumstances whatever the risk.

The Lake Richmond thrombolites are Critically Endangered (Bush Forever Vol 2 p 397). The thrombolites have been described as 'unique living fossils:

Their survival is dependent upon light and a continuing supply of fresh (non-salty) water rich in calcium, bicarbonate and carbonate, which will come largely from groundwater that has passed through the calcium-rich dunes that surround the lake. The details for this groundwater are not known by researchers. (Submission on Cape Peron Precinct, David Treloar 30 July 2005).

It is nothing less than alarming that the details of groundwater movement and stratigraphy are not known for this sensitive area.

The thrombolites represent the oldest living organisms on earth. They increased in abundance about 570 million years ago. (RLRP Management Plan p30). The thrombolites at Lake Richmond are of regional, national and international significance because of their age and still extant link with the evolution of plant life on planet Earth. Therefore the EPA must surely regard the Lake Richmond environment and adjacent areas (such as Bush Forever site 355) with the ultimate level of significance for protection. The thrombolites are undoubtedly critical assets of the highest possible category calling for certain implementation of both the precautionary principle and the principle of prevention under the Environmental Protection Act. This means that any proposal to disturb the landforms and groundwater relations in the area between Mangles Bay and Lake Richmond must be considered too great a risk and be declared environmentally unacceptable.

Lake Richmond is a particularly fragile environment and it has been suggested that if the proposal is allowed to proceed, then increased nutrient input to the lake, from garden run-off, will 'eventually cause a seasonal bloom of epiphytic and planktonic growth that will rapidly smother the thrombolites', (*Submission on Cape Peron Precinct* David Treloar). The West Australian newspaper reported briefly on the proposal February 14, 2012. Proponents for Cedar Woods found that 'while the 77 ha development would result in a 3.8cm fall in the lake's water level, a community of critically endangered thrombolites would survive the change.' However Nick Dunlop (CCWA) was quoted in the article as saying '*the proponents were playing "a very high risk game" with "one of the oldest forms of life on the planet."* We are custodians of this amazing phenomenon, and the risk of damage and death is too great a risk to take.

7.4.5 Impacts on Lake Richmond due to increased population; (PER p98)

The UBC does not see the logic in the proposition here, that the increased population level in the RLRP, 'which is likely to result in increased pedestrian and pet movements' is 'not considered significant when compared to the broader increase in population in the area.' There will undoubtedly be an increase in pedestrian and pet movements, which will have an impact.

The claim that because residents in the development will be on smaller areas (townhouses and apartments), then they are less likely to have dogs, is not logical and does not make the proposal acceptable. Indeed residents might be *more* likely to have pets such as dogs and cats. It is well documented that well fed domestic cats will still hunt and kill wildlife such as small lizards, skinks geckoes, birds etc.

The coastal landforms on the Swan Coastal Plain region are especially rich in species and populations of herpetofauna (refer the work of How and Dell). The UBC therefore recommends that the EPA regards the habitat for this herpetofauna at Pt Peron as a **critical asset** to be retained and protected in its entirety in the Bush Forever site. Notably these

populations may be quite intact even in the disturbed and more degraded vegetation of the Bush Forever site.

3. TERRESTRIAL FLORA AND VEGETATION

The Pt Peron Bush Forever site includes part of the coastline which should be regarded as a critical asset in the relatively intact coastal region of the Rockingham Lakes Regional Park which extends south to the Pt Becher and Port Kennedy Scientific Park - and is of regional and national significance as a coastal zone.

These coastal landforms provide the context for the terrestrial vegetation and flora.

The vegetation of the proposed area was 'generally assessed to be in 'good' or 'very good' condition. Five FCTs would be directly impacted by clearing. (PER p 126)

The proposal will clear 1.93 ha of TEC FCT 30a (PER p vi)

FCT 30a *Callitris preissii* or *Melaleuca lanceolata* forest and woodlands. *Callitris preissii* was originally extensive all down the coast but 'populations have declined markedly along the Perth coast.' (*Plants of the Perth Coast and Islands*, Elizabeth Rippey and Barbara Rowland). The species is killed by fire and it is very slow growing, with 'a long lifespan of about 100 years.' 'Rottnest Island Pine low forest is now restricted to Garden Island and Woodman Point.' (Ibid)

The UBC supports the consolidation of the TEC FCT 30a into a more sustainable shape with rehabilitation, but obviously we do not support the clearing of nearly 2 ha of this floristic type as proposed

It is a threatened ecological community in a Bush Forever site which is supposed to be set aside in perpetuity in the regional conservation reserve network. Destruction of any part of this TEC is an unacceptable impact which should never be permitted.

FCT 30b *Quindalup Eucalyptus gomphocephala* and/or *Agonis flexuosa* woodlands.

The area within the proposal is 0.56 ha. Tuart is susceptible to changes in groundwater levels (PER p 123). It is a wonderful tree, which has been extensively cleared for development and which has suffered and is still suffering serious decline. The *Rockingham Lakes Regional Park Management Plan 2012* has a strategy to 'Encourage research to understand and manage the processes behind tuart decline' (p 27). Clearing tuart is obviously one of the avoidable threats to the species.

Destruction of any part of FCT 30b is an unacceptable impact and should not be permitted.

FCT 19 *Sedgeland* in *Holocene dune swales* is a TEC and is listed under the EPBC Act (PER p122). Apparently it does not occur within the proposed development site but does occur in BF site 358 in the dune swales around Lake Richmond. As noted in the PER (p122) *maintenance of water level and quality is considered critical for this TEC*. Any risk of disturbance of water levels and water quality in terms of both nutrients and especially salinity is totally unacceptable.

Protection of this sedge community around the Lake is critically important to the protection of the Lake's water quality and of the thrombolites and any risk of its disturbance or degradation is totally unacceptable and must not be allowed.

The UBC agrees that any risk to the integrity of this TEC is a fatal flaw in the proposal and is grounds alone for rejection of the proposal as environmentally unacceptable.

Dewatering; (PER pp 126/127). References are made to dewatering to allow for excavation of the marina, which 'may potentially impact upon vegetation health and condition'. In addition to this threat, the UBC is concerned that the intrusion of sea water may intrude into the freshwater Cape Peron aquifer. **This risk, however small, from dewatering is totally unacceptable and is a fatal flaw in the proposal.**

TERRESTRIAL FAUNA

'The loss of 38.28 ha of viable fauna habitat, of which 35.2 ha is coastal heathland, 0.9 ha is shore line and 2.18 ha is woodland' (p vi) is not acceptable.

The proponent states that this proposal would result in 'a small reduction in numbers of Perth lined skink, jewelled ctenotus and carpet python' and 'a reduction in potential Quenda habitat.'

Perth lined skink; *Lerista lineata*.

This was the first *Lerista* described in 1833 (Bush, Maryan, Browne-Cooper, Robinson *Reptiles and Frogs in the Bush: Southwestern Australia*). It is listed as a Priority 3 species, which means it requires further survey before its conservation status can be definitely determined. This species could be at risk by loss of habitat. It is not acceptable to lose habitat for this species without knowing its status. Therefore we recommend that the EPA calls for an independent survey, funded by Government, of the Perth Lined Skink be carried out in the region. This is regardless of whether or not the proposal proceeds.

Carpet Python; *Morelia spilota*.

The IUCN Red List notes that the population trend of this species is 'decreasing.' The conservation status of the species is listed as Schedule 4 and the species is specially protected under the Wildlife Conservation Act 1950.

The coastal landforms in the Swan Coastal Plain region are especially rich in species and populations of herpetofauna (refer the work of How and Dell). The UBC therefore recommends that the EPA regards the habitat for this herpetofauna at Pt Peron as a **critical asset** to be retained and protected in its entirety in the Bush Forever site. Notably these populations may be quite intact even in the disturbed and more degraded vegetation of the Bush Forever site. Loss of populations of the endangered Perth Lined Skink and the Carpet Python are totally unacceptable.

Jewelled Ctenotus; *Ctenotus gemmula*.

This species of ctenotus was considered for the IUCN Red list of Threatened Species. While it has been assessed as 'Least Concern' there is a rider that "Monitoring of the species should be carried out because if threat levels increase, significant population declines may occur." This should occur regardless of whether or not the proposal proceeds.

Quenda: *Isodon obesulus*. The population trend for this species under the IUCN list is 'decreasing'. This is an animal which can breed two to three times a year, and females can breed at 3-4 months. Quenda survival depends on an adequate home range of up to 7 ha for males and about 2 ha for females. (Cronin; *Australian Mammals*) The proposal, like so many developments on the Swan Coastal Plain would destroy Quenda habitat, particularly the loss of coastal heath. In other developments Quenda have been relocated eg from Fiona Stanley Hospital site, Murdoch, but the areas to where they have been relocated are probably already occupied.

We believe that loss of habitat for this species is another reason that the proposal is environmentally unacceptable and should be rejected.

Endangered Black Cockatoos and Graceful Sunmoth

The endangered Black cockatoos and the Graceful Sun Moth are discussed under the Federal Government section. Suffice to say here that it is totally environmentally unacceptable for the State Government via advice from the EPA to even consider a loss of these habitats for endangered species in an area that is supposed to be part of the conservation estate in a Bush Forever area.

The UBC wishes to remind the EPA that there is no legislation which effectively protects the habitat of endangered species in WA. Therefore it is incumbent on the EPA to recommend to the Minister that the proposal be rejected because of loss of habitat for the endangered species now present or potentially so.

BUSH FOREVER 2.3.1

The description of Bush Forever (17.1.2, page 380), possibly taken from the WAPC Planning Bulletin written in July 2004, is somewhat out of date. The Bush Forever policy has been implemented over the last eleven years. All Bush Forever sites have statutory definition and now appear on the MRS map under the Metropolitan Region Scheme Act. No other interstate city in Australia has such a robust basis of very good and sophisticated science as pertain to the selection of Bush Forever sites. The sites are “representative of regional ecosystems and habitats, and play a central role in the conservation of Perth’s biodiversity”. (Bush Forever Vol 1 page viii)

The attributes of BF Site 355, Point Peron and Adjacent Bushland, Peron/Shoalwater Bay and Bush Forever site 358 – Lake Richmond, Rockingham may be read in Bush Forever document volume 2 (p 396).

Bush Forever site 355 meets all six specific coastal reserve criteria:

These are;

- (i) Quindalup Dune types – youngest, older and beach ridge plain
- (ii) Continuing natural processes: 174ha-of Quindalup Dunes extending to 3.1km inland from the point
- (iii) Shoreline: soft (sandy) and hard (rocky)
- (iv) Linkage: contains Quindalup/Spearwood Dunes (Tamala Limestone) interface; roads and developments fragment Site
- (v) Vegetation: typical Quindalup/Spearwood units
- (vi) Habitats: see Fauna section above;

Included in the description is that the site is part of Greenways 1, 93, and 97 and that the site meets six specific coastal reserve criteria.

Bush Forever Site 358 is adjacent to the proposed development.

Under (ii) and (vi) there is no discussion or review of the impacts on these continuing natural processes based on the sequence of dunes from coast going inland to Lake Richmond. Construction of canal developments in this sequence will completely destroy their identity and significance. The Bush Forever description on p396 states:

(The Bush Forever site comprises) ' Isolated rocky headland displaying excellent exposures of the aeolian phase of Tamala Limestone, connected to the mainland by a series of Holocene beach-sand and dune-sand ridges of the Safety Bay Sands. Raised and submerged sea erosional terraces and beach deposits along the foreshore are thought to indicate past still-stands of sea level at 3, 1.5 and 0.6 metres above present sea level

during the Holocene and this evidence has been used for world- wide eustatic correlations (Lemmon et al 1979, as in Bush Forever)

Notably most of the Bush Forever site was included in the Port Kennedy and Rockingham Lakes Regional park proposal submitted to State Cabinet in 5 May 1997. Thus the significance of the site was recognised by State Cabinet at this date. It is therefore both difficult to believe and indeed unacceptable that this proposal can even be considered in such an iconic and significant landscape.

We cannot understand how the PER could state that: *The proposal is not expected to impact the regional significance of the Cape Peron Bush Forever site 355. This statement is we believe quite incorrect and there will be very significant impacts on site 355.*

Bush Forever sites were chosen to “protect regionally significant bushland.....representing, where achievable a target of at least 10% of each of the original 26 vegetation complexes of the Swan Coastal Plain portion of the Perth Metropolitan Region”. (Bush Forever, Vol 1 p1) The Government has given a commitment to conserve regionally significant bushland in Perth. (ibid). There is no commitment to approve the destruction of parts of Bush Forever sites and the associated loss of connectivity and loss due to ground water changes.

Thus this proposal is inconsistent with Government policy and should be rejected.

STATEMENT OF PLANNING POLICY 2.8 (17.1.2 page 381)

The Mangles Bay proposed development is completely counter to the requirements of SPP 2.8. These requirements are reiterated in the PER on page 381. Because of the relevance, some of the text is printed here;

*The SPP requires that proposals impacting on bush forever sites should, amongst others, ensure that all reasonable steps have been taken to **avoid**, minimise or mitigate any likely adverse impact (direct or indirect) on regionally significant bushland, consistent with the SPP. Requirement of the SPP include:*

- *Focus development within cleared, degraded and less intact areas of bushland and where possible avoid fragmentation of the bushland area and provide for ecological linkage.*

MITIGATION INCORPORATED INTO THE PROPOSAL;

We read in the PER (17.3 page 385, table 72 ‘Minimise’) that: *The proposal includes an inland marina to minimise the marine footprint and potential seagrass loss in Mangles Bay.*

The development of a tourist-based marina, will be destroying 40 hectares of the Bush Forever site. No amount of mitigation or offsetting can compensate for the loss of coastal bushland. In fact in our experience, offsets always result in a net loss of bushland ecosystems. There is no justification for destroying a Bush Forever site and with the accompanying destruction and potential damage to ecological systems. Were a monetary value to be placed on the potential and various losses, the State government and the developer might not have proceeded on this course.

The statement that “Provision of infrastructure for passive recreation within the Cape Peron Area” is an offset which will “counterbalance an adverse residual environmental impact” is nonsense and is unacceptable. The UBC does not accept that indirect ‘offsets’ should be regarded as offsets at all.

B. Controlled action under the EPBC Act and strategic assessment

The proposal is a controlled action under the EPBC Act. (EPBC 2010/5659). The relevant controlling provisions are:

- *Listed threatened species and communities (S 18 and 18 A)*

- *Listed migratory species (S 20 and 20A)*
- *Wetlands (Ramsar) (s 16 and s 17B)*

Listed threatened species and communities

Graceful Sun-moth; *Symenon gratiosa*

The UBC does not agree with the proposition that 'the clearing of 32.6ha of GSM habitat is unlikely to significantly impact upon GSM populations due to the existing habitat fragmentation.' (PER p xiv). DEC Senior Research Scientist Matthew Williams has stated in a talk, February 2012, that the favoured habitat of GSMs is coastal heathland. He said that GSMs are present at Mangles Bay and Point Peron. So despite 'the existing habitat fragmentation,' GSMs are persisting at this site. The massive clearing over the Swan Coastal Plain, where 20% of GSM habitat will be cleared, will lead to the loss of 30-40% of the GSM population within ten years. (ibid). The GSM is from an ancient Gondwanan family and therefore should be considered by the EPA to be a **critical asset**.

The recent statement by the Premier of Western Australia about the Graceful Sun-moth, 8 March 2012, demonstrates the government's attitude to environmental protection of endangered species. The Premier said that the 'glorious sun-moth' is '*a particularly unfortunate creature. It is born blind, it doesn't have a mouth and it doesn't eat throughout its 12-day lifetime. Now this is animal might actually want extinction*'

Carnaby's Cockatoo *Calyptorinchus latirostris* and Forest Red-tailed Cockatoo

Calyptorhynchus banksii naso: The UBC cannot accept the statement in the PER; 8. *No direct or indirect impact to the black cockatoo (Carnaby's and Forest Red-tailed) habitat.* (pp vi and vii)

All remnant vegetation is significant for these two species of black cockatoo. The 2011 results of the Great Cockey Count conducted on 7 April 2011 found that numbers of Carnaby's Cockatoo have declined by 37% on the Swan Coastal Plain and although it is stated by the state government that conclusions from counts from only two years results is not statistically supported, we are aware that within the lifetimes of some, (40 years ago) Carnaby's Cockatoo flock numbers were in the 1000s. The Great Cockey Count Report stated that there was a reduction of 42% in the number of roosts with 1521-500 cockatoos and no roosts had over 500 birds. The four follow-up monthly surveys carried out following the Great Cockey Count confirmed the population decline. Species recovery is an uphill battle. The hope for the future relies on the recognition that these endangered birds need to be helped by protecting their habitat, rather than reducing their habitat. This government has not been able to accept that the fate of black cockatoos is in their hands and that development has to be sensitive to issues such as protecting not only endangered species but our natural environment and the species which inhabit it.

Birdlife Australia has called for a halt to all clearing of the remaining Carnaby's Cockatoo habitat, particularly in the Perth and Peel region. This call has also been made for many years by the UBC and the Conservation Council of WA .

The Pt Peron BF site and the proposed development area has some tuart and these are Carnaby's habitat. The removal of vegetation including tuart and/or disturbance of their groundwater levels is a significant impact and an unacceptable impact as it will further diminish viability of Carnaby's feeding, roosting and potential nesting habitat.

The Forest Red-tail Cockatoo; The seasonal movements of this cockatoo have changed dramatically over a short period of time. Apart from a flock which lived at Murdoch University, the Forest Red-tail had not been on the Swan Coastal Plain for 60 years. The lack of food and water are probably two of the reasons this species has come onto the plain

since the end of 2011. The species has been under stress in its habitual habitat which is not now able to support it. This species has been seen at Perry Lakes feeding on tuart seeds and the seeds of other eucalypts. All these seeds are very small and a great many are needed to sustain one cockatoo over a day, let alone a flock.

Roosting trees: The PER states that the proposal will have no direct or indirect effect on black cockatoos and we submit that this is incorrect. The PER makes conflicting statements on whether a roosting site is present, stating there will be a significant impact to potential black cockatoo habitat if present. However the PER also states that there is a roosting site in the proposed area. It is unforgivable that roosting trees would be destroyed if this proposal were to be approved.

In 2006 Bansi Shah reported that 38% of the roost sites identified during the study of the Great Cocky Count had already been cleared or marked for clearing. At that time she said: *Urgent action is required to ameliorate the effects of these changes.*

We also note that Carnaby's Cockatoo is starting to breed on the Swan Coastal Plain. To help in the persistence of black cockatoos into the future, all mature trees should be retained and protected. This has been emphasised by Ron Johnstone (WA Museum Curator of Ornithology) repeatedly recently at presentations he has given to community organisations.

Seabirds; in a recent News Release of the IUCN Red List, 09 March 2012, it is stated that: *'The status of the world's seabirds has deteriorated rapidly over recent decades and several species and populations are now perilously close to extinction'.*

The Release states that *'human activities lie at the heart of the staggering decline of seabird populations'.*

The UBC is also aware that climate change has affected seabird populations and distribution.

Additional comment

Cockburn sound supports a wide range of fauna and has significant fauna values because of its utilization by dolphins, a large range of seabirds, protected migratory birds, and little penguins.....the Sound is a significant fisheries resource. (PER p13)

The following quote (p 8) is from *Key Guide Australian Mammals* by Leonard Cronin published by Envirobook 1991. It is quoted because, although 21 years old, the comments are more than ever relevant at this time.

One of the greatest challenges facing the people of Australia is to learn how to coexist with our native wildlife. In our struggle to achieve economic wealth we have failed to consider the requirements of the animals we share this continent with. We destroy their refuges by cutting down ancient forests.....

Part of the problem lies in a lack of basic knowledge. The study of our native fauna has never been well-funded, and consequently we know little about the biology and habitat requirements of some of our most common animals. It is interesting to note that this lack of knowledge has been used as a defense by governments, companies and individuals to excuse crimes committed against the environment. Some of these have been far more devastating in their consequences than many crimes committed against society..

If we devoted a fraction of the amount of time and money spent on litigation to understanding and upholding the law of nature, we would be able to look forward to a world with a secure future for all our native fauna, rather than watching the list of extinct and endangered species grow longer and longer.

The UBC agrees with these sentiments and recommends that the EPA calls on the State Government to conduct formal independent surveys of fauna species which are both common or threatened in the Swan Coastal Plain IBRA region. This is essential to provide baseline data and to assist in management needs of fauna populations of this intrinsically biodiverse region.

CLIMATE CHANGE

We are already experiencing some of the effects of climate change. Rising sea levels and the impact and increased severity of storms will be evident on our coastlines. The Climate Commission's Report, *The Critical Decade*, 23 May 2011 stated that sea levels around Australia's west and far north, have risen the most since the early 1990s. *A plausible estimate of the amount of sea-level rise by 2100 compared to 2000 is 0.5 to one metre*, it says. Alarmingly the rate of rise has accelerated in the last 20 years.

We strongly recommend that the EPA takes a precautionary approach, as we are already seeing our coast being encroached upon. The current observed sea level rise is at the upper end of climate model projections and in Western Australia along the west coast, sea levels are rising at more than double the global average. (Climate Commission- Climate Change Impacts for Western Australia)

GEOMORPHOLOGY

The geomorphological significance of the proposal area is not described in the PER. We can only read (PER p xviii) that 'the RLRP has significant conservation value owing to its geomorphic features.....' The section 2.1.1 Terrestrial environment; Geology (p 10) has a small section on the geology.

The Rockingham Lakes Regional Park Management Plan 2010 (p iv) states that:

The park crosses the unique Rockingham-Becher Plain, from the coastal promontories of Cape Peron and Port Kennedy, to the wetlands of Lakes Coo loongup and Walyungup. This area is significant for its geomorphic landforms because the distinct parallel sand ridges indicate the positions of former shorelines, providing a record of sea level changes over the past 7,000 years. Wetlands have formed in between the sand ridges, and these are also significant because they form part of an evolutionary time sequence and support unique vegetation communities. The Becher Point Wetlands are listed as wetlands of international significance under the Ramsar Convention. Thus the area is of considerable interest and importance for research on coastal history, the evolution of wetlands and biological succession.

The Plan also states that *the landform and vegetation assemblages of the Rockingham - Becher Plain is unique in a global sense and is therefore of International importance.* The UBC draws this statement to the attention of the EPA as the context for assessment of this proposal. Notably the EPA did not include this as a primary environmental issue to be assessed and we submit this is an omission which must be addressed.

The proposed development site is part of this interesting landform formation. There are better ways of providing benefits to the community, than what is envisaged in this proposal.

It is noted above that Bush Forever Volume 2 (p396) states that Bush Forever site 355 meets six specific coastal reserve criteria.

“THE COAST IDEAL”

How appropriate are the words of Craig McGregor (Resource Assessment Commission 1992, quoted in *Plants of the Perth Coast and Islands* Elizabeth Rippey and Barbara Rowland)

'I've always thought that the Australian coast is so precious, and beguiling, and yet formidable, that it should not be the preserve of just a few; we all of us need some harbour of the heart to sustain us, and for many Australians the coast provides just that. It is both adventure and retreat. Yet if we continue as we are, and devour all that is natural about it even as we admire it, we will end up with a sour taste in the mouth and nothing left to inspire us and a crime on our hands for which future generations will never forgive us'.

The environmental impacts and costs of this project, were it to be approved, are extremely significant and the possible benefits pale into insignificance against the costs. There is no justification for such a radical and destructive proposal.

Yours faithfully

President
Urban Bushland Council WA Inc.

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