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RESPONSE TO ISSUES OF ECOLOGY RAISED IN THE SECTION 42A PRESENTATION

Paragraph 17 re: perceived doubts about the overall credibility of Mr. Kessels' statements

NG comment: My intention was not to question the credibility of Mr. Kessels' statements, it was specifically to make it clear that he had not had the benefit of visiting the site.

Paragraph 19 re: fauna values exist outside of areas of indigenous vegetation

NG comment: I agree that fauna values can exist outside areas of indigenous vegetation, which is why preliminary surveys are recommended prior to pine removal (i.e., for bats) and for lizards (therefore including such species as indigenous skinks which may occupy areas of rank exotic grassland). Refer to paragraph 5 of my SE and the table on page 7.

Paragraph 21: using baseline survey to inform appropriate scale and form of any development

NG comment: I cannot see how this could work in a practical sense, particularly when dealing with highly cryptic and mobile species such as bats, geckos and kiwi, i.e., you are highly unlikely to obtain enough data that are statistically robust, and it also very difficult to determine if species such as bats or kiwi are resident at the site or are moving across it to reach adjacent habitats.

Such an approach could possibly work in a much larger area, with expansive tracts of indigenous vegetation, as opposed to 38-hectare property that mostly comprises pasture. For clarity, the baseline surveys referred to in Rule 1(m)(iv) of the TCSP (v13) addresses cryptic species, including wetland birds, noting that these surveys would be more to confirm the presence of these species as opposed to determining numbers for each species. This is why the Ecological Management Plan (EMP) will be structured to assume the presence of all these species and manage for their protection and enhancement accordingly.

More informative baseline surveys, where appropriate amounts of data can be collected, would include five-minute bird counts, using tracking tunnels or chew tags to determine relative abundances of pest animals, and establishing photopoints in indigenous habitats to measure changes in plant diversity and structure over time. I note that such surveys are not specifically mentioned in the TSCP, but will be detailed in the EMP.

Paragraph 23: effects on natural wetlands and streams with respect to the EiC of Mr. Chapman

NG comment: The S42a planner refers to paragraph 15 of my SE where I claim that *"effects on natural wetlands and streams have 'already been addressed in the EiC of Mr. Michael Chapman'"*. I would note that the effects mentioned here specifically relate to the creation of two hectares of impermeable surfaces. As such, I was referring to measures such as large-scale revegetation as a means by which to reduce rapid run-off to wetlands and streams (paragraph 7 of Mr. Chapman's EiC) together the use of swales and filter strips to manage run-off from accessways and parking areas (paragraph 2.2 of Mr. Chapman's EiC).

I consider the mitigation measures outlined by Mr. Chapman will significantly reduce the amounts of contaminants such as heavy metals reaching aquatic receiving environments, and that the quality of water will be far higher than the current situation where stock currently have access to watercourses. I cannot see how the biodiversity benefits of these measures can be described as "unachievable".

Paragraph 24: baseline data on freshwater quality

NG comment: In Section 7.2 of the Ecological Assessment, the s42a planner claims that I have relied on the following excerpt from the Te Miro (2021) report with regards to water quality issues:

"The existing water quality issues are likely to be typical contaminants associated with runoff from hilly grassland rural catchments including high sediment loads, nitrogen and phosphorus".

While I generally agree with this characterisation in Te Miro (2021), I do not agree with the planner's claim that I have relied on it. In Section 7.2 of the EcIA I have referred to the streams themselves with regards to water quality and habitat values, noting that where streams are buffered and fenced to exclude stock, the aquatic habitats are of higher value than some of the downstream reaches where stock have access. Furthermore, in Section 9.1 of the Ecological Assessment, I expand on the effects of stock:

"Stock are currently adversely impacting the hydrology, morphology, and water quality of the lower reaches of Tributary 2, which in turn greatly reduces the quality of in-stream habitat for aquatic fauna. In addition, inputs of effluent into streams on the property will likely affect downstream receiving environments beyond the boundaries of the property, i.e., mouth of Taiwawe Stream at Hot Water Beach. It is acknowledged that the issue of stock access to streams and effluent run-off is not restricted to the study site; it is an issue that occurs on other properties within the catchment."

With regards to baseline data, I am generally supportive of taking baseline water samples, perhaps as a condition of the future consent process, although these should be undertaken prior to stock removal so that an accurate comparison can be made. I would stress that any such samples should be taken from the downstream extents of Tributary 2 and the Taiwawe Stream immediately before they pass through the property boundary. To clarify though, this would measure the extent of a benefit, rather than adverse effects (which is the normal reason for monitoring).

Paragraph 25: functionality and resilience of affected indigenous vegetation and habitats of indigenous fauna, ability of ecologically sensitive areas to "absorb" the location, density, and scale of the proposed development

NG comment: Firstly, I would note that the adjacent subdivision at 790 Hot Water Beach is of a similar density and scale as the subdivision proposed for Taiwawe Lane, so there is a strong precedent already set for this type of development in the catchment.

Under the TCSB, the functionality of indigenous habitats will be significantly increased through extensive conservation and landscape revegetation, which will create connections between currently disparate remnants, resulting in a continuous corridor of indigenous vegetation between SNAs to the west and east of the property. The resilience of the indigenous and habitats (and fauna) will be significantly enhanced through stock exclusion, fencing, pest plant control, and pest animal control, together with enhancement planting of mature phase species. The planned ecological restoration works won't just benefit ecological values at the property, but the entire Taiwawe catchment. Such an undertaking could only realistically be achieved (funded) by establishing a minimum number of lots.

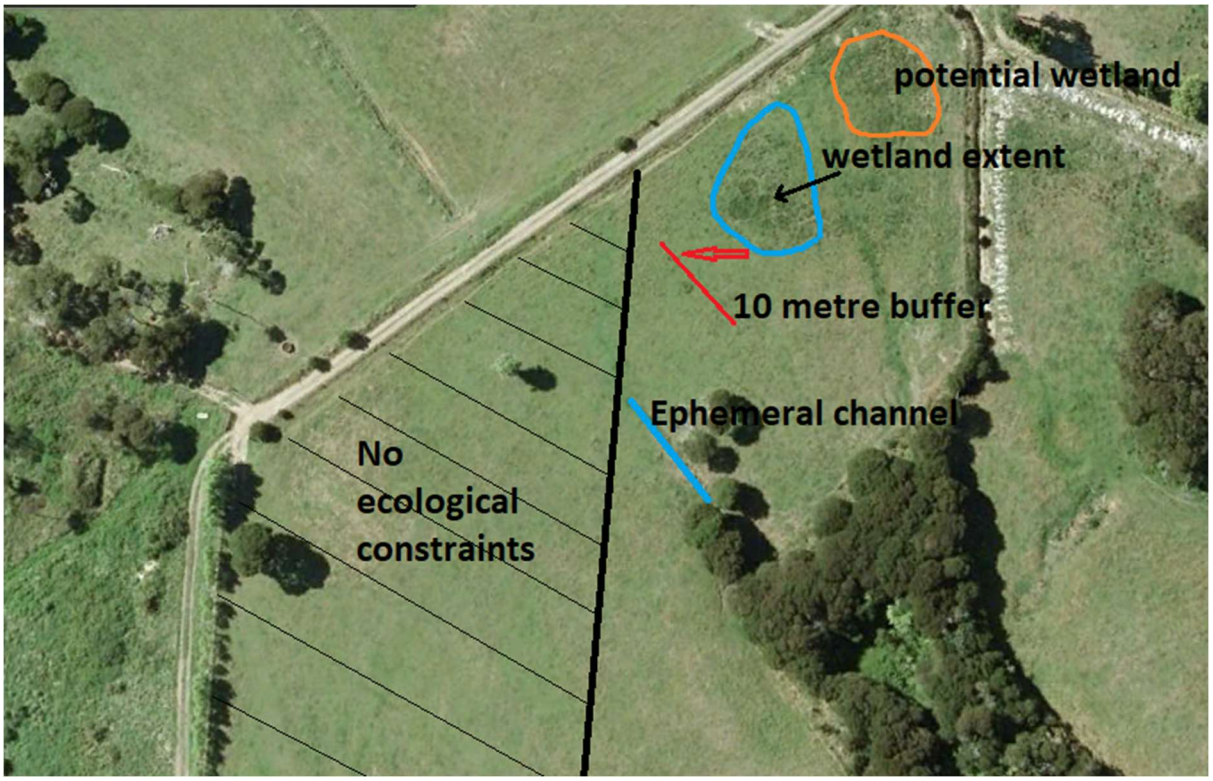
I would be more concerned with the proposed number of lots if there were no controls on pet ownership, as the number of lots is a strong predictor of the number of cats and dogs that will be introduced to a site. Cats, in particular, have a propensity to wander several kilometres from their homes. With these measures in place and the enhancements required under the Structure Plan, the existing the ecologically sensitive areas are not being expected to "absorb" adverse ecological effects to any appreciable extent (refer very low assessments in the EcIA table included in my supplementary evidence).

Paragraph 44: road alignment with respect to the wetlands adjacent to Ngatuturu Lane

NG comment: I undertook a site visit on 27 May 2021 to accurately delineate the extent of wetland vegetation[a] adjacent to Ngatuturu Lane, prior to the access road being aligned. The true extent of the wetland is quite small and is likely to have changed in the three years since my initial survey (see map below). I measured a 10-metre buffer from western edge of the wetland, beyond which any earthworks would not trigger a prohibited activity under Section 53 and non-complying activities under Section 54 of the National Environmental Standards of Freshwater (NES-FW). Based on the findings of my site visit, the access road has now been aligned to avoid any possible encroachment into the wetland and 10-metre wetland buffer.

It is noted that under Section 52 of the NES-FW, earthworks outside, but within a 100-metre setback from, a natural wetland is a non-complying activity if it results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland. I am confident that earthworks to construct the access road will have no effect on the hydrology of the wetland.

[a] Wetland delineation protocols followed Clarkson (2013): A vegetation tool for wetland delineation in New Zealand. Published by Landcare Research.


potential wetland
wetland extent
10 metre buffer
Ephemeral channel
No
ecological
constraints