

**BEFORE THE WAIPĀ DISTRICT COUNCIL**

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of Proposed Plan Change 20 – Airport Northern  
Precinct Extension to the Operative Waipā  
District Plan

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**SUMMARY STATEMENT OF EVIDENCE OF JOSHUA ANDREW MARKHAM**

**(GENERAL ECOLOGY – OFFSET & COMPENSATION)**

**14 March 2023**

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**Counsel acting:**  
JR Welsh  
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1. My name is Joshua Andrew Markham, I am a Principal Ecologist at Tonkin & Taylor Ltd (T+T). My qualifications and experience were set out in my Primary Statement of Evidence.
2. I note that my EIC, rebuttal statement and this summary I focus on general ecology and residual effects management for long-tailed bats. For all other matters relating long-tailed bats I refer to Ms Cummings.
3. The ecological context of the site is typical agricultural land use, which for the PC20 site is further degraded by the high level of crop rotation. In summary:
  - (a) vegetation across the PC20 site is predominantly pasture grass and maize with isolated patches of exotic and native trees used as shelterbelts predominantly.
  - (b) a network of artificial watercourses has been established for drainage purposes and no natural streams or wetlands have been identified.
  - (c) the only native lizard species that is possibly present in low densities is copper skink. Small, isolated areas of low-quality potential habitat is found across the PC20 site. No native gecko habitat was found across the PC20 site, so they are not considered to be present.
  - (d) there are no Significant Natural Areas (SNA's) recorded across the PC20 site or areas of remanent native vegetation.
4. Ecological Impact Assessment Guidelines (EIANZ) have been used as a framework to determine ecological value, magnitude of effect and overall level of ecological effect. In summary, the ecological value, magnitude of effect and overall level of ecological effect for the PP20 site are considered:
  - (a) for vegetation removal (excluding potential bat roost trees) - low level of ecological value, moderate magnitude of effect, resulting in the overall level of ecological effect of low.
  - (b) for native lizards (copper skink only) - low level of ecological value, low magnitude of effect, resulting in the overall level of ecological effect of very low.
  - (c) for native bird species - low level of ecological value, low magnitude of effect, results in the overall level of ecological effect of very low.

5. EIANZ guidance sets out that an overall level of low and very low ecological effects should not normally be of concern, although normal design, construction and operational care should be exercised to minimise adverse effects.
6. Prescribed and standard mitigation measures for native birds and native lizards (copper skink only) have been incorporated into the above overall level of ecological effect. It is envisaged that mitigation measures will be part of the Ecological Management Plan (“EMP”) as addressed in rule 10.4.2.14.B for native birds and native lizards (copper skinks) without the need to apply offset / compensation actions.
7. The above is also consistent with the Waikato Regional Policy Statement (“WRPS”) which only requires offsetting for non-significant habitats of indigenous fauna to achieve no net loss at a regional scale where there are significant adverse effects that are unable to be avoided, remedied or mitigated.
8. Therefore, the only residual effects management actions (offsetting / compensation) relate to long-tailed bats only.
9. In this instance an offsetting approach has been evaluated and discounted based on inherent complexities relating to long-tailed bats, which is a similar approach taken in Plan Change 5 – Peacocke Structure Plan (“PC5”). The proposed option of accounting for residual effects on long-tailed bats is by using a Biodiversity Compensation Model (BCM).
10. In order to achieve a no net loss of biodiversity value as per the WRPS, a 10% predicted net gain outcome in biodiversity over a 10-year period has been used within the BCM. Based on my preliminary assessment of a compensation package, the PC20 proposal is likely to require:
  - (a) 16 ha (4.9 ha of habitat enhancement of Bat Habitat Areas (“BHA”) within the PC20 site and 11 ha of vegetation restoration and or enhancement outside of the PC20 site for the purpose of establishment of commuting and foraging corridors for long-tailed bats).
  - (b) 80 ha of pest animal control over a 10-year period in areas that long-tailed bats are known to frequent.
11. While I attended joint witness conferencing in relation to ecology and bat habitat, my contribution was limited to matters relating to general ecology and offset / compensation. In summary and as related to my field of expertise:

- (a) Ms Cummings, Mr Kessels and I all agreed that based on the information supplied to date and knowledge of the PC20 site that there are no freshwater values to consider.
  - (b) It was also agreed between Ms Cummings, Mr Kessels and I that any offset / compensation applied in relation to long-tailed bats would have a positive trickle-down effect for other species (namely native birds and native lizards).
  - (c) Ms Thurley has recorded in the JWS Ecology and Bat Habitat that best practice effects management should be followed. I believe that this has been adequately addressed within the amended provisions, particularly through the identification of BHAs on the amended structure plan.
  - (d) The JWS Ecology and Bat Habitat also records Ms Cummings and Mr Kessels support for the use of the 11-ha property as a proposed offset / compensation site, although Mr Kessel's agreement is on the premise that more detail is supplied on the certainty that it will be suitably restored and protected and subject to his review of an additional residual effects assessment.
  - (e) While I have provided a preliminary assessment of the expected residual effects in my evidence, I consider that it is appropriate for the final details of the compensation to be provided and approved at resource consent stage through the EMP (including the BMP) as required by rule 10.4.2.14B. This is not unusual for the plan change stage, as I understand to be the case with the compensation requirements for PC5. That said, the conditional purchase of the proposed compensation site by the applicants provides a higher level of confidence in the likely compensation actions than may otherwise typically exist at this point in a plan change process.
12. In my rebuttal evidence, I respond to the evidence of Ms Thurley on behalf of the Director-General of Conservation ("DOC"), specifically paragraph 13.5.
13. I consider that that the BCM is a reputable tool which is now used across New Zealand and has been downloaded for use by approximately 60 ecology practitioners from 10 different organisations. The BCM has been used and accepted and supported in Manawatu Tararua Highway, Auckland Regional Landfill and Peacocke Structure Plan - Plan Change 5 (specifically sections 8.4 and 8.7).

14. I disagree with Ms Thurley's comment regarding the BCM tool not being published or subject to peer review. A peer reviewed BCM foundation paper was published in Resource Management Journal (RMJ – Official Journal of the Resource Management Law Association of New Zealand Inc. (RMLA)) RMLA) with the reviewed and tested Biodiversity Compensation Model User Guide and the BCM tool released in October 2021. Both the Foundation BCM journal publication, BCM User Guide and BCM tool have gone through robust and significant reviews and testing prior to publication and release. In order to appropriately transition from the Biodiversity Offset Guidance document to the BCM, three of the same authors were used.
15. The BCM has been used to test “or sense check or help to make decisions” if compensation actions are likely to result in no net loss of biodiversity value by aiming for a net gain biodiversity outcome. I note that Ms Thurley doesn't refute the justification for the use of compensation for long-tailed bats. Therefore, in the absence of any other compensation decision making tool or other appropriate compensation tool put forward by Ms Thurley, I consider the BCM to be the most reliable, transparent, and robust approach.
16. A preliminary assessment of the expected residual effects has been provided in my evidence. I still consider that it is appropriate for the final details of the compensation to be provided and approved at resource consent stage through the EMP (including the BMP) as required by rule 10.4.2.14B. I reiterate the opinion that I have already expressed that the preliminary assessment of the compensation package, combined with the conditional purchase of the proposed compensation site (as discussed by Ms Cummings) by the applicants, provides a higher level of confidence in the likely compensation actions than may otherwise typically exist at this point in a plan change process.
17. In conclusion and based on information provided, I consider the ecological values and effects on matters relating to general ecology for PC20 have been adequately identified and addressed. It is my opinion that the amended provisions take the correct approach by providing a framework in which offset / compensation for residual effects can be applied at the resource consenting stage. I believe that the BCM decision making tool is the most reliable, transparent, and robust method of determining an appropriate compensation package and am comfortable and confident that this will be addressed in further detail at the resource consent stage, as required by rule 10.4.2.14B.