

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

of the proposed Variation 2 to the Proposed
Canterbury Land and Water Regional Plan -
Section 13 Ashburton

**STATEMENT OF REBUTTAL EVIDENCE OF GERARD MATTHEW WILLIS FOR
FONTERRA CO-OPERATIVE GROUP LIMITED AND DAIRYNZ LIMITED**

29 MAY 2015

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1. INTRODUCTION

- 1.1 My full name is Gerard Matthew Willis. I previously provided evidence in relation to this matter, on 15 May 2015.
- 1.2 My qualifications and experience are set out in paragraphs 1.2 to 1.7 of my primary statement of evidence.
- 1.3 I reconfirm that I agree to comply with the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014, as set out at paragraph 1.11 of my primary evidence.

2. EXECUTIVE SUMMARY

- 2.1 My rebuttal evidence addresses the evidence prepared by Mr Peter Wilson for the Central South Island Fish and Game Council ("**Fish and Game**").
- 2.2 I respond to the following points raised by Mr Wilson:
- (a) That the nitrogen loss limits should be "back calculated" from the desired in-stream nutrient concentration;
 - (b) That Environment Canterbury's ("**Council**") modelling has under-estimated the existing load;
 - (c) That Variation 2 should not provide for any new land to be irrigated;
 - (d) That the benefits of managed aquifer recharges ("**MAR**") should not be assumed;
 - (e) That Table 13(a) of Variation 2 should include a dissolved inorganic nitrogen ("**DIN**") limit and that Policy 13.4.9 should include reference to Table 13(a); and
 - (f) That the requirement for the adoption of the practices set out in Schedule 24a of Variation 2 should be conjunctive with the requirement for a Farm Environment Plan.

3. SCOPE OF EVIDENCE

- 3.1 In my rebuttal evidence, I provide additional comments on certain matters raised by Peter Wilson for Fish and Game.
- 3.2 My rebuttal evidence on these matters raised by Mr Wilson does not imply that I agree with the evidence prepared by other experts or on behalf of other submitters. However, Mr Wilson has raised certain matters that are within my area of expertise that I disagree with and, as such, I consider it necessary to respond.

4. MR PETER WILSON

Issue 1 – Determination of nitrogen loss limits

- 4.1 At paragraphs 29 – 30, Mr Wilson asserts that there are two methods used to calculate loads (and associated, in-stream nutrient limits and subsequent leaching targets and limits). He suggests that it is not good planning practice to calculate load limits based on the current rates of nitrogen loss. Rather, he suggests that the target load (and hence required rate of leaching loss) should be determined from the desired in-stream (and/or, presumably, groundwater) nitrogen concentration.
- 4.2 In my opinion, there is nothing in "good planning practice" to suggest one method is preferable to another. The relevant point is that the means of determining the appropriate freshwater objectives (to which a nitrogen limit must relate) are prescribed in detail in Section CA of the National Policy Statement for Freshwater Management 2014 ("**NPSFM**").
- 4.3 The Council has been very clear¹ that it has yet to implement Section CA of the NPSFM and hence the current objectives and corresponding limits must be regarded as interim.
- 4.4 What Variation 2 does accept (sensibly in my opinion) is the current level of nitrogen loss in the Lower Hinds Plains as a *starting point* (given that there are already exceedances of the relevant proposed Land and Water Regional Plan ("**LWRP**") limits). It clearly does not accept that level of nitrogen loss as the *end point* but merely as the baseline from which reductions are required. The level of load reduction required has been set to meet national bottom lines for in-stream nitrate-nitrogen

¹ See, for example, paragraph 5.107 of the Officers' Section 42A Report.

concentration limits set by the NPSFM. The fact that the load limit has not been set to be more ambitious recognises the values associated with land and water use in Lower Hinds Plains. These values were identified in the Ashburton Zone Committee process and reflected in the recommendations of the Zone Implementation Plan ("**ZIP**") Addendum.

- 4.5 Whether that level of recognition accurately or appropriately reflects the full range of values held in the Lower Hinds Plains (as articulated in the NPSFM) will be tested when Council completes the objective setting process (scheduled to be completed to be compliant with the NPSFM by 2025). In the interim, I consider the approach adopted by the Council reflects good planning practice.

Issue 2 – Modelling of the existing nitrogen load

- 4.6 At paragraphs 37 - 40 Mr Wilson notes that the modelling relied on by Council may have significantly under-estimated the existing nitrogen load. I agree with that assessment.²
- 4.7 However, Mr Wilson uses this argument to assert that the targets may therefore be unachievable and that there should be no further irrigation expansion in the catchment. I do not agree entirely with that assessment.
- 4.8 In my opinion, Mr Wilson has misunderstood the significance of Council's likely under-estimation of the existing catchment nitrogen load. It is my understanding that such under-estimation means that the existing in-stream (and in-groundwater) nitrogen concentrations are being achieved by a higher nitrogen load than thought. Hence, the target load to achieve the desired in-stream concentrations must be higher than the 3,400 tonnes proposed (since that was based on a reduction from an under-estimated existing load). That is the basis of Ms Hayward's primary evidence for Fonterra and DairyNZ. The under-estimation does not make the task necessarily easier or harder, but it does change the quantum of the target (tonnes N/yr). Because of this current uncertainty, Fonterra and DairyNZ are seeking to express the target load as a percentage reduction from current state.

² As set out in paragraph 3.3 of my primary evidence.

Issue 3 – Future irrigation

- 4.9 I consider that Mr Wilson's proposal to remove the ability for any further irrigation is based on a misunderstanding of the significance of the Council's under-estimation of the existing load.
- 4.10 I agree with Mr Wilson that Variation 2 should not provide for new (unconsented) increases in nitrogen loss associated with irrigation development.³ However, Mr Wilson appears to go beyond that by suggesting that land being irrigated with water from irrigation schemes, and operating pursuant to consents that manage nutrient loss, ought not to be allowed by Variation 2. (See Mr Wilson's proposed deletion of Rules 13.5.21 and 13.5.22).
- 4.11 In my opinion that would not be appropriate. The consents in question (held by Rangitata Diversion Race Ltd ("**RDR**") and Barhill Chertsey Irrigation Ltd) were recently granted (in 2014 and 2013 respectively) and entitle the holders to take and use water for irrigation and discharge nitrogen up to specified loads. Existing consents should form part of the existing environment.
- 4.12 Variation 2 must allow these consents to be exercised consistent with the terms and conditions specified. This is not contrary to Policy A1(b) of the NPSFM, or Policy 7.3.6 of the Canterbury Regional Policy Statement. Allowing those farms within the command areas of consented irrigation schemes to change or intensify land use in accordance with the consent held by the irrigation company is not "additional allocation" but simply allowing the uptake of existing allocation.

Issue 4 - Managed Aquifer Recharge

- 4.13 At paragraphs 14 and 51 - 53 of his evidence, Mr Wilson argues that it is wrong to write MAR benefits into Variation 2 until it is proven. While I agree that the benefits of MAR are not fully proven, in my opinion the estimated benefits need to form part of Variation 2.
- 4.14 Without the effect of MAR being taking into account, Variation 2 would lack coherency and would likely be contrary to the NPSFM. This is because the level of reduction in nitrogen loss required of farming

³ Over and above the Tier 1 and Tier 2 flexibility caps discussed in my primary evidence.

activities (which Mr Wilson already acknowledges as challenging and potentially unachievable⁴) would not deliver the groundwater outcomes set by the Variation. As a result, it would not pass the test of effectiveness under Section 32 of the Resource Management Act 1991. To make Variation 2 coherent and compliant with Section 32, the reductions required of farming activities would have to be increased with attendant increases in costs.

- 4.15 In my opinion it is better to assume that MAR will be effective and make reductions required of farming activities achievable (albeit challenging).
- 4.16 If MAR proves to be less effective than expected, a plan change could be introduced to amend limits, targets and/or outcomes such that the rules deliver Variation 2's objectives. However, to presume that MAR will not be effective, as suggested by Mr Wilson, would be to require a level of reduction from farming activities now that may prove both unnecessary and unachievable.

Issue 5 – Tables 13(a) and 13(j) and associated changes to Policy 13.4.9

- 4.17 In Appendix 1 to his evidence Mr Wilson proposes a large number of changes to the outcomes and limits specified in Tables 13(a) and (j) (in particular).
- 4.18 Table 13(a) sets out the Freshwater Outcomes for Hinds/Hekeao Plains Area Rivers. The purpose of Table 13(a) is to set out measurable parameters against which it will be possible for Council to monitor (and report on) the extent to which the values and outcomes sought by Variation 2 have been maintained and enhanced. They are meant to represent the end result of Variation 2's effect rather than the constituent limits that might be imposed to achieve the outcomes specified.
- 4.19 In that regard, they are not intended to have direct application in the context of resource consent assessment and decision-making. That is reflected in the architecture of the Variation's policies and rules, which do not reference Table 13(a). That is deliberate and appropriate in my view. The outcomes are not something for which an individual consent applicant can be held to account.

⁴

See paragraph 57 of Mr Wilson's evidence.

- 4.20 In his proposed redraft of Table 13(a), Mr Wilson proposes that limits (rather than outcomes) be added in the form of dissolved inorganic nitrogen ("**DIN**"). I disagree with this for three reasons.
- (a) First, including DIN limits in Table 13(a) blurs the line between the outcomes (the subject of Table 13(a)) and limits (the subject of Table 13 (g)-(k)). I understand the concentration of DIN may be a contributor to whether the ecosystem health-related outcomes of Table 13(a) will be achieved. However, this is not something to be sought independent of those outcomes.
 - (b) Second, the level at which the DIN concentrations are proposed are unrealistically low (0.5mg/L for the spring-fed Plains), being well below both the current levels (by a factor of 10) and the concentration that Variation 2 can realistically deliver. (See the rebuttal evidence of Ms Hayward).
 - (c) Third, including DIN limits in Table 13(a) establishes an internal conflict within Variation 2 because Table 13(j) (limits/targets for the Hinds/Hekeao Plains Area surface waterbodies) specifies an annual median nitrate-nitrogen limit for the Spring-fed Plains of 6.9mg/L (a limit proposed to be retained by Mr Wilson). As nitrate-nitrogen makes up a large proportion of the DIN, it is likely that the plan will deliver compliance with the Table 13(j) limits but remain more than 10 times over the DIN limit of Table 13(a).
- 4.21 Mr Wilson proposes to address this by linking Table 13(a) to an amended Policy 13.4.9 requiring an improvement in water quality when any of the Table 13(a) outcomes are not met. This would create an unworkable planning framework where activities could meet the limits and reductions requirements specified in Tables 13(g) to (j) but still require an unspecified level of improvement in recognition that the Table 13(a) DIN "outcome" is not met. I consider that to be an inefficient means of dealing with consents which would likely lead to uncertainty in the consenting environment for both applicants and Council.

Issue 6 – Requirement for use of practices in Schedule 24a and Farm Environment Plans

- 4.22 At paragraph 65(c) Mr Wilson recommends that the policies and rules be consistently amended to impose the requirement for both adoption of the practices in Schedule 24a and Farm Environment Plans. I disagree with that suggestion.
- 4.23 The relevant point is that the Schedule 24a practices are relatively basic and generic in their scope. While they offer a base level of assurance of good practice suitable as a permitted activity condition, the practices may be unsuitable or insufficient to address issues raised in the context of resource consent applications. Farm Environment Plans offer a mechanism to determine what the necessary and appropriate practices are for individual farms. Such practices will often not simply be in *addition* to the practices set out in Schedule 24a, but may be in *substitution* for those practices. Hence, it is important that the requirements be linked by an "or" and not an "and" as proposed by Mr Wilson whenever they are referred to in the conditions of a controlled or restricted discretionary activity rule (or in any policy relevant to the consideration of any such application).

Gerard Matthew Willis

29 May 2015