

**Memo**

To	Hunter and Central Coast Regional Planning Panel
From	Dr. David Dique – Environmental Resources Management Australia Pty Ltd (ERM)
Date	6 July 2021
Reference	0585704 Kings Hill
Subject	Kings Hill Joint Expert Meeting held on 16 June 2021 @ 3:30pm

A Joint Expert Meeting was held in response to a request specified in a communique received from the Regional Planning Panel (to Colin Biggers & Paisley Lawyers) dated 10 June 2021. The agenda for the meeting was limited to the items listed in the RPS memo dated 3 June 2021 prepared in response to the Umwelt review of the Species Impact Statement for the Kings Hill Concept Development Application.

The following experts attended the meeting on 16 June 2021:

- Dr David Dique (ERM) (DD)
- Olivia Woosnam (OWAD Environmental) (OW)
- Travis Peake (Umwelt) (TP), Allison Riley (Umwelt) (AR)
- Mark Aitkens (RPS) (MA)

Table 1 provides summary of areas of agreement and areas of contention that remain following the meeting and has been reviewed and agreed by the experts. Where future actions are required to close-out matters of contention, this is provided in **Table 1**.

Detailed minutes of the meeting are provided in **Appendix A**, and have not been reviewed and agreed by the experts. With the Panels instruction, further review by the experts to seek their agreement will be required.

Table 1 Summary of Areas of Agreement and Areas of Contention

Topic	Remaining Points of Difference or Proposed Future Actions
1. CER structure	<p>None</p> <p>The SIS followed the CER structure</p>
2. Term 'offset' and 'compensatory measure'	<p>Umwelt maintain the view that 'offsets' have been provided through the Conservation Area. Offsets are used to address residual significant impacts. Offsets are permitted to be used in accordance with the CERs to address significant impacts.</p> <p>RPS are of the view that the Conservation Area is a 'reservation' classed as a compensatory measure of the proposal. Its purpose is to protect biodiversity in the local area not 'offset' loss. Offsets are only required when there is a residual significant impact remaining following mitigation, with no likely residual significant impact in this case.</p>
3. EPBC Act Referral	<p>None</p> <p>Umwelt consider the EPBC Act Referral is a matter for consideration, as it was a specific request of the Panel.</p> <p>RPS maintain that an EPBC Act Referral will be prepared (as noted in the SIS), and is an entirely separate administrative process outside the NSW Government's jurisdiction. The SIS has correctly addressed this matter and does not require further consideration by the Panel.</p>
4, 5, 6 Koala	<p>Umwelt remains concerned about the impact on the local population of Koala, as the definition of the local population (as clearly applied by the SIS) is limited to the 'Kings Hill hub', with a 152 ha impact on the hub constituting a real chance of a significant impact that has not been clearly counterbalanced by the Conservation Area. Umwelt view the nutrient enrichment program, which forms one component of the mitigation strategy, as relatively novel and remain concerned that its relative contribution to reducing impacts to a non-significant level are likely to be low. The relevant <i>Threatened Species Assessment Guidelines</i> state: "Proposed measures that mitigate, improve or compensate for the action, development or activity should not be considered in determining the degree of the effect on threatened species, populations or ecological communities, unless the measure has been used successfully for that species in a similar situation." Umwelt remain of the view that this measure has not been used successfully for this species in a similar situation.</p> <p>RPS contend that the 'hub' is not representative of the local population and is a conservative estimate. Survey and analysis presented as sufficient to define a larger local population (e.g. genetic relatedness with koalas at Port Macquarie). RPS contends nutrient enrichment is simply an innovative application in this instance, of a typical and regularly used forestry management measure.</p>

Topic	Remaining Points of Difference or Proposed Future Actions
7, 8 EEC	<p>Umwelt's opinion remains that the EEC's presence cannot be clearly repudiated with the information presented. As a result there remains an unacceptable risk that a large area of the Lower Hunter Spotted Gum – Ironbark Forest EEC could be impacted, and such an impact could be significant.</p> <p>RPS contends that the SIS clearly describes vegetation types using objective analytical methods and has properly applied the Scientific Committee's final determination to demonstrate that PCT 1590 is not an EEC.</p> <p>Proposed Future Action: Conduct analysis that includes a comparison of the relevant Kings Hill floristic data against an adequate number of plots for those that are known to represent the EEC.</p>
9 Orchid species: <i>Pterostylis</i> and <i>Corybas</i>	<p>Umwelt's concern was focused on <i>Corybas dowlingii</i>. Their opinion remains that insufficient survey was carried out. The only survey that was relevantly timed was at the very end of the recognised flowering period (last week of August), based on one of three authorities [Bionet states June & July; the Final Determination states June-August; the CERs state June to (early) August.] if surveys were timed more appropriately (e.g. June, July) for this poorly known species it may well have been detected flowering elsewhere in the development footprint. The representation of survey effort on figures and as described in the text does not adequately meet appropriate survey effort required by the <i>Guide to Surveying Threatened Plants</i>.</p> <p>RPS maintains that survey effort and results are representative and have achieved the objective stated in the guide for surveying threatened plants (i.e. minimisation of 'false negative' results). The survey found the species flowering on the site. The results obtained are an appropriate sample of the site for the species within the subject site and is suitable for use in the seven-part test, as the majority of survey effort was within the timeframe suggested in the guidelines, and the species was observed and was flowering.</p>
10 Locality and 11 Phascogale	N/A – not discussed

Regards,

Dr. David Dique

Appendix A: Draft Expert Meeting Minutes

Topic	Reference	Discussion	Remaining Points of Difference or Proposed Future Actions
1. CER structure	CER Structure was followed	<p>MA: clunky document by virtue of following CER's structure. A large document</p> <p>TP: Information understood and that it was not meant to be hidden. In general, hard to find information. Understand requirement for following CER structure did not intend to indicate information was "hidden" or suggest anything untoward. Would have preferred use of a different word.</p> <p>Terms of meeting (Agenda) – Agreed: Use of 3 June 2021 Mark Aitkens to Adam Smith Memo to define discussion</p>	None.
<p>2. Term offset and compensatory measure differ. Compensatory Measures in Section 7.1.2, Offsets in Section 3.</p> <p>Offsets not specifically presented in the SIS. And not part of 7-part test</p>	<p>Section 7.1.2.1.2 of SIS – mechanism for protecting areas to be retained for long-term benefit of affected species.</p> <p>Section 7.1.2 Compensatory Measures. Koala Research and Planning Agreement and In perpetuity Conservation Area</p> <p>Section CERs 7.1.2: Compensatory Measures. Impacts avoided through prevention and mitigation. To minimise impacts, then offsite or local area proposals for compensatory measures to contribute to long-term conservations measures. Section 3 of the CERs', if significant impact is determined (after avoidance), then the proponent will need to satisfy OEH offset principles.</p>	<p>MA: Proposal description does not offer an offset, nor does the SIS. Conservation Area and purpose of Conservation Area is to protect in perpetuity viable populations of affected species.</p> <p>TP: CERs and SIS in Section 7 Ameliorative and compensatory strategies, considered. CER takes into account compensatory measures as part of 7 part test. Have considered all strategies presented in the proposal, including the Conservation Area, in the review and consideration of 7 part test</p> <p>MA: Section 3 of CER's, if significant impact is determined, and then EES will need to be satisfied of an offset. This is an important point, as the Conservation Area is aimed at protecting viable local populations and is not presented as an offset.</p>	<p>Umwelt maintain the view that 'offsets' have been provided.</p> <p>RPS explain that 'offsets' are only required when there is a residual significant impact remaining following mitigation, with no likely residual significant impact in this case.</p> <p>The Conservation Area and the work involved in improving, restoring and maintaining it is part of the action being assessed and not to be considered as an 'offset'.</p>

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		<p>TP: Can't see the difference in Conservation Area and referring to it as an offset, and is of the view that the offset can be included in the 7 part test.</p> <p>MA: What is an offset?</p> <p>TP: Protected Area, managed in perpetuity, to manage impacts on matters that are important. In our view what is presented is an offset.</p>	
<p>3. EPBC Act Referral</p> <p>Not covered by NSW Planning Framework</p> <p>Agree not required to be considered as part of NSW Planning Framework.</p>	<p>SIS, makes reference to the need for EPBC Act Referral in Section 9.2.</p> <p>Section 9.2 of CER's requires to make reference to approval under other legislation.</p>	<p>DD: Did the SIS adequately consider the need, as required by the CER's, for other regulatory requirements. The SIS included commentary on this matter (see Section 9.2 of the SIS).</p> <p>TP: Yes, it was covered in the SIS. Request, and part of his Brief, was to recommend on a whether a Referral was required. Yes, we believe it is required to be Referred. Request included asking whether the step was required.</p> <p>MA: This bit in your brief was confusing, as the original request from the Panel was for "statutory requirement for assessment".</p> <p>TP: request was to provide advice, and no more discussion has occurred since.</p> <p>MA: Did the specific objectives come from the Panel directly?</p> <p>TP: Best to ask the Panel/ DPIE where the Brief came from.</p>	<p>Umwelt consider the EPBC Act Referral is a matter for consideration, as it was a specific request of the Panel.</p> <p>RPS maintain that an EPBC Act Referral will be prepared (as appropriately noted in Section 9.2 of the SIS), and through obtaining separate legal advice has confirmed is an entirely separate administrative process outside the NSW Government's jurisdiction and is an irrelevant consideration in the assessment of this Concept DA under the EP&A Act.</p>

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<p>4, 5, 6</p> <p>Aware of additional information ANU (carrying capacity), OWAD (genetics and connectivity), that was not referenced in the review.</p> <p>Avoidance – avoid areas based on study of ANU</p> <p>Uncertainty of extent of connection and other areas. OWAD to describe genetic work outcomes and connection, and clear answers.</p> <p>Extent of loss of habitat, and local koala population.</p> <p>Compensatory measure not a suitable size offset – but is not an offset. Do we agree that there are many measures to avoid impacts to koala (nutrient enrichment, fencing, corridors and connectivity, avoidance, conservation area etc., sequence/timing of disturbance)</p>	<p>SIS Sections 4.4.24.8 Carrying Capacity, mid-range (ANU). Koala activity mid-level. Note density of koalas not applied.</p> <p>Work done by ANU informed avoidance, understand site that are of higher carrying capacity, and these were largely included in the Conservation Area</p> <p>OWAD DNA demonstrated koalas are connected to a larger population. In addition, evidence of genetically connected to population on other side of dam, although gene flow is problematic (could result in potential genetic differentiation based on lack of connectivity). In addition, koalas at Kings Hill very different to those on Port Stephens. Genetic similarity north, up to Port Macquarie.</p> <p>Protecting a Local viable population.</p>	<p>DD: ANU and OWAD studies.</p> <p>Information obtained from ANU was used directly to define avoidance measures in the design. Avoidance of high carrying capacity. See Fig 4.78, demonstrates (nutrients and carrying capacity based on work done locally, against a larger study). Colour coded boxes. Red numbers show areas in impact areas. Green is in conservation area, blue on edge of development. Based on this work, high carrying capacity was identified, and formed basis of proponent re-design to avoid high carrying capacity areas. Transects associated with two 'blue' boxes (6 and 9) in Figure 4.78 of the SIS were consequently transferred to green (i.e. avoided impacts) and are now held within Conservation Area.</p> <p>TP and AR: Agreed that this area gave weight to avoidance measures and congratulated Mark on the input of this work to the design.</p> <p>TP: Olivia, please point us to what we may have not covered in due regard to OWAD's work.</p> <p>OW: work conducted on-site and offsite and gave context for the local population, and extent of populations and connectedness. Key findings: two very distinct populations genetically, one population on Peninsular is totally separate to koalas on Kings Hill. Kings Hill very genetically diverse, much more similar to koalas in Port Macquarie, and therefore part of a large population, and not yet defined. Some local genetic differentiation starting to occur at Kings Hill at immediately east of the highway</p>	<p>Umwelt remains concerned about the impact on the local population of Koala, as the definition of the local population (as clearly applied by the SIS) is limited to the 'Kings Hill hub', with a 152 ha impact on the hub constituting a real chance of a significant impact that has not been clearly counterbalanced by the Conservation Area.</p> <p>RPS contend that the 'hub' is not representative of the local population with survey and analysis presented as sufficient to define a larger local population.</p> <p>Umwelt view the nutrient enrichment program, which forms one component of the mitigation strategy, as relatively novel and remain concerned that its relative contribution to reducing impacts to a non-significant level are likely to be low. The relevant <i>Threatened Species Assessment Guidelines</i> state: "Proposed measures that mitigate, improve or compensate for the action, development or activity should not be considered in determining the degree of the effect on threatened species, populations or ecological communities, unless the measure has been used successfully for that species in a similar situation." Umwelt remain of the view that this</p>

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		<p>(most likely due to barrier effect of highway). – but still part of the same population.</p> <p>AR: SIS impact assessment issue – is local population adequately defined? Corresponded to the hub and about 50 koalas and 1,300ha?</p> <p>MA: Steve Phillips only recently raised a construct of a hub, which is a smaller component of the 'ARKS' term (Area of Regional Koala Significance). A hub, at its min is 50 animals in 900ha. In the Kings Hill hub, there is more than 900ha. Post development, 1,300ha, there would be more koalas than the minimum.</p> <p>AR: agreed, reasonable assumption. Abundance not known, but not important. Loss of habitat relative to the area within the local population. So importance of defining local population. Olivia's work does support larger population, and so in this context is comfortable in broader regional scale. However, the key item is in the seven-part test the challenge was referring to the "hub", and other regional context. Ignored the context on focused on impact to local population, in the local "hub" area. A real chance that 152 ha could be significant on the hub. Also considered the other mitigations in the proposal.</p> <p>MA: in cumulative impact section of SIS, and seven-part test, residual amount of available habitat area would remain above the 900ha minimum, as proposed by the work of Phillips. This development therefore not</p>	<p>measure has not been used successfully for this species in a similar situation.</p> <p>RPS contends nutrient enrichment is simply an innovative application of a typical forestry approach. Furthermore, the majority of reliance on supplemented koala feed trees is in areas where no trees currently exist and therefore the question of likely success of the nutrient enrichment application is not relevant.</p>

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		<p>impacting and going to below 900ha. Suggest this is conservative.</p> <p>TP: quality and carrying capacity of offsite vegetation serving koalas? Is it part of the hub? What about the “horse shoe” site (reference to Eagleton rural-residential area), seems to be a sink? Could have used more recent vegetation mapping product – wasn’t explained why it was not included in the work. More recent use or justification as to why it is not used was not included in the report.</p> <p>MA: The “horse shoe” site was not included as part of the hub vegetation area calculation – to be conservative as ‘threats’ operate in that area. Steve Phillips considered vegetation outside of the site for Port Stephens Council, and so was used in referencing for vegetation mapping and extent outside of the Kings Hill Study Area. Increased our understanding of vegetation and value to koalas. Steve Phillips report that notes the changes to vegetation mapping can be supplied to Umwelt with Council’s blessing.</p> <p>DD: did you consider all other avoidance and mitigation measures presented in the SIS?</p> <p>AR: Very comfortable with the avoidance measures, road design, corridors, refuge habitat, detention basin designs, targeted plantings all important, but main issue is certainty... should this be referred for concurrence??</p> <p>Agree the concept is great, but the concern is that this has not been done anywhere else. Nutrient enrichment</p>	

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		<p>program is different, “novel”, and asked, “what if it doesn’t work”? Then uncertainty comes in. Is of the view there is potential for a significant impact, and BCD should be arbiters of this, based on uncertainty.</p> <p>MA: nutrient enrichment is not novel, as has been used across forestry management for many years for various purposes. The practice amounts to forest manipulation for desired outcomes. Forests are routinely managed for a hardwood output. The enrichment program is innovative not novel. It changes the focus of forest manipulations from hardwood production to habitat management. Other items more important in assessment, e.g. swamp mahogany plantings around the wetland are extremely important (provide primary habitat for up to 4 koalas, based on Phillips pers comm). 19ha in total, and around the wetland 11ha.</p> <p>DD: does this information change your view regarding conclusions of a significant impact?</p> <p>TP and AR: Will take on notice on whether the new info changes view of koala impact assessment outcome.</p>	
<p>7, 8</p> <p>Exotic grassland, 5 of top 7 species are exotic, inc relative abundance.</p> <p>TEC matter – Mark notes and queries</p>		<p>TP: survey effort at end of August for Corybas, but primary concern is for EEC. Does not support reference to Motorplex case, a floodplain associated TEC. Reference to Andrew Smith and a more comprehensive analysis is required, but did not support the Kings Hill case. Kings Hill has not compared to known reference sites or mapping units. That is my concern. Cannot see</p>	<p>Umwelt’s opinion remains that the EEC’s presence cannot be clearly repudiated with the information presented. As a result, there remains an unacceptable risk that a large area of the Lower Hunter Spotted Gum – Ironbark Forest EEC could be impacted, and such an impact could be significant.</p>

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		<p>that the EEC and possible presence can be clearly reputed.</p> <p>MA: Motorplex case, purpose to distinguish things in similar landscapes. In my view, outcome of this case law is relevant as the TEC in question is on a continuum in the landscape (TP agrees). Need to consider variation and that there is a boundary somewhere (TECs are bounded). Providing an alternate view as a non-EEC. Ecological did work back in 2010 (Ecobiological work) mapped the site, and work is 11 years old, and mapped as MUC 16 and reviewed by OEH at the time (and in correspondence said it was a good body of work) albeit dated. And other studies supported the Seaham Spotted Gum/ironbark Forest (more recent studies to the north including a quarry development) – sets up that more than likely is the vegetation community. Then followed process through the determination to check.</p> <p>TP: An analysis based on characteristics species alone is simplistic, agreed, but also important to recognize.</p> <p>MA: the more plots you do, the more species you find, so yes, more species that indicate EEC.</p> <p>TP: agree it is at edge of range, and needs more work, and has taken a closer look at the 4.6 in determination. Then, need to draw distinction that it is not the EEC</p> <p>MA: Part 4.4 defines LHSGIF and refers to other MU's (not MU 65), and reasonably interpreted is not MU65, but TP says wording is not clear-cut.</p>	<p>A more appropriate analysis that included a comparison of the relevant Kings Hill floristic data against an adequate number of plots from plots that are agreed to represent the EEC could be undertaken to resolve this matter.</p> <p>If further analysis / data were to be compared to reference sites (as previously accepted by the regulator for 1590) this would be acceptable.</p>

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		<p>TP: also sees some evidence for the 1590 and this is important, and not trivial. The work is not definitive.</p> <p>MA: point to table 4.10 of the SIS. Species recorded, and relative abundance, to enrich simplistic presence absence analysis. E.g. 1590 table, C. mac, E. ter, E. sid. Not recognised as LHSGIF and E. fib is not characteristic. Contrary to the final determination, which states that E. fib is a dominant. In addition, shrubs, evidence of the species in this group in shrubs that supports MU65. Next part of table (high) E. sid, E. ter, E. acm not characteristic and high relative abundance, shrubs and herbs structure and relative abundance of species is more linked to MU65. This has demonstrated statistical separation at compositional analysis and demonstrated that it aligns with 4.6 in the determination, on face value and analysis, relative abundance of species points more to the description of MU65 – strength behind analysis is number of plots (40+).</p> <p>TP: yes, looked at table, presented is good useful information and believes there has been a jump to MU 65 present and therefore we do not have the EEC. Would feel more comfortable to draw data from other reference sites – and this remains the gap. Not excluding your view, particularly given the work done on site, but of the view some further analysis required to adequately rule out 1590 and-presence – indicating reference sites comparisons. Some pointers and suggestions, but unable to rule out.</p>	

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		<p>MA: Read 4.3 in determination to TP, and said evidence from ground surveys indicates from analysis in 4.10 E. fib is not dominant. Vegetation has been modified, and time since disturbance is such that what was observed reflects actual vegetation community – key assumption here.</p> <p>TP: Part 1 and Part 2 are most significance of the determination, while part 4 might contribute. Section 1.2 variation across the community, species presence and relative abundance, therefore relative unimportance/absence is not the key matter – analysis is required in reference sites and accepted by the regulator for 1590. If that is satisfied, may be a non-issue, but can't see that this is satisfied. Provided a good body of evidence, but the gap remains for comparisons to reference sites within the EEC. If that were well demonstrated, there would be no concern.</p> <p>MA: perhaps some additional plots into the analysis, and ensure representative.</p>	
9 Two species Pterostylis and Corybas	<p>Section 4.2.1.3, related figures and Table 4.3 in SIS. Surveys appropriately timed, in accordance with guide, and meets the requirements of CER's.</p> <p>Table 4.3, states search hours (implies two people, although not adequately described in text, but references person hours). Would have helped to have in the report, with two people per survey, aimed</p>	<p>TP: what is the discrepancy between reported areas of survey. Most concern is with Corybas survey.</p> <p>MA: make key point here of timing, and also the amount of survey effort. Survey for Corybas was completed in correct season and month. Survey was done in pairs with only one GPS used to track path. Figure showing transects in SIS is only half the survey effort. Table 4.3 of SIS gives person hours for survey effort. This reflects actual survey. Surveys done for Corybas by Cumberland</p>	<p>Umwelt's opinion remains that insufficient survey was carried out. The only survey that was relevantly timed, was at the very end of the recognised flowering period (last week of August) based on one of three authorities [Bionet states June & July. The Final Determination states June-August; the CERs state June to (early) August.]. If surveys were timed more appropriately (e.g. June, July) for this poorly known species it may well have</p>

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	at minimizing likelihood of false detection. Line work would therefore be double in the maps (if a second GPS was used). Confident survey effort was adequate.	Ecology was in accordance with earlier guideline stated in CERs. RPS surveys in accordance with more recent guide. Combined, surveys were in accordance with CERs. Surveys performed achieved their objective being minimization of 'false negative' detections. Surveys on site detected flowering Corybas. There was confidence that surveys were comprehensive and capable of detecting the species. Results are representative and suitable for use in the seven-part test.	been detected flowering elsewhere in the development footprint. The representation of survey effort on figures and as described in the text does not adequately meet appropriate survey effort required by the <i>Guide to Surveying Threatened Plants</i> . RPS maintains that survey effort and results are representative and have achieved the objective stated in the guide for surveying threatened plants (i.e. minimisation of 'false negative' results). The results obtained are an appropriate sample of the species within the subject site and are suitable for use in the seven-part test, as the majority of survey effort was within the timeframe suggested in the guidelines, and the species was observed and was flowering.
10 Locality – is defined		Did not discuss	N/A
11 Phascogale habitat		Did not discuss	N/A