In the matter of:	Clauses 6 and 8 of Schedule 1 – Resource Management Act 1991 – Submissions on publicly notified plan change and variation – Proposed Plan Change 1 and Variation 1 to Waikato Regional Plan – Waikato and Waipa River Catchments
And:	**Wairakei Pastoral Ltd**
	Submitter
And:	**Waikato Regional Council**
	Local Authority

REBUTTAL OF EVIDENCE OF NICHOLAS ASHLEY CONLAND

Block 2 Hearing Topics

Dated: 10 May 2019

REBUTTAL OF EVIDENCE OF NICHOLAS CONLAND

Block 2 Hearing Topics

1   My name is **Nicholas (Nic) Ashley Conland**. I have the qualifications and experience recorded in my supplementary statement of evidence filed in relation to the Block 1 Hearing Topics.

2   My rebuttal evidence has been prepared in accordance with the Code of Conduct for expert witnesses as set out in Section 7 of the Environment Court of New Zealand Practice Note 2014.

3   Relevant to my expertise, I wish to comment on the evidence of the following expert witnesses:

    3.1   Mr Dr Wright-Stow for DairyNZ.

    3.2   Dr Burger for DairyNZ.

    3.3   Mr Allen for Fonterra.

    3.4   Mr Keenan for HortNZ.

4   My rebuttal evidence focuses on the issue of regional plan implementation.

5   As I stated in my Block 2 evidence in chief, the effective and efficient implementation of PC1 and the achievement of Objective 3 will require changes to the PC1 provisions as notified to provide a meaningful improvement in the health of the Waikato and Waipā Catchments.

Making Reductions with mitigation approaches

6   I support the approach of Mr Wright-Stow in p11 of his evidence.

"an effective strategy to meet catchment targets for all contaminants, not only nitrogen, is through the access to robust, scientifically proven mitigation technologies and their efficacy in different environments"

7   This approach is also consistent with my evidence on Adaptive Management which relies on developing management strategies through time to meet the Freshwater Objectives (**FWO**) at the sub-catchment where they are employed.

8   Further I have identified wetlands in my Block 1 and Block 2 evidence as a key mitigation (Protocol 5) for the development of Farm Environment Plans (**FEPs**).

9   I support Dr Burger in his evidence where he provides at para 12(d) and (e) an overview of DairyNZ's evidence that:

"Actions must make a difference by 2026, and;

Reductions of contaminants from all farms in this plan change will make future plan changes and long-term targets more manageable."

10   This is consistent with my evidence that all farming activities require a FEP and mitigation actions within the earliest timeframe to, as Dr Burger suggests 'make a difference by 2026'.

11   Further at para 13 Dr Burger outlines the DairyNZ approach to:

"identifying farm-specific environmental actions in line with good farming practice principles, leaving scope for farm-specific solutions and innovation in how environmental outcomes are best achieved on each property."

12   I support Dr Burger in his evidence and find this consistent with my evidence to identify Vulnerable Land areas for targeted mitigations and to spatially determine these where possible through the use of the mitigation protocols developed by Wairakei Pastoral Limited (**WPL**).

75th percentile as a resource limit

13   I considered the evidence of Dr Burger in para 17 where he analyses the 75th percentile provision in PC1. I rebut the findings:

"The 75th percentile approach will lead to a sector-wide reduction in nitrogen footprint at the catchment scale"

14   In my Block 2 evidence I have analysed the use of the 75th percentile provision. In practice the provision is strongly biased to biophysical attributes rather than the performance of individual farming activity. Scenario 4 (in my evidence) demonstrates that the 75th percentile reduction does not provide sector-wide or catchment (FMU) wide reductions. In practice it is focused on areas with high rainfall and light soils. In Scenario 6 I compare a provision based on Vulnerable Land (as an effects based assessment of risk), which provides a significant 'sector-wide reduction in nitrogen footprint at the catchment scale'. On this basis I confirm my evidence that the 75th percentile provision should be deleted.

15   I have reviewed the evidence of Mr Allen relating to the 75th percentile from para 7.1 to para 7.19 where he analyses the 75th percentile provision. I agree with his evidence describing the mitigation options and cost mitigation curve from GFP to BFP. I find this explains the process to prepare an FEP within OVERSEER

accurately, however as outlined in my evidence and the evidence of Mr Wright-Stow there are mitigations outside of OVERSEER which need to be applied based on the 'critical risk areas' or focused through Land Vulnerability.

16   The figures 2 – 5 of Mr Allen also helpfully illustrate the flaw in the relationship between efficiency and effects in using the OVERSEER DST to determine the N losses for farming activity. As discussed above, there is a bias in OVERSEER for biophysical conditions relative to farm efficiency. From the figures we can see that catchments with high rainfall and light soils have relative higher leaching, as in my evidence this does not correspond with the Upper Waikato FMU having the farms with the poorest practices or the streams with the highest nitrate levels.

17   Principally the evidence of Mr Allen confuses the relationship between an assessment of effects on the environment and the farming intensity values provided from the OVERSEER DST.

18   I confirm my evidence that the provisions for the 75th percentile are more efficiently managed by a provision for Vulnerable Land which provides an assessment of effects and relates this to mitigation to be undertaken through an FEP.

19   Finally, I agree with the evidence of Mr Allen and Dr Burger and my evidence that there is a role for the NRP in the PC1 provisions as a compliance tool to determine changes in the intensity of farming activities for individual farms (as changes observed between annual visits to an individual farm) and to collect information on farming activities to inform a Decision Support Tool (**DST**) for resource management.

DST's

20   I have considered the schematic Dr Burger provides for sub-catchment framework for decision making (aka DST) in para 21 and agree with his assessment that this is needed to inform changes in land use at a sub-catchment scale. However, I rebut his suggestion that there is insufficient data and knowledge to support this approach in PC1. In my evidence for Block 1 and 2 (and in the evidence of Mr Williamson) I detail the development and use of a DST in the Ruahuwai Catchment which represents 10 (plus the Tahorakuri 66A) sub-catchment of the 74 sub-catchments in Table 3.11-2.

21   My recommendation remains that provisions to provide for DST's are an important element for the implementation of PC1.

22   I have read the evidence of Mr Keenan and agree with his analysis at para 25 to para 31 on DST use within PC1. I support this analysis particularly at para 30 and conclusion that:

"that compliance is only one of the few reasons to use modelling methods; and that a lack of ability to use the tool for compliance should not hinder the use for prediction or measurement of progress".

23   As outlined in my evidence a DST is a key element of Adaptive Management and the ability to test possible outcomes from mitigations and land use change is integral and separate from compliance.

Nic Conland

Director, Taiao - Natural Resource Management Limited

10 May 2019