

31 October 2024

Our ref: 24WOL-9535

The Planning Studio  
Level 16, 175 Pitt St  
Sydney NSW 2000

Attention: Kate Bartlett

Dear Kate

## **Patyegarang Planning Proposal – BDAR Peer Review**

### **Background**

Thank you for the opportunity to undertake a peer review of a Biodiversity Development Assessment Report (BDAR) for The Planning Studio. ELA understands that The Planning Studio is working with the Department of Planning, Housing and Infrastructure (DPHI) to assess the Patyegarang Planning Proposal PP-2022-3802 for the Metropolitan Local Aboriginal Land Council (Metro LALC).

As part of the package of documents submitted to support the proposal, a BDAR was prepared by Hayes Environmental. This BDAR has been reviewed by another consulting firm, however the Biodiversity Conservation Sciences Group (BCS - part of the NSW DCCEEW) disagreed with aspects of the review. In their view BCS believe the BDAR is not consistent with the Biodiversity Assessment Method 2020 (BAM). DPHI and The Planning Studio sought an independent review of the BDAR, the BCS submission, the review of the BDAR and response documentation.

This letter is the second independent review of the BDAR. The summary findings of the review are:

- The BDAR has produced surveys and evidence that comply with BAM
- The plant community types (PCT) selected are sound
- There are no threatened ecological communities present on the site, and this is supported by evidence in the BDAR
- Four threatened species were either identified on the project site or were assumed present, and these observations were supported by evidence in the BDAR
- No serious and irreversible impact entities were identified on the project site, and this is supported in the BDAR with evidence-based justification
- Some minor updates or clarifications to the BDAR could assist in the assessment, however, would not likely alter the conclusions as to the presence of threatened species or PCTs selected

- The surveys and conclusions of the BDAR would likely need to be carried out again at the development application (DA) stage due to the data currency requirements of BAM
- This review concurs with the review carried out by Biosis.

The detailed findings are provided in the attached. If you have any questions regarding this review, please do not hesitate to contact me.

Regards,



## Approach

The following documents were examined to inform the independent review:

- BDAR preliminary report, Hayes Environmental, February 2024 (the BDAR), and an earlier version of the BDAR which contains the full appendices dated July 2023
- Planning Proposal Patyegarang (PP-2022-3802) - response to DPE (EHG) submission dated 21 November 2023, Hayes Environmental, 22 December 2022
- Proposed zoning of deferred lands, Patyegarang Project – Preliminary Biodiversity Development Assessment Report Peer Review, Biosis, 28 February 2024 (Biosis review)
- Local Environmental Plan Making Guideline, NSW Department of Planning and Environment, August 2023 (the Guideline)
- BCS Advice on the Response to Key Submissions – Patyegarang Planning Proposal PP-2022-3802 – Post-exhibition, letter dated 23 May 2024
- BCS Advice on the updated Planning Proposal, letter dated 18 September 2024.

This review does not comment on the merits of the planning proposal, rather examines the statements from BCS that the BDAR is inconsistent with BAM and the *Biodiversity Conservation Act 2016* (BC Act). Specifically, in the 18 September 2024 correspondence, BCS raised the following:

- identification of key Threatened Ecological Communities that may be present on the site, including the Coastal Upland Swamp and Duffy's Forest Endangered Ecological Communities (EECs), of which Duffy's Forest is also a Serious and Irreversible Impact entity under the BC Act
- Plant Community Type (PCT) identification uncertainties, which may mean that the preliminary BDAR has failed to identify potential threatened species on the site, and therefore has not undertaken surveys to confirm presence or otherwise of threatened species.

## Review of the BDAR

The focus of this review is on the two points BCS raised in the September 2024 letter and shown above. The review also considered earlier comments about application of the mitigation hierarchy and description of impacts.

### Vegetation identified on the project site

The BDAR describes an iterative process to identify and describe the vegetation present on the project site. This involved several initial site visits, aerial imagery interpretation, and review of desktop mapping. These initial investigations were supported by the application of BAM vegetation integrity plots. These plots are designed to be entered into the BAM Calculator to quantify the number of biodiversity credits required for a clearing or development proposal. While the full floristic plots, which are a subset of the BAM plots, can assist with the identification of PCTs, vegetation mapping and identification uses a wide range of information. This is particularly important for the identification of TECs, which should refer to the relevant published Final Determination.

The methods employed by Hayes appear to be sufficient to identify the vegetation present. The BDAR identified three PCTs, all being between 5 and 20 ha. The minimum number of plots were used consistent with BAM. The three PCTs identified were:

- PCT 1250 Coastal Sandstone Gully Forest

- PCT 1783 Sydney North exposed sandstone woodland
- PCT 1824 Coastal Sandstone Heath-mallee.

None of these PCTs correspond with any TEC listed under the BC or EPBC Acts.

The BDAR provides a brief justification for the selection of the PCTs. Use of the plot to PCT tool may assist, although there are challenges with using such tools blind to nuances in on the ground contexts.

## Presence of TECs

The BDAR noted that two TECs had the potential to occur on the project site. These were *Duffys Forest in the Sydney Basin Bioregion* (Duffys Forest) and *Coastal Upland Swamp in the Sydney Basin Bioregion* (Upland Swamp).

The February 2024 BDAR did not contain the extensive justification on the absence of Duffys Forest, however this was included in the July 2023 BDAR. Appendix C of the July 2023 BDAR outlined in detail the justification for the absence of Duffys Forest TEC on the project site. The justification used a semi-quantitative method, comparison against the Final Determination, and used existing regional mapping products.

The semi-quantitative methods indicated that Duffys Forest was not present. Similarly, the regional vegetation mapping products do not map its presence in the project site. Use of the Final Determination was less clear; however, the determination referred to the use of the semi-quantitative method to assist, which has been done, and which concluded the TEC was absent. Given the absence of lateritic soils, and the floristic diagnostic species being not aligned with Duffys Forest, the BDAR concluded the absence of this TEC within the project site.

In determining whether the Upland Swamp TEC was present, the BDAR described sections of the Final Determination. Relevantly, the Final Determination stated that trees are typically absent, and that the community typically contains graminoid heaths and /or sedgelands.

The BDAR provided evidence of areas with tree canopy that had previously been mapped as swamps. Since these areas contain trees, they cannot correspond with the Upland Swamp TEC. Examining the plot data sheets in the July 2023 BDAR, the cover of trees in five of the six plots is between 11 and 26%. The remaining plot had a tree cover of about 8%. This plot (plot 6) is described as an intact heathland with 'exposed sandstone rock platforms and scattered low trees'. The Final Determination in paragraph 1 states that the community is associated with 'periodically waterlogged soils on Hawkesbury sandstone plateaus'. The exposed sandstone rock platform containing plot 6 is not described as swampy or waterlogged. While the BDAR did not carry out a paragraph-by-paragraph examination of the vegetation against the Final Determination, the conclusions appear to be sound.

Based on the evidence presented in the BDAR(s), the conclusions that there are no TECs present on the project site appear to be sound and correct.

## Threatened species surveys

The PCTs mapped within the project site appear to be correct, based on the evidence provided in the BDAR. The species credit species that are associated with these PCTs are therefore also likely to be correct in the BDAR. This review did not apply the BAM Calculator or run separate analyses.

The ecosystem credit species have largely been included in the assessment bar the White-bellied Sea-eagle, and one species was added to the assessment based on information from the Northern Beaches Council.

For species credit species, the assessor is required to carry out an iterative filtering process, whereby knowledge of species, their habitat or geographic constraints can rule species in or out. The assessor can then consider if habitat is degraded, the species is vagrant or is not present on the important habitat map. The BDAR described this process.

## Flora species

Forty-three flora species credit species were returned by the BAM Calculator and no species were added by the assessor. Two species were removed based on extinction or not occurring within the Pittwater IBRA subregion. A further five species were removed based on geographic limitations. The geographic limitations are produced in the BAM calculator and an assessor can rule species out if the geographic limitations are not present on the site.

Of the thirty-six flora species remaining in the assessment, one was assumed present, and all others were surveyed. One species was recorded on the project site (*Tetratheca glandulosa*).

Table 15 of the BDAR outlined the survey effort and timing for each species. BCS had commented that some of the surveys were carried outside the recommended survey season. Surveys can occur outside the recommended season, so long as the Assessor provides a justification to vary the timing, and the reasoning is documented in the BDAR (consistent with BAM section 5.3 (2a)). The following are observations on the timing and effort of the flora surveys:

- Some surveys outside the correct season were included in the BDAR, but these were generally restricted to the BAM plots, which do not strictly have seasonal survey requirements; there were also surveys for species within the correct season and these were generally the parallel transects required by the survey guidelines. The BDAR had colour coded which surveys were conducted within the required survey season; this is shown on Figure 5b of the BDAR.
- *Caladenia tessellata* surveys were noted in the BDAR as being not sufficient to demonstrate absence, but the assessor provides further justification as to why this species was not considered likely to be present. This appears to be adequate and reasonably justified.
- *Cryptostylis hunteriana* survey in the correct season was limited to a small area, but this is acknowledged in the BDAR, and the species **was assumed present**.
- A range of fungi were surveyed outside the listed survey season, however the guidelines with Threatened Biodiversity Data Collection (TBDC) state that the species 'may also be present at other times of the year after suitable rain.' Suitable rain fell and the surveys occurred one week after the stated survey window (survey on 6 July, when season window is May and June). The fungi surveys were carried out by a person with considerable experience in these taxa. Section 5.3 (2 a) of BAM states that an assessor must *only survey during the time specified for that species in the TBDC, unless there is clear justification to vary the timing and the reasoning is documented in the BAR*. The BDAR outlines why the survey timing differed from that stated in TBDC. The survey was carried out by a person with significant experience with the species. The survey was conducted six days after the seasonal survey requirements listed, and as stated earlier, the species may be present after suitable rain, which had occurred in the week prior to the survey.
- All other species were surveyed in the correct season, and over multiple years / seasons.

## Fauna species

Thirty-two fauna species credit species were returned by the BAM calculator, and one species was added. Three endangered populations were removed from the assessment based on geographic limitations. Five species were removed from the assessment based on habitat constraints and one species based on vagrancy.

Of the twenty-three fauna species remaining in the assessment, none were assumed present and two were recorded on the project site.

Table 15 of the BDAR outlined the survey effort and timing for each species. BCS had commented that some of the surveys were carried outside the recommended survey season. Surveys can occur outside the recommended season, and the assessor must include the reasoning and justification in the BDAR consistent with BAM section 5.3 (2a). The following are observations on the timing and effort of the fauna surveys:

- Eastern Pygmy-possum was surveyed actively (nest tubes, trapping and spotlighting) and passively (remote cameras, hair tubes). About half of the nest tube surveys were carried out in the correct season, however it is understood that long-term placement of artificial housing can increase the detectability of this species<sup>1 2</sup>. All other survey was consistent with the suggested survey timing. **The species was recorded on the project site.**
- Giant Burrowing Frog requires 960 minutes of aural-visual survey per 500 m of transect over eight days **or** tadpole searches for 10 mins per 50m<sup>2</sup> of surface area consistent with the BAM frog survey guidelines. The survey carried out on the project site was for 1,280 minutes of aural-visual survey in a 750 m transect and 480 mins of tadpole surveys. While the aural-visual survey was 160 minutes short of the extrapolated time according to the survey guidelines, the survey also included tadpole surveys. On this basis, the surveys would appear adequate.
- Green and Golden Bell Frog requires 480 minutes of aural-visual surveys per 500 m of transect over 4 days **or** acoustic recordings over 154 recorder days **or** tadpole searches for 10 mins per 50m<sup>2</sup> of surface area. The survey carried out was for 1,280 minutes of aural-visual survey in a 750 m transect **and** 480 mins of tadpole surveys, **and** there was 47 nights of acoustic recordings. The aural-visual surveys alone would have been sufficient, however the assessor included all methods available to detect this species.
- Red-crowned toadlet requires 480 minutes of aural-visual surveys per 500 m of transect over 4 days. The survey carried out was for 1,280 minutes of aural-visual survey in a 750 m transect and 480 mins of tadpole surveys. The surveys are sufficient to detect this species. **The species was recorded within the project site.**
- Owl survey requirements have changed since the BDAR was produced; this is a challenge for any project and should not be considered a flaw with this survey. The surveys were compliant with the guidelines that were in force at the time.

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<sup>1</sup> Rueegger, N. N., Goldingay, R. L., and Brookes, L. O. (2013). Does nest box design influence use by the eastern pygmy-possum? Australian Journal of Zoology 60 (6), 372-380.

<sup>2</sup> Chew, D. J. I., Law B., Leo, V., Southwell, D. M., Anson, J R., and Hayward M. W. (2024) Eastern pygmy possum (*Cercartetus nanus*) populations persist in Central Coast forests after the Black Summer bushfires. Australian Mammology 46 (3) AM24011 <https://doi.org/10.1071/AM24011>

- Koala survey requirements have changed since the BDAR was produced. No koalas were detected. The surveys were compliant with the guidelines that were in force at the time.

Based on the above, the surveys are comprehensive and sufficient for a planning proposal. These surveys have a currency of only five years. Thus, when a development application is proposed for some or all the project site, all the surveys are likely to be required to be re-done. Additionally, the BAM Calculator and the data underpinning it is regularly updated, resulting in new species being added or removed from survey requirements.

## Application of the mitigation hierarchy

BCS have concerns about the application of the mitigation hierarchy in the BDAR prepared by Hayes. Part 6, Division 3, section 6.12 (c) of the BC Act refers to the preparation of biodiversity development assessment reports (BDAR) and seeks that a report *'sets out the measures that the proponent of the proposed development, activity or clearing proposes to take to avoid or minimise the impact'*.

Chapter 7 of BAM deals with avoiding or minimising impacts on biodiversity values. It provides general guidance on what could be avoided or minimised but does not provide prescriptive descriptions. The chapter describes two key themes when planning a proposal (i.e., development or clearing activity): *locating* and *designing* a proposal to avoid or minimise impacts on biodiversity.

BAM suggests that prior knowledge of biodiversity values should inform decisions about the location of the proposal. BAM provides hints as to how a proponent may go about this: *'...a final proposal location may be an iterative process...'* (section 7.1.1 (2)). BAM then lists the areas that could be avoided, such as areas lacking in biodiversity values, and suggests that consideration of alternative technologies, routes and locations could be explored. At section 7.1.2 (1), BAM seeks that *'The BDAR or BCAR must document the **reasonable** measures taken by the proponent to avoid or minimise clearing of native vegetation and threatened species habitat during proposal design...'*

### Locating a project to avoid or minimise impacts

In addressing project location, the proponent sought an examination of their landholdings. This assessment was independently reviewed by another consultant expert. According to the BDAR, the assessment filtered out many sites, and the filtering process included consideration of biodiversity values. This examination occurred in 2020, post BC Act enforcement. Six sites remained after this filtering process.

A structure plan for the project site was prepared and informed by biodiversity values. According to the BDAR, the advice provided by Hayes included a hierarchy of areas of biodiversity value for avoidance. The BDAR could have been strengthened to show the biodiversity mapping underpinning this process and selection. This information may be available but was not seen in the bundle of documents examined in this review.

Rarely do proponents prepare evidence of an iterative process, particularly for the selection of a project site versus other site options. Based on the above, the process taken to assess and document the project's location is reasonable.

### Designing a project to avoid or minimise impacts

The BDAR states that the structure plan was further refined to avoid or minimise impacts to biodiversity. The further refinements related to:

- Zoning land for conservation

- Provision of connectivity corridors consistent with the Northern Beaches Council Biodiversity Planning Review
- Design of ancillary facilities to minimise indirect impacts
- Relocating a building to avoid habitat for a threatened plant species
- Designating habitat for Red-crowned Toadlet for future protection
- Ensuring consistency with the findings of recommended patch sizes for retained vegetation to minimise edge effects
- Increasing sizes of riparian buffers to manage and minimise indirect impacts.

The BDAR also lists numerous means by which impacts can be further minimised and managed at the detailed design stage.

The process summarised above and described in the BDAR appear to be consistent with the process and suggestions outlined in the BAM. The merits of the outcome must be decided by DPHI.

BCS state that areas of high biodiversity should be mapped. . Using the hierarchy outlined in BAM section 7.1.1 (3 a-d):

- the project site is vegetated, and therefore there are no areas that do not have some biodiversity value
- there are no TECs present
- there are no SAI entities present
- there are no highly cleared PCTs present.

This leaves those threatened species that are present and with high biodiversity risk weightings, and high level of concern based on the sensitivities to loss and gain as described in TBDC.

The two species that are of high concern in this context are *Tetratheca glandulosa* and Eastern Pygmy Possum. Not all threatened species records or habitat would be avoided by the proposal. The BDAR could present all the suitable habitats for the threatened species encountered and then calculate the proportion retained and proportion likely to be adversely affected by the project. However, this is not a BAM requirement but could serve to clarify the concerns from BCS.

BCS further state: *the proponent should design their proposal to ensure the persistence of the threatened entities that reside within the site and thereby conserving and protecting biodiversity and important environmental values.* When examining Figure 8 of the BDAR, this would mean that most of the site could not be proposed for development. The NSW BOS clearly envisages that not all biodiversity values must be retained.

### **Were all impacts assessed?**

The BCS letter dated 18 September 2024 (page 3) states that:

*there are inconsistencies in the location of the 'retained vegetation' between the Preliminary Biodiversity Development Assessment Report (BDAR) (Hayes Environmental, February 2024) and the updated Indicative Structure Plan*

and

*According to the Biodiversity Letter "These changes listed above would not increase the assessed impact on biodiversity values and would not alter the findings of the preliminary*



*biodiversity assessment for the project". BCS does not agree with this conclusion as the proposed amendments increase biodiversity impacts from the extra road, APZ and the additional permitted uses in the C2 land. This means that the preliminary biodiversity assessment did not assess these impacts and is inconsistent with the requirements of the BAM and the BC Act.*

This review has not examined in detail the changes between the various document versions over time. If there were new impacts likely to arise due to these changes, the implications for flora and fauna should be discussed, consistent with the LEP Supporting Technical Information Attachment C (DPIE, not dated).

All documents prepared need to be consistent with the proposed plans.

## Other observations

The BDAR has produced vegetation integrity scores and calculated the number of biodiversity credits that may be required to offset residual impacts. However, it should be noted that:

- Credits are not required to be retired for a planning proposal
- Re-calculation of vegetation integrity may be required when development applications are lodged due to the five-year currency of BAM data
- Changes to vegetation and habitats may occur over time, resulting in more or fewer credits required at the DA stage
- Threatened species surveys may be required at the DA stage due to data currency
- New species may be filtered into future assessments as the planning proposal does not 'time stamp' an application in a similar way that a referral and decision by the Commonwealth does
- Threatened entities may be uplisted or their status changed thus altering biodiversity risk weightings and therefore credit ratios
- Entities may be listed as being subject to serious and irreversible impacts in the future, and this would have implications for future development
- Credit volumes are likely to change due to changes in condition, alterations to the BAM calculator, and potential refinements in the design
- Credit types and volumes quoted in the BDAR are not fixed, due to the above reasons.

## Ministerial Direction 3.1 Conservation zones

A copy of the Ministerial Direction 3.1 was not provided in the bundle of documents. BCS in their September 2024 letter state that Direction 3.1 has not been adequately addressed as the proposal does not 'include provisions that facilitate the protection and conservation of environmentally sensitive areas'. It is taken that the words in the inverted commas are from the Direction.

The BDAR described areas of vegetation and habitats that would be set aside for conservation, and proposed activities such as the drafting and implementation of a Conservation Zone Management Plan, Biodiversity Management Plan (BMP), and Construction Management Plan. The BDAR stated that the BMP would be tied to an appropriate instrument compelling the landowner to carry out certain conservation activities in perpetuity. The BMP would facilitate the protection, conservation and management of environmentally sensitive areas.

Within the project site, about 20 ha would be avoided and retained and zoned for conservation. The zone would be C2 zoning. Of all the land zones available in the standard instrument, apart from C1 National Parks and Nature Reserves, C2 facilitates the next highest conservation zoning, with highly restricted permissible land uses. The C2 zone aims to, among other things, 'ensure that development, by way of its type, design and location, complements and enhances the natural environment in environmentally sensitive areas.' If not this zoning, it is unclear which zoning would be appropriate.

The proposal allows for conservation areas containing threatened species and their habitats, and riparian areas that are intended to be managed in perpetuity. Therefore, it is an incorrect assertion that the proposal does not 'include provisions that facilitate the protection and conservation of environmentally sensitive areas.'

## Conclusion

- The vegetation communities mapped and described as being present on the project site appear correct and sound, with suitable justification provided.
- The absence of TECs within the project site has been described, and evidence provided justifying this position. The justification appears sound, however for the Upland Swamp, a paragraph-by-paragraph assessment against the Final Determination could strengthen the argument, although the conclusions would not change.
- Exclusion and inclusion of ecosystem credit species is sound and appropriate.
- The iterative filtering process for threatened flora and fauna is sound and correct.
- The seasonal surveys for flora are sound and the survey efforts described within the BDAR and shown on Figure 5b of the BDAR are consistent with the BAM survey guidelines. Where some surveys were carried out in the 'incorrect' season, those species had sufficient survey also carried out in the correct season.
- The fungi survey was not in the TBDC listed season. However, the BDAR provides suitable evidence-based justification for this. Furthermore, the surveys were carried out with regard to the climatic conditions on the ground at the time; there is significant international evidence that key life cycle processes in many 'flora' are being altered by global climate change, and notions of species flowering in precisely the same way every year is not ecologically sensible. More importantly the surveys were carried out by a person with significant experience with these cryptic species. This information was provided in the BDAR.
- Fauna surveys were consistent with the published guidelines at the time of the surveys. Specifically, where some surveys were conducted out of season, the species also had multiple survey methods applied within the correct season. Therefore, the risk of lack of detection was mitigated through a comprehensive range of methods and across multiple seasons. This appears to go above and beyond that which is described in most of the survey guidelines.
- Four threatened species were included in the assessment and may be potentially affected by the proposal. These were *Tetratheca glandulosa*, Eastern Pygmy Possum and Red-crowned Toadlet, which were detected on the project site; and *Cryptostylis hunteriana*, which was assumed present.
- The BDAR described the measures taken to avoid or minimise impacts to biodiversity. This commenced with a strategic assessment of land holdings through to altering design of ancillary facilities within the project site.

- The BDAR could map all the relevant habitats and biodiversity values used to inform the iterative process of applying the mitigation hierarchy. This may clarify concerns raised by BCS.
- Inconsistencies between plans or proposed uses of land should be amended in the BDAR such that all documents are aligned and consistent.
- Changes to survey methods, the BAM calculator, species status and habitat condition will alter credit volumes in the future. Surveys may also need to be repeated given the five-year currency on BAM data.
- This review is consistent with the Biosis review of the BDAR.