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16 September 2026

File ref: FTAA- 2603-1181

Tēnā koe Mr Robinson

**Re: Response to paragraphs [10] and [11] of Minute 18 from the Panel**

In paragraphs [10] and [11] of Minute 18 of the Mt Welcome's Fast-track Expert Consenting Panel, the Department of Conservation (DOC) is given leave to provide comments on information provided by the applicant.

**Request**

*[10] Related, we confirm our request that Dr Keesing complete a BOAM assessment of areas of SNA27 proposed to be cleared to identify the appropriate offset multiple. This additional ecological work is required by noon on 11 September. Once received, Dr Fea and Ms Hooker have leave to provide comments thereon by noon on 16 September.*

**Response**

Please see response from Ms Hooker in **Attachment 2**.

**Request**

*[11] Dr Keesing also noted the potential for additional wetland offsets/ compensation on site (of approximately 0.3—0.5ha) and for stream offsets/ compensation in riparian esplanade areas downstream of the site if further offset/ compensation is required. He is requested to document the options available within the same timescale (i.e. by noon on 11 September). If, in the interim, Dr Keesing has identified additional on or off-site offsetting or compensation options for adverse effects on wetlands and streams, he is requested to include them too. The ecological advisors to GWRC and DoC have until noon on 16 September to comment on that material, once produced.*

**Response**

Please see the response from Dr Collins in **Attachment 1**.

We trust that the response adequately addresses the information requested.

Nāku noa, nā



Linda Kirk  
**Fast Track Applications Manager**

### **Attachment 1: Response from Dr Collins:**

We recognise the additional areas for wetland enhancement or creation and perennial stream restoration that have been identified by Dr Keesing. As previously outlined, DOC supports offsetting of the loss of freshwater habitat and values on a like for like basis to manage the effects of the development. The identification of further areas for offset/compensation is appropriate, given the level of effects on freshwater values proposed by the development.

I will agree to disagree with Dr Keesing on the value of fish passage remediations downstream, I believe improving fish passage is always a good outcome as per the NZ Fish Passage Guidelines.

Dr Katie Collins

15.09.2026

## Attachment 2: Feedback from Ms Hooker

Dr Keesing is transparent in the limitations encountered in conducting a BOAM model in a short time frame. Specifically, the acquisition of relevant data to find a suitable benchmark to measure the BOAM offset proposal against. An agreed benchmark was kohekohe/tawa forest on Kapiti Island, however the data available on Kapiti Island was in regenerating forest and not within the main canopy. This has meant that some of the benchmark values that you would expect to be high (i.e. in this case basal area (sqm/ha)) are much lower than would be expected of a fully mature forest. This will likely lead to a lower offset ratio output required as the benchmark value can cap the value the offset site will then need to reach.

Establishing a good benchmark to measure an offset against is an important feature of the BOAM model and can directly impact the outputs of the model and hence the 'ratio' (in this case close to 3.6:1) required to offset a loss. As per the guidelines the benchmark is 'the value is specific to each biodiversity attribute to be accounted for and represents the 'best defensible' measure available for that attribute. The benchmark is either directly measured (from a high-quality reference site) or defensibly estimated (by consensus of suitably qualified experts).

In the absence of access to the best representation of a mature forest plots, in this case RECCE plots, an estimation of the basal area (sqm/ha) can be chosen in light that the present data is not 'the best defensible measure' of this biodiversity attribute. Rather it is better to choose a basal area of a mature forest as this is the goal to be worked towards. The benchmark should reflect the mature condition of the ecosystem that the management actions are intended to achieve.

I suggest alternative feasible resources can be used in the absence of readily available information in short time frames such as Allen, R.B. 2013<sup>[4]</sup>. In this study, 1177 grid-based Land Use and Carbon Analysis System (LUCAS) plots were used to identify the mean basal area, species richness and exotic components of 22 main forest types and 7 main shrub communities across the country.

In this example, Tawa forest can be used to identify an average species richness and basal area sqm/ha that could be expected of this forest type. This forest type is relevant to Kapiti and Greater Wellington as it is known that Wellington was once dominated in both Tawa and Kohekohe forest. For this forest type, the average species richness is found to be 51 and the average basal area is 69 sqm/ha. compared to a species richness count and basal area from Dr Keesing's analysis of 27 and 34.8 sqm/ha respectively.

The use of benchmark inputs derived from mature forest conditions and nationally representative datasets would be more reflective of the ecological outcomes that the offset area is intended to achieve. These inputs will likely provide a more appropriate basis for determining the offset ratio required to compensate for the biodiversity losses at the site and will likely result in a higher offset ration than 3.6:1 for SNA027 respectively.

Ideally with a more appropriate benchmark applied, this would be 'capped,' so that post offset measures cannot exceed the benchmark attributes. This is important, because where post-offset measures are higher than benchmark values, these are calculated as additional gains in the BOAM model and likely result in less offset area required. This is displayed in the sapling count of Dr Keesing's model that has a benchmark of 189

and a measure after offset of 300, these are then credited as gains above the benchmark resulting in a reduced offset ratio required.

These discrepancies have a trickle-down impact that results in a less than 1:1 ratio required for the planted area. This output is difficult to reconcile with the objective of BOAM models, which is one of ecological equivalence. Given that BOAM models also account for time lags (time to reach offset condition), it is difficult to conclude that a smaller area of newly planted shrubland will be ecologically equivalent to a larger area of older indigenous shrubland that has been lost. This result then further displays the lack of robustness in the BOAM model used in Dr Keesing's study and warrants further scrutiny and certainly a higher offset ratio than identified.

It is also of note that the pine forest directly parallel to the planted area also contains indigenous understorey that also has value and should additionally be offset.

Fauna habitat is an additional attribute that is likely required in the BOAM offsetting specifically in this case for lizard habitat values.

Given that I concur with the total predicted wetland loss of 27 220m<sup>2</sup> identified in Ms Dixon's s53 report and that the proposed stormwater management systems are in my opinion not considered an offset for natural wetlands, the identified potential wetland restoration area of 3,873m<sup>2</sup> as identified by Dr Keesing is insufficient to account for these losses. Even if these proposed areas were successfully established and maintained, this would only represent only 14% of the original extent of wetland area. An 86% loss in wetland extent is a significant adverse effect that has not been remedied in this proposal.

Dr Keesing provides an additional area for stream compensation but does not detail the area in m<sup>2</sup>. Given that this is a compensation for stream loss, more detail is required to assess the appropriateness of scale to understand if adverse effects can reasonably be avoided.

I conclude that the proposed offset areas still result in a significant net loss in terrestrial wetland, shrubland and tree value across the site.

<sup>[1]</sup> Allen, R.B., Bellingham, P.J., Holdaway, R.J., & Wiser, S.K. (2013). *New Zealand's indigenous forests and shrublands*. In J.R. Dymond (Ed.), *Ecosystem Services in New Zealand: Conditions and Trends*. Manaaki Whenua Press, Lincoln, New Zealand.