



**Office of
Environment
& Heritage**

DOC15/506144
SSD 7228

Ms Kate MacDondald
Team Leader
Industry Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms MacDondald

The Sydney Zoo, Western Sydney Parklands, Environmental Impact Statement (SSD 7228)

I refer to your letter dated 8 December 2015 inviting the Office of Environment and Heritage (OEH) to comment on the exhibited environmental impact statement (EIS) for The Sydney Zoo, Western Sydney Parklands (SSD 7228).

OEH provides comments on the project EIS in relation to biodiversity in Attachment 1. OEH also notes that in a letter from Sydney Zoo to the Department of Planning and Environment (DPE), dated 23 December 2015, the applicant would now like to explore options for reducing the size of the proposed carpark. OEH has also provided comments on this matter in Attachment 1.

Unfortunately, OEH's Greater Sydney Planning Team is unable to provide comments at this time on Aboriginal Cultural Heritage (ACH) due to other priorities. This should not be taken as OEH support for how ACH matters have been considered and assessed. Please note that the Heritage Division of OEH may wish to provide separate comments. The Heritage Division can be contacted at heritage@heritage.nsw.gov.au.

If you have any further questions about this issue, please contact Jennifer Charlton, Conservation Planning Officer, on 8837 6311 or at Jennifer.charlton@environment.nsw.gov.au.

Yours sincerely

DAVID TREWIN
Regional Manager Greater Sydney
Regional Operations

8/2/2016

Enclosure

Attachment 1: Office of Environment and Heritage comments on The Sydney Zoo, Western Sydney Parklands, Environmental Impact Statement (SSD 7228)

OEH has reviewed the *Sydney Zoo – Bungarribee South Biodiversity Assessment Report* by Eco Logical Australia (December 2015) against the *Framework for Biodiversity Assessment (FBA)*, *NSW Biodiversity Offsets Policy for Major Projects* and the biodiversity SEARs (signed 10 September 2015).

OEH has also reviewed a letter from Jake Burgess, Managing Director of Sydney Zoo, to DPE, dated 23 December 2015 (not exhibited).

The letter from Jake Burgess indicates that Sydney Zoo is now amenable to reducing the size of the proposed carpark, in consultation with the relevant agencies. The letter states this would involve a temporary arrangement to use the Western Sydney Parklands Trust (WSPT) land to the south of the proposed zoo site for overflow parking. OEH makes the following comments regarding this possibility:

- OEH supports the notion to reduce the size of the proposed carpark and would like to see the carpark footprint removed from the area of planted and regenerating River-flat Eucalypt Forest occurring alongside Eastern Creek.
- The land immediately south of the proposed zoo site and north of the Great Western Highway appears to have potential for supporting overflow carparking within cleared areas dominated by exotic grassland. Survey would be required to identify areas of native vegetation, including derived native grasslands, to be excluded from areas of impact. Should a suitable area be located to the south for carparking, please identify the restrictions causing it to be considered only "temporary".

Exhibited Biodiversity Assessment Report

OEH notes the exhibited Biodiversity Assessment Report (BAR) includes the same proposal previously commented on by OEH. Based on the exhibited material, OEH's comments to DPE dated 1 December 2015 are still current (see Attachment 2). In particular, OEH advises:

- The proposal (as exhibited) is not consistent with the *NSW Biodiversity Offsets Policy for Major Projects*.
- OEH has concerns that the Cumberland Plain Woodland (CPW) proposed for retention within a carpark setting may not meet the definition for CPW in perpetuity given the small patch sizes, degree of isolation, large edge to area ratios and the proposed incompatible surrounding land use. OEH notes the Landscape Masterplan does not identify any plantings within the retained CPW patches to improve their condition, nor does the duration of the Landscape Masterplan appear to be specified. Given these considerations, any proposal to more directly impact these areas in the future may result in their complete removal and no requirement for offsets. Although the potential for these small patches to degrade further under the current land use is recognised, it is OEH's opinion that the proposed development (as exhibited) would likely result in their demise in the long run and therefore, the 'retained' areas of CPW should be assessed as though they are to be removed. Note the following requirements from the FBA:

s. 8.3.1.2 "The proponent must incorporate the principles of avoiding and minimising impacts to biodiversity into the **entire life cycle of the Major Project** consistently with the guidelines in Subsection 8.3.2".

s. 8.4.1.2 "When assessing indirect impacts, the assessor must consider all adverse impacts that can reasonably be predicted to result from the development. The assessor must consider indirect impacts on biodiversity where they are **sufficiently related to the development** to be considered a **consequence of the development**".

The letter from Jake Burgess to DPE identifies an "intended collaboration" with universities and Aboriginal agencies with respect to urban bushland regeneration and maintenance. Sydney Zoo wishes to explore whether such a collaboration would provide comfort to OEH as to the long-term security of the retained patches of CPW. In this regard, and to satisfy the requirements of the FBA, OEH requires more than an "intended collaboration" and would need to see a specific management plan for the retained patches to demonstrate the measures to be employed to enhance and then manage them as CPW in perpetuity. It would be expected that such a plan would include the identification of: threats resulting from the development (for example, but not limited to, trampling, rubbish dumping, weed invasion); specific measures to be implemented for example, but not limited to, planting of CPW species of local provenance, installation of an access deterrent such as bollard fencing, weed removal program; who will undertake the works (with evidence of their commitment/engagement and qualifications and experience in CPW bush regeneration); and, how the on-going management would be funded.

Any approval of the project would require the management plan to be implemented in perpetuity. It should be noted that it may be difficult to demonstrate that the smaller and more isolated patches of CPW proposed for retention could be effectively managed and maintained as CPW in the long-term and therefore, OEH may still require offsets for these smaller patches identified as FID 2 and FID 5 within the 'Footprint' shapefile.

- OEH previously raised the concern that the proposal does not satisfy the objective to "improve biodiversity and bushland quality within the precinct", specific to the Bungarribee Precinct (see <http://www.westernsydneyparklands.com.au/assets/Resources/Plan-Sections/Prect4Bungarribee.pdf>), of the Western Sydney Parklands Plan of Management. OEH provided a list of studies¹ to support the opinion that recreation of CPW at a ratio of only 2.1:1 compared to the area being cleared, will lead to a net loss of biodiversity values over time. The letter from Jake Burgess dated 23 December 2015 claims the ratio is sufficient given historical ratios however, no examples were provided.

As previously advised by OEH in our letter dated 1 December 2015 (see Attachment 2), there may be potential for Biobanking credits to be established and secured by the WSPT in order for the lessee of the site to achieve the desired project outcomes and meet relevant objectives. This would be a matter for the WSPT and Sydney Zoo to investigate.

OEH provides the following additional comments on the BAR having now reviewed the GIS shapefiles and credit calculations:

- It is unclear why Plots 1, 7, 8 and 9 have been included in the calculator as HN526 when they are HN528. It is also unclear why Plot 6 has been included in HN526 if it is in a zone mapped as 'exotic'.
- It is noted that part of the CPW area in the vicinity of Plot 1 that is mapped in the 'footprint' layer as being 'retained' is also mapped in the 'vegetation zones' layer as 'exotic'.

¹ Wilkins, S., Keith, D.A. & Adam, P. (2003): 'Measuring Success: Evaluating the Restoration of a Grassy Eucalypt Woodland on the Cumberland Plain, Sydney, Australia'. *Restoration Ecology* Vol. 11 No. 4, pp. 489–503.

Smith, G.C., Lewis, T. & Hogan, L.D. (2015): 'Fauna community trends during early restoration of alluvial open forest/woodland ecosystems on former agricultural land'. *Restoration Ecology* Vol 23 No.10.111, pp. 787-799.

Vesk, P.A., Nolan, R., Thomson, J.R., Dorrough, J.W., Mac Nally, R. (2008): 'Time lags in provision of habitat resources through revegetation'. *Biological Conservation* Vol 141, pp 174-86.

Munro, N.T., Fischer, J., Barrett, G., Wood, J., Leavesley, A. & Lindenmayer, D.B. (2011): 'Bird's Response to Revegetation of Different Structure and Floristics—Are "Restoration Plantings" Restoring Bird Communities?' *Restoration Ecology* Vol. 19, No. 201, pp. 223–235.

Momov, B., Keith, D.A. & Hochuli, D.F., (2009): 'Linking ecological function to species composition in ecological restoration: Seed removal by ants in recreated woodland'. *Austral Ecology* vol. 34, pp. 751–760.

- Landscape Masterplan Part 15 (DWG L22 Rev A) is not consistent with the GIS shapefile for 'retained' land: the plan shows 'asphalt car park' over the northern part of the largest 'retained' patch of CPW. However, part of this area is also mapped as 'exotic'; see above. Please clarify the extent of land to be 'retained'.

OEH's input into the SEARs included that impacts on the following threatened species and populations would require further consideration and provision of the information specified in s9.2 of the FBA:

Threatened Species
Downy Wattle (<i>Acacia pubescens</i>) - only requires further consideration if greater than 5 individuals will be impacted by development
<i>Grevillea juniperina</i> ssp. <i>juniperina</i> - only requires further consideration if greater than 5 individuals will be impacted by development
Spiked Rice Flower (<i>Pimelea spicata</i>) - only requires further consideration if greater than 2 individuals will be impacted by development
<i>Pultenaea parviflora</i> - only requires further consideration if greater than 10 individuals will be impacted by development
Little Bentwing-Bat (<i>Miniopterus australis</i>) - only if maternity or roost sites are impacted
Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>) - only if camps are impacted
Endangered Population
<i>Marsdenia viridiflora</i> ssp. <i>viridiflora</i> in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas

Following review of the BAR, OEH notes all of the above were excluded from further consideration in accordance with s.9.2 of the FBA as none were recorded on site. OEH notes that surveys were undertaken at a suitable time of year for all the flora species except potentially *Pimelea spicata*. *P. spicata* can appear any time of year but mostly in summer, and can be difficult to detect when not in flower. As no surveys were done in summer, what further justification can be provided to be certain the species does not occur on site? Were any reference populations known to be flowering at the time of survey?

OEH notes that no camps of Grey-headed Flying-fox or maternity caves of the Little Bentwing-bat were recorded on site. The BAR does state however, that up to two trees with hollows suitable for microbats would be removed. Tree hollows provide potential roosting habitat for the Little Bentwing-bat. Given this, and the SEARs' requirement to address s.9.2 of the FBA for impacts to Little Bentwing-bat roost sites, OEH requires evidence that the species is unlikely to roost on site (by undertaking targeted surveys for the species; to date, only habitat assessment has been undertaken) and/or s.9.2 of the FBA is to be addressed.

Attachment 2: OEH's comments to DPE dated 1 December 2015



Office of
Environment
& Heritage

DOC15/435707
SSD7228

Mr Chris Ritchie
Director - Industry Assessments
Department of Planning and Environment
chris.ritchie@planning.nsw.gov.au

Attention: Rebecca Sommer

Dear Mr Ritchie

Biodiversity Assessment for the Sydney Zoo, Bungaribee Precinct, Western Sydney Parklands

I refer to the email from the proponent for the Western Sydney Zoo Project located in the Bungaribee Precinct, Western Sydney Parklands (SSD 7228) dated 30 October and the report prepared by EcoLogical Australia titled 'Proposed Biodiversity Offsets' that has been provided to Office of Environment and Heritage (OEH) for comment.

OEH has reviewed the responses from the proponent and EcoLogical Australia. Comments on the Biodiversity Assessment Report and the Proposed Biodiversity Offsets Report for the Western Sydney Zoo Project, Bungaribee Precinct, Western Sydney Parklands are provided in Attachment 1.

If you have any further questions about this issue, please contact Rachel Lonie, Senior Project Officer on 9995 6837 or by email at rachel.lonie@environment.nsw.gov.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read "David Trewin".

DAVID TREWIN
Regional Manager Greater Sydney
Regional Operations

11/12/2015

Enclosure

Attachment 1. Biodiversity Assessment Report and Proposed Biodiversity Offsets for the Western Sydney Zoo Project, Bungarribee Precinct, Western Sydney Parklands

The responses provided in the email dated 30 October 2015 from the proponent, Mr Jake Burgess, (Managing Director, Sydney Zoo) address most of the concerns raised by OEH regarding the Biodiversity Assessment Report (BAR). However, significant issues regarding the application of the NSW Biodiversity Offsets Policy still remain.

The NSW Biodiversity Offsets Policy

As you are aware, the Secretary's Environmental Assessment Requirements require that biodiversity impacts related to the proposed project are to be assessed and documented in accordance with the NSW Biodiversity Offsets Policy for Major Projects (2014) (Offsets Policy for Major Projects) and the Framework for Biodiversity Assessment (FBA), by a person accredited in accordance with s142B(1)(c) of the *Threatened Species Conservation Act 1995*.

The Offsets Policy for Major Projects and the FBA that underpins it are a whole of government endorsed approach to the assessment of biodiversity impacts and biodiversity offsetting requirements for state significant development and state significant infrastructure in NSW. The policy clarifies, standardises and improves biodiversity offsetting for major project approvals. The policy applies to state significant development and state significant infrastructure under the *Environmental Planning and Assessment Act 1979*. The FBA sets out the process for assessing biodiversity impacts on a proposed development site and determining the biodiversity offset requirements for those impacts.

The intent of the policy is to provide a transparent and repeatable method for assessing impacts on biodiversity. This aims to help avoid protracted debates and negotiations about information used to assess biodiversity impacts, which can be time-consuming and a burden on government and proponent resources. It also provides for transparency in government decision-making.

The Sydney Zoo Project

Sydney Zoo is proposing that they be allowed to offset the loss of native vegetation at the site through internal planting instead of off-site offset Biobanking credits. The reasons given for this are that the project is a unique development, that it has been located on a part of the Western Sydney Parklands that is predominantly cleared and the vegetation is in small, isolated patches and in very poor condition. Further, the argument is made that should Sydney Zoo be required to offset the value of Cumberland Plain Woodland (CPW) vegetation patches already currently being avoided, this would have the perverse outcome of removing higher value CPW stands which the Zoo intends to improve. The report states that, "*Should biobanking offsets be required, Sydney Zoo will be forced to minimise the area of vegetation disrupted, with consequential losses of connectivity of the bushland and a lower total amount of native vegetation onsite than is currently planned.*"

The BAR states the proposal will remove 0.25 ha of Cumberland Plain Woodland (CPW) and 0.83 ha of Derived Native Grasslands (DNG). The proposed works will retain 0.3 ha of CPW and 0.06 ha of DNG. A total of 0.83 ha of native vegetation requires offsetting according to the FBA. A further 0.83 ha of native vegetation (DNG) in poor condition does not require offsetting as it is under the site score of 17. The BAR states that the extensive planting of 1.74 ha of native vegetation will occur as identified in the landscaping plan.

Remaining issues of concern with regard to the Western Sydney Zoo Project include:

1. Avoid and Minimising Impacts

The first principle of the Offsets Policy requires that before offsets are considered, impacts must first be avoided, and unavoidable impacts minimised through mitigation measures. Only then should offsets be considered for the remaining impacts.

OEH acknowledges the project is unusual in that it will result in relatively extensive landscaping of a largely cleared site. However, the project itself requires landscaping for visitor and animal exhibit amenity reasons. Retaining native vegetation on the site is in accordance with the first principle of the

Offsets Policy. If impacts to good quality vegetation on site are to be avoided, then offsetting is not required.

OEH's strong preference is for the retention of regenerating River-flat Eucalypt Forest vegetation along the creekline in order to maximise corridor width for fauna and ecological functions of the waterway. OEH recommends that the loss of vegetation in this area should be avoided through a reconsideration of car parking requirements as discussed further below.

2. Offsetting Impacts

As discussed at our meeting of 22 October 2015, OEH has an interest in the means of securing any area identified to be protected to ensure that the mechanisms will provide an enduring and viable area of vegetation in the future. OEH is not convinced that the CPW in the retained patches will survive as vegetation that resembles CPW in the long term. Although it was mentioned in the meeting that these areas would be protected and actively managed, no additional information has been provided about the proposed mechanisms for this. It is therefore difficult to be confident that small patches of CPW that are isolated within car parks can be actively managed in perpetuity, with conservation as the primary management aim. If OEH cannot be convinced on these points, these patches will also need to be counted as a loss and offsets will be required.

4. Vegetation condition accounted for in the offset calculations

The proponent has suggested that the vegetation on the site is of poor condition and not suitable for offsetting.

The fact that much of the vegetation on the project site is in small, isolated patches and in poor condition is taken into account as part of the calculation of required offset credits. Poor quality vegetation either does not require offsetting or does not require such a high level of credits as better quality vegetation on the site. The connectedness and size of vegetation patches are considered under Sections 4.2.3 – 4.2.5 of the FBA.

As described in the *Offsets Policy Practice Note: Offset threshold for vegetation below a certain condition level* (<http://www.environment.nsw.gov.au/resources/biodiversity/150420-FBA-offset-threshold.pdf>) a biodiversity offset is not required for impacts on native vegetation that has a site value score of less than 17. This includes native vegetation that is an endangered or critically endangered ecological community, and/or vegetation that is associated with threatened species habitat (as represented by ecosystem credits).

5. Securing on-site offsets

OEH has advised that if large patches of vegetation within the zoo are to be retained they may be secured under a Biobanking agreement to generate credits for use as an offset. The Offsets Policy requires that offset sites are secured under Biobanking agreements to ensure they are managed in perpetuity with funding. The credits would need to be calculated following the Biobanking Assessment Methodology (as required by the FBA) which only allows a limited gain from highly degraded sites. OEH would need to be comfortable that the site was able to be managed for conservation taking into account its size, location and surrounding land uses.

Sydney Zoo has proposed to use plantings on site to meet the offset requirement. Plantings would only be considered to meet a like-for-like offset requirement under the Offsets Policy for Major Projects if they were undertaken on a Biobank site. Plantings may be considered as part of supplementary measures. However, Sydney Zoo would need to first demonstrate that like-for-like offsets were not able to be found following the "reasonable steps for securing like-for-like offsets" set out in the Offsets Policy. The requirements for supplementary measures set out in Appendix B of the Offsets Policy for Major Projects would also need to be followed including demonstrating that the measure is likely to lead to long-term benefits for biodiversity. The same amount of money must be spent on supplementary measures as would have been required to secure a land-based offset.

OEH acknowledges that some planting will be incorporated in the car parking area and planting is also proposed along the southern boundary, but this is a very narrow converging strip and does not offer a wide or viable corridor at this stage. Its effectiveness as a corridor link is also contingent on the adjoining land use which OEH understands will also be under a commercial lease. This would not

be considered to have biodiversity benefit under the offsets policy unless it was a biobank site or part of the mitigation strategy with appropriate protection and management mechanisms.

6. Flexibility in application of the Offsets Policy

The proponent has raised the issue of the amount of flexibility permitted during the application of the new Offsets Policy and FBA.

As OEH has previously advised the proponent's ecological consultant, flexibility in application of the Offsets Policy and FBA is for situations where, in the consent authority's opinion, the FBA has produced a 'perverse' outcome (for example as a result of a mistake/oversight in the methodology or unanticipated circumstances). It is not intended to allow proponents to negotiate changes to the methodology to suit the circumstances of their individual development.

7. Other comments on the Biodiversity Assessment Report

OEH understands that changes to the 'Region' column in Appendix A will be made, as per the response in EcoLogical's report.

OEH understands that edits will be made to avoid confusion about reference to other studies within the broader (entire) Bungarribee Precinct, and the study area for this Biodiversity Assessment Report.

OEH notes while the Plan of Management does apply to the whole Western Sydney Parklands, one of the management objectives that is specific to the Bungarribee Precinct is to "improve biodiversity and bushland quality" (see <http://www.westernsydeyparklands.com.au/assets/Resources/Plan-Sections/Prect4Bungarribee.pdf>).

OEH considers that the recreation of CPW at a ratio of only 2.1:1 compared to the area being cleared (as stated in ELA's letter of 30 October), will lead to a net loss of biodiversity values over time, particularly considering the number of studies¹ that demonstrate that recreating ecological communities does not replace values in the short to medium term.

8. Potential points for discussion / further consideration

OEH has been requested to attend a further meeting with the proponent. OEH does not consider further discussion on the application of the Offsets Policy is warranted as the responses to this have been articulated above and OEH is not in a position to negotiate on these points. The following are suggested considerations that may assist in the Sydney Zoo project meet its requirements under the Offsets Policy.

Car parking requirements

As discussed at the meeting of 30 October, the area of car parking compared to the overall site area for this development seems excessive. It may be possible to reduce the car parking requirements through providing a shuttle bus to nearby public transport. Also, it may be possible to work with the Department of Planning and Environment to consider how this car parking requirement could be reduced. Multiple level car parking could also be considered.

¹ Wilkins, S., Keith, D.A. & Adam, P. (2003): 'Measuring Success: Evaluating the Restoration of a Grassy Eucalypt Woodland on the Cumberland Plain, Sydney, Australia'. *Restoration Ecology* Vol. 11 No. 4, pp. 489–503

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Momov, B., Keith, D.A. & Hochuli, D.F., (2009): 'Linking ecological function to species composition in ecological restoration: Seed removal by ants in recreated woodland'. *Austral Ecology* vol. 34, pp. 751–760¹

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Site lease area

OEH is not aware of the lease agreements for the site and how the lease was negotiated. It is noted however that there is also predominantly cleared land to the south of the development site that is within the Western Sydney Parklands that will also be leased at a future date. It may be possible that another cleared section of the parklands could be added to the lease area if the site area is not large enough to accommodate the proposed development while also retaining viable areas of native vegetation on the site.

Potential for Western Sydney Parklands to provide credits

There may be potential for biobanking credits to be established and secured by the Western Sydney Parklands Trust (WSPT) in order for the lessee of the site Sydney Zoo to achieve the desired project outcomes. This would be a matter for the WSPT and the proponent to determine.

(END OF SUBMISSION)