
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

RESPONSE TO QUESTIONS FROM THE PANEL BY MARTIN NEALE

Block 3 Hearing Topics

Table 3.11-1 Freshwater Objectives

Dated: 9 August 2019

RESPONSE TO QUESTIONS FROM THE PANEL

BLOCK 3 HEARING TOPICS

Table 3.11-1 Freshwater Objectives

1. BACKGROUND

- 1 My name is **Martin Neale**. I have the qualifications and experience recorded in my statement of evidence filed in relation to the Block 1 Hearing Topics.
- 2 This written response is provided in answer to the questions from the Hearing Panel (as requested by their minute, 24 July 2019):

You previously stated in evidence that you considered there to be a number of 'anomalies' in Table 3.11-1. For example, at paragraph 85 of your Block 1 evidence in chief, you noted three sites that have either a 95th percentile or maximum concentration threshold that is lower than the median concentration threshold for the same contaminant.

Are you satisfied that these anomalies have now been addressed, and if so in what respect, or do you consider they are no longer relevant given the recommended changes to Table 3.11-1 that the majority of the experts have agreed to at conferencing? In particular, the experts' recommendation for nitrate and ammonia toxicity thresholds in the mainstream and tributaries (page 20 of the Joint Witness Statement) and Approach Option 1C for Total Nitrogen in the Waikato River mainstem?

- 3 My response to the questions from the Hearing Panel 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.

2. RESPONSE TO THE QUESTIONS FROM THE HEARING PANEL

- 4 In my Block 1 evidence (paragraphs 41 to 92) I recorded several concerns, including various anomalies, regarding Table 3.11-1 as notified.
- 5 The table attached as an **Appendix** to my written response sets out these concerns in column 1, indicates in column 2 whether they have been satisfied by the matters recorded in the Joint Witness Statement (**JWS**) or are no longer relevant in column 2, and

indicates in column 3 the matters that in my view have not been satisfied by the JWS and that remain to be addressed in some way.

- 6 In particular, the table in my Appendix addresses (as requested by the Hearing Panel) the recommendation for nitrate and ammonia in the mainstem and tributaries of the Waikato River (JWS, p20), and the approach in Option 1C of the JWS for Total Nitrogen in the mainstem of the River.

3. CONCLUSIONS

- 7 My conclusions are:

7.1 The recommendation for nitrate and ammonia in the mainstem and tributaries of the Waikato River (JWS, p20) and the approach in Option 1C of the JWS for Total Nitrogen in the mainstem of the River **addresses** the concerns and anomalies recorded in my Block 1 evidence relating to;

- (a) decimal places in Table 3.11-1, and;
- (b) inconsistencies amongst medians, maximums and 95th percentiles.

This recommendation **does not address** my concerns of setting freshwater objectives below detection limits.

7.2 The JWS and evidence provided by Dr Scarsbrook **partly addresses** the current state discrepancies recorded in my Block 1 evidence.

7.3 The JWS **does not address** my concerns about the timeframe of the data used to describe the current state recorded in my Block 1 evidence. This is explicitly recorded in the JWS as an issue that was not addressed.

- 8 The reasons for my conclusions are given in the table in my Appendix.

Dr Martin Neale

Puhoi Stour

9 August 2019

APPENDIX

Response to questions from the Hearing Panel (minute 24 July 2019)

Anomalies and concerns in my Block 1 evidence and rebuttal	Matters that have been satisfied by the JWS or are no longer relevant	Matters that have not been satisfied by the JWS
Current state discrepancies (Block 1, paragraphs 50 to 60)	These matters were not explicitly considered during the expert conferencing. However, Dr Scarsbrook had corrected several errors in the current state estimates for nitrate in his evidence dated 11 March 2019 that satisfied my concerns described in paragraphs 59 – 60 of my evidence.	<p>There remain some issues with the calculation of TP and ammonia current state that haven't been addressed by the expert conferencing or by Dr Scarsbrook's evidence.</p> <p>These remain of consequence for the setting of freshwater objectives where the objectives are set at the current state and therefore my concerns remain as stated in my Block 1 evidence (paragraphs 50-54 for ammonia and paragraphs 55 to 58 for total phosphorus)</p>
Selection of current state data (Block 1, paragraphs 61 to 71)		<p>This was raised as an issue at the start of expert conferencing, but not considered or discussed in detail.</p> <p>It is listed as an issue not yet addressed in the JWS (Bullets 6 & 7 on page 5). Therefore, my concerns remain as stated in my Block 1 evidence (paragraphs 61-71).</p>
Decimal places and detection limits (Block 1, paragraphs 73-80)	The issue of excessive decimal places is no longer relevant if the thresholds	The implications of setting objectives below detection limits was not addressed by the

	<p>recommended by the majority of experts for nutrients are adopted in Table 3.11-1 (i.e. the recommendation for nitrate and ammonia in the mainstem and tributaries of the Waikato River (JWS, p20), and the approach in Option 1C of the JWS for Total Nitrogen in the mainstem of the River) are accepted by the Hearing Panel.</p>	<p>JWS and my concerns remain as stated in my Block 1 evidence (paragraphs 73 – 79).</p>
<p>Medians, maximums and 95th percentiles (Block 1, paragraphs 81-86)</p>	<p>This issue is no longer relevant if the thresholds recommended by the majority of experts for nutrients are adopted in Table 3.11-1. (i.e. the recommendation for nitrate and ammonia in the mainstem and tributaries of the Waikato River (JWS, p20), and the approach in Option 1C of the JWS for Total Nitrogen in the mainstem of the River) are accepted by the Hearing Panel.</p>	