

**BEFORE THE**

Waikato Regional Council Hearing  
Commissioners

**IN THE MATTER**

of the Resource Management Act 1991

**AND**

**IN THE MATTER**

of Waikato Regional Proposed Plan Change 1 –  
Waikato and Waipā River Catchments

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**REBUTTAL STATEMENT OF HAMISH LOWE  
ON BEHALF OF THE WAIKATO AND WAIPA RIVER IWI IN RELATION TO  
THE HEARING TOPICS FOR HEARING BLOCK 2  
(Submitter No. 74035)**

**10 MAY 2019**

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**WELLINGTON**

## **INTRODUCTION**

1. My name is Hamish Timothy Lowe.
2. I am an Environmental Scientist with Lowe Environmental Impact Limited.
3. My evidence is given in relation to matters in Plan Change 1 (**PC1**) that relate to the interpretation and implementation of Policies and Rules, and their associated schedules, which impact on farming systems.
4. I provided a Statement of Evidence in Chief (**EIC**) on behalf of the Waikato and Waipā River Iwi dated 3 May 2019.
5. I confirm the qualifications and experience set out in my EIC.

## **EXPERT WITNESS CODE OF CONDUCT**

6. I confirm that I have read the 'Code of Conduct' for expert witnesses contained in the Environment Court Practice Note 2014. In the same way as I would if appearing in the Court, my evidence has been prepared in compliance with that Code. In particular, unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

## **SCOPE OF EVIDENCE**

7. This statement of rebuttal evidence is based on a review of evidence prepared by the following persons for the Block 2 hearing:
  - (a) Alison Dewes (Beef and Lamb NZ Limited);
  - (b) Richard Parkes (Beef and Lamb NZ Limited);
  - (c) Aslan Wright-Stow (Dairy NZ Limited);
  - (d) Gerard Willis (Fonterra Co-Operative Group Ltd);
  - (e) James Allen (Fonterra Co-Operative Group Ltd);
  - (f) Damien Farrelly (Fonterra Co-Operative Group Ltd);
  - (g) Dr Gavin Sheath (Miraka Limited);
  - (h) Jonathan Palmer (Waikato Regional Council);

- (i) Brent Sinclair (Waikato Regional Council);
  - (j) Christopher McLay (Waikato Regional Council); and
  - (k) Nicholas Conland (Wairakei Pastoral Ltd).
8. As noted in my EIC, due to the significant issues being traversed in Block 2, the number of submitters, quantum of the evidence and time to prepare this rebuttal statement, I have not had the opportunity to review all of the evidence and fully address all issues. In particular, I have not linked this evidence back to the Block 2 s42A commentary on the relevant provisions or the changes themselves.
9. My rebuttal evidence focuses on what I saw as been the most significant issues in the evidence I have read. This includes the following issues:
- (a) different schemes and their purpose;
  - (b) supplying information for the sake of it;
  - (c) OVERSEER® input files and OVERSEER® FM;
  - (d) the Farm Environment Plan (**FEP**) Approach;
  - (e) OVERSEER® and Good Management Practice (**GMP**);
  - (f) certified industry schemes (CIS) / certified sector schemes (**CSS**);
  - (g) appropriateness of Base Years;
  - (h) technical capacity; and
  - (i) nitrogen reference point (**NRP**).

## **DIFFERENT SCHEMES AND THEIR PURPOSE**

10. Beef and Lamb, through the evidence of Dewes, Parkes and others suggest the use of a natural capital model to manage contaminant loss from a range of land uses on a more balanced basis. Whilst Fonterra in the evidence presented by Willis propose the use of a Nitrogen Risk Scorecard (NRS). As outlined in the evidence of Willis<sup>1</sup> and Dewes<sup>2</sup>, the purpose of these proposed alternative systems is to address concerns they had in regard to cost, the use of OVERSEER, administration burden

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<sup>1</sup> Willis paragraph 7.4

<sup>2</sup> Dewes paragraph 34 to 36

and industry capacity to carry out required modelling and data collection. However, in my view all the systems proposed need critical base information to be collected which will take additional time and resources to carry out.

11. It is clear there are a range of options and approaches available for quantifying and managing nutrient losses. All these options have both positives and negatives, and some may be more suitable for a particular land use type. However, there is a need to find a balance on what is most suitable across all farming systems. As stated in my EIC<sup>3</sup> it would be preferable, in my opinion, to use a stocking rate approach rather than a nutrient loss approach for less intensive<sup>4</sup> farming operations. The use of models to estimate nutrient loss rates are suitable for more intensive farming operations.
12. While I believe there may be benefits in the approaches proposed by Fonterra and Beef and Lamb NZ, they potentially introduce further complexity to land mapping and identification of areas to prioritise efforts. If implemented, this will require more information to be collected, analysed and guidance provided to landowners as to how to collect this information.
13. I am of the view that the use of natural capital approach, and/or other approaches, to provide a balance across land uses and land classes, could be considered for implementation in the next generation of the plan in ten years' time; but first, good base data is needed to inform this process and to satisfy NPS-FM requirements.
14. In short, and this could apply to a number of other alternative land management systems, in my view, it is a given that the development of systems, data gathering, analysis and instruction adds further time to making actual and real changes to water quality. The debate above regarding the type of assessment system, and the time to allow for the ensuing debate on the details, highlights an issue I identified in my EIC; being Council needs to get on and prioritise data collection from farms so that irrespective of the wider catchment management approach that is adopted, at least there is good information to inform the choice of any

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<sup>3</sup> Lowe EIC paragraph 54 and 55

<sup>4</sup> Less intensive would relate to rule 3.11.5.2 low intensity and 3.11.5.2A medium intensity

ultimate model and on which to base future decisions. I believe Waikato Regional Council (WRC) need to get moving on making changes. While the system proposed has limitations, it must be viewed as a starting place; the longer it takes to make modifications and tweaks, the further behind the region becomes in making real and measurable impacts on water quality as set out in Table 3.11-1.

## **SUPPLYING INFORMATION FOR THE SAKE OF IT**

15. In my EIC<sup>5</sup> I discussed making sure information collected is for a purpose. Willis<sup>6</sup> questions the purpose of the information required in Rule 3.11.5.2, which requires information to be supplied to council around stock numbers, fertiliser use and brought-on feed. He then goes on to note the rule contains no N loss limit or guidance as to what to use the information for. I agree that clarity is needed to demonstrate what information is used for.
16. The collection of inappropriate information was also discussed in the evidence of Dewes<sup>7</sup> who used the example of the provision of fertiliser invoices, noting that no detail is required about what fertiliser has been applied where; to what management block in OVERSEER®; and on what date. Dewes<sup>8</sup> implies that it provides an opportunity for gaming of the NRP as strategic timing and placement of fertiliser can significantly influence the NRP.
17. These views support the position expressed in my EIC that it is critical to ensure data that is collected serves a purpose and a benefit. Collection of unnecessary data may consume time and resources that are better directed collecting data that is actually needed. This discussion also supports my recommendation of putting in place a process that involves the collation of smaller accurate data sets, which can be expanded and implemented in stages over time as outlined in my EIC<sup>9</sup>.

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<sup>5</sup> Lowe EIC paragraph 41

<sup>6</sup> Willis paragraph 7.6

<sup>7</sup> Dewes paragraph 180

<sup>8</sup> Dewes paragraph 180

<sup>9</sup> Lowe EIC paragraph 45 to 47

## **OVERSEER® INPUT FILES AND OVERSEER® FM**

18. Palmer<sup>10</sup> outlines in his evidence, and as explained in the s42A report, a new version of OVERSEER®, called OVERSEER-FM, that has recently been released. Part 6 of Rule 3.11.5.2A Controlled Activity (and other rules) states that *full electronic access to OVERSEER® or any other software or system that models or records diffuse contaminant losses for the farming land use authorised by this rule is granted to the Council*. In the old version to be phased out by 30 June this year, OVERSEER® farm files were able to be downloaded and supplied individually to the Council. The new version is all online and doesn't have the same download function. Rather, it has permissions to share the modelled farm electronically via the internet.
19. It will be important for Council to ensure it has the systems and protocols in place to access and adequately manage files submitted in this way. Environment Canterbury require OVERSEER® information to be submitted as part of their regulatory process and as yet have not been accepting information in the new OVERSEER-FM format. Bay of Plenty Regional Council have only recently (30<sup>th</sup> April) released their protocols for managing the transition to OVERSEER-FM. My view is the transition to OVERSEER-FM needs clarity to ensure farm systems information supplied to Council can be accessed and used.

## **THE FARM ENVIRONMENT PLAN (FEP) APPROACH**

20. The evidence of Parkes, Willis, Farrelly, Conland and others comment on the appropriateness of FEPs, with many suggesting strategies for their content and implementation. Key aspects which I support are:
- (a) Farms are heterogenous and farm specific plans are needed<sup>11</sup>.
  - (b) Targeted farm specific mitigation solutions<sup>12</sup>.

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<sup>10</sup> Palmer paragraph 40

<sup>11</sup> Parkes paragraph 22

<sup>12</sup> Parkes paragraph 73

- (c) Mitigation should be targeted to critical source areas<sup>13 14</sup>, and specifically, the Schedule 1 changes sought by Conland<sup>15</sup>.
  - (d) Due to capacity constraints<sup>16</sup>, prioritising FEPs. However, I question if there is sufficient prioritising in the current rules suggested in the s42A report, and I maintain that the staging approach in my EIC should be considered further.
21. There are a number of amendments to FEP's advanced in evidence that I don't support:
- (a) Land Use Capability (LUC) mapping<sup>17</sup> is not critical to be reported but could be used as a part of the toolbox to identify critical source areas. In some cases, the scale of existing mapping may not be sufficient to identify critical source areas and re-mapping may be required at a more detailed scale.
  - (b) Should WRC go down the path of a natural capital approach, as suggested by Beef and Lamb<sup>1819</sup>, then LUC mapping may be needed, but again this creates a significant burden on professional resources, especially if it is to be considered within the time scale of this Plan Change (i.e. within the next 10 years).
  - (c) Willis<sup>20</sup> believes that properties less than 20 ha should not be exempt from FEPs. I consider that it is appropriate to exempt these properties at this stage, and prioritisation effort towards larger properties. Further, the costs of preparing a FEP, and the resourcing needed to provide plans to the accuracy required by PC1, would be better directed at the larger properties.

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<sup>13</sup> Parkes paragraph 82

<sup>14</sup> Conland paragraph 50

<sup>15</sup> Conland paragraph 78

<sup>16</sup> Willis paragraph 1.2 (f)

<sup>17</sup> Parkes paragraph 82

<sup>18</sup> Dewes paragraph 35 to 37

<sup>19</sup> Parkes paragraph 16

<sup>20</sup> Willis paragraph 7.6 and 8.2

## **OVERSEER® AND GOOD MANAGEMENT PRACTICE (GMP)**

22. Dewes<sup>21</sup> states that there is an over-reliance on GMPs within FEPs to meet the objectives of the Plan, and that these are practices which, in many cases, are already assumed by OVERSEER® to be in place on-farm. I question whether, in fact, GMP are actually being met, as in many cases the information to accurately compute a farm specific NRP may not exist. The consequence may actually be that N losses are being underestimated.
23. I believe there needs to be better definition between GMP and Best Management Practise (BMP), and the use of consistent terminology. This is supported by Willis<sup>22</sup> who identified that the s42a report is not clear and consistent on what it means by GFP. I should note that industry terminology is GMP and BMP and in PC1 reference is made to GFP, of which GFP has a focus and is confined to the risk of contaminants entering a water body.
24. As noted above, GMP<sup>23</sup> includes accurate record keeping, and this is required to satisfy the requirements of developing a NRP. If GMP is used as the minimum basis that farmers must be operating at, the farmers who are unable to provide records of their farming operation are therefore unable to meet this rule requirement and by default would be required to follow a different consenting pathway. In other words, how can a farmer prove that they are operating at GMP level if they do not have records? This supports my suggestion<sup>24</sup> in my EIC that there needs to be a contingency that provides for circumstances where farm details are not known so to avoid alternative consenting pathways when there are 'minor' record keeping gaps.

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<sup>21</sup> Dewes paragraph 168

<sup>22</sup> Willis paragraph 9.9

<sup>23</sup> GMP and not GFP

<sup>24</sup> Lowe EIC paragraph 80

## **CERTIFIED INDUSTRY SCHEMES (CIS) / CERTIFIED SECTOR SCHEMES (CSS)**

25. Other experts agree with my EIC that while potentially being of benefit, the challenge with CIS/CSS is in the implementation<sup>25</sup>. The Willis submission specifically questions the ability of WRC to implement the scheme in a reasonable time<sup>26</sup>. This supports my recommendation in my EIC<sup>27</sup> of staging the provision of information from FEP as part of a CSS - to WRC over time.
26. Willis<sup>28</sup> also notes, as I do<sup>29</sup>, that there is no regulatory benefit from being part of a CIS/CSS.
27. Should CIS/CSS be implemented in some form, and if they have a regulatory function to require property owners to make changes to land use (and mitigation), then I believe there should be checks and balances (audits) of that scheme. Therefore, I disagree with the suggestion by Farrelly<sup>30</sup> that there should not be an audit process from those schemes.
28. I note that Conland<sup>31</sup> supports the use of a sub-catchment approach. I agree with his assertion that “...communities will take a proactive, prioritised and integrated ‘whole of sub-catchment’ approach to managing each sub-catchment’s land and water, ...”. However I believe focus should not be lost from achieved Te Ture Whaimana as there is a need to consider the whole catchment and whole awa.

## **APPROPRIATENESS OF BASE YEARS**

29. Beef and Lamb evidence of Dewes<sup>32</sup> discuss the appropriateness of the base years and considers that establishing a baseline is a means of establishing a grandparenting approach. If PC1 was to be modified to lock a baseline number into a long-term duration (longer than 10-year)

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<sup>25</sup> Willis paragraphs 1.2, 6.4, 6.5, 6.98

<sup>26</sup> Willis paragraph 6.5

<sup>27</sup> Lowe EIC paragraph 39, 43, 46

<sup>28</sup> Willis paragraph 6.12

<sup>29</sup> Lowe EIC paragraph 126

<sup>30</sup> Farrelly paragraph 34

<sup>31</sup> Conland paragraph 99

<sup>32</sup> Dewes paragraphs 87 and 167 to 170

resource consent, I believe this would be a grand parented approach. However, as set out in my EIC there needs to be some form of reference point (preferably across all four contaminants) to compare future on-farm changes against.

30. I consider the issue is more about establishing an appropriate baseline, and maintaining the view, as noted in my EIC<sup>33</sup>, that a 2 year reference period is not sufficient. Ms Dewes<sup>34</sup> also notes a limitation of the milk pay-out potential influencing the establishment of a suitable baseline over the nominated two-year reference period.

### TECHNICAL CAPACITY

31. Mr Farrelly<sup>35</sup> notes that audits of advisers is excessive and further complicates the process while also undermining the credibility of the advisor certification programme. I disagree and note that it is generally accepted<sup>36</sup> that data collected and entered for OVEREER® modelling (and FEPs) needs to utilise a high level of rigour, requiring suitable and accredited advisors. I support the need for an audit, along with the need to have an ongoing demonstration of competence, an aspect missing from the current definition of Certified Farm Nutrient Advisor (**CFNA**) and Certified Farm Environmental Planner (**CFEP**) in the Glossary of PC1<sup>37</sup>. By reference to audit, I am not implying that every application and plan is audited, but a random sample is taken and audited to demonstrate the CFNA or CFEP is undertaking appropriate work to the required standard.
32. Dewes notes<sup>38</sup> that there is a 'larger availability and ever-increasing capability' of industry professionals, and quotes numbers of participants in the Sustainable Nutrient Management Course run by Massey University. With the exception of the Certified Nutrient Management Advisor (CNMA) programme, there is no requirement for continuing professional development, or an audit component to, the schemes suggested by Council. I believe a component of the audit process needs

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<sup>33</sup> Lowe EIC paragraph 93 to 95

<sup>34</sup> Dewes paragraph 167

<sup>35</sup> Farrelly paragraph 23

<sup>36</sup> Dewes paragraph 187

<sup>37</sup> Lowe EIC paragraph 146

<sup>38</sup> Dewes paragraph 188

to demonstrate that the CFNA is maintaining the required level of skill — Continuing Professional Development (**CPD**)— to complete work to the required standard. I note similar amendments to the audit process are supported by experts for submitters<sup>39</sup>.

33. The pool of professionals with the necessary ongoing skill development programme is a much smaller group of professionals than Ms Dewes suggests. Further, the pool of professionals Ms Dewes refers to is likely to have transitioned back into the rural community and are not likely to be available for providing professional advice. Consequently, I do not think the pool of potential rural professionals is as great as Ms Dewes is suggesting. A number of other submitters<sup>40 41</sup> also note limitations on available professionals.
34. Mr Parkes<sup>42</sup> questions whether sheep and beef farms need advice from CNMAs to develop FEP. Mr Farrelly<sup>43</sup> also questions the use of CFEPs. I too have questions about matching skills to outputs, as in some cases the required skill set is different. To address this problem, I believe appropriate expertise is needed to match the skill sets of individual CNMA and CFEP to the specific requirements of the land use. This could be achieved by more clearly specifying the areas of expertise that individual CNMA and CFEP hold. For example, in some cases a CNMA who works mostly with dairy farmers may not have hill country erosion expertise.
35. As noted in my EIC<sup>44</sup>, potentially the appointment of CFNA and CFEP's could be based on areas of expertise. Regardless, there is still the need for rigour and auditing to demonstrate the advisor has the necessary skill set.
36. Despite the commentary above, I question, like some submitters<sup>45 46</sup>, the industry capacity to undertake the necessary work required to register farms, prepare the NRPs and generate FEP as currently set out in PC1.

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<sup>39</sup> Dewes paragraph 213

<sup>40</sup> Farrelly paragraph 25

<sup>41</sup> Sinclair paragraph 13

<sup>42</sup> Parkes paragraph 28

<sup>43</sup> Farrelly paragraph 22

<sup>44</sup> Lowe EIC paragraph 145

<sup>45</sup> Willis paragraph 6.9 and 7.4

<sup>46</sup> Farrelly paragraph 25

This further supports my suggested approach of staging the provision of critical information from FEP over time. I note that Mr Sinclair<sup>47</sup> also suggests a staged approach.

37. As identified in my EIC<sup>48</sup>, delays in preparing the necessary information that is to be submitted to Council to inform critical processes (e.g. stocking rates, NRP etc) will have a flow-on consequence of shortening the time that is available for WRC to assess that information and make critical time-based decisions on important aspects of PC1 (e.g. 50<sup>th</sup> and 75<sup>th</sup> percentile calculations for an FMU etc). The significance of this delay is also noted by Mr McLay<sup>49</sup>.
38. An approach which may assist with capacity constraints is to allow farmers to undertake some of the work themselves. Mr Farrelly<sup>50</sup> suggests farmers could prepare their own FEP, an approach which I believe has some merit in exploring, providing they are signed off by a CFNA.
39. Mr McLay<sup>51</sup> also notes there is merit in opportunities to provide for a national certification programme, an issue I also raise and agree with<sup>52</sup>.

#### **NITROGEN REFERENCE POINT (NRP)**

40. The evidence of Willis<sup>53</sup> raises an issue regarding how the quantum of N loss reduction will be implemented. It is clear to me that if farms are above the 75<sup>th</sup> percentile then they will need to reduce. What is not clear is the extent of reductions that may be required for farms already below the 75<sup>th</sup> percentile. While Policy 1(b1) sets out farms below the 75<sup>th</sup> percentile and above the 50<sup>th</sup> percentile will need to make “real and enduring reductions”, it is unclear how that relates to Table 3.11.1-1. In my view, clarification is required on this matter as there is the potential for inconsistency in how reductions are managed, and how WRC consenting officers will apply the

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<sup>47</sup> Sinclair paragraph 57

<sup>48</sup> Lowe EIC paragraph 77

<sup>49</sup> McLay paragraph 16

<sup>50</sup> Farrelly paragraph 40

<sup>51</sup> McLay paragraph 28

<sup>52</sup> Lowe EIC paragraph 145

<sup>53</sup> Willis paragraph 9.5

discretion associated with the various activity rules requiring resource consent.

41. Some submissions<sup>54</sup> oppose the use of OVERSEER® to determine an NRP. There are two issues, being the establishment of an NRP and the tool to calculate it. I support the use of the NRP approach given the limitations I have noted in my EIC. I also support the use of OVERSEER® as in my view it is the best tool available, albeit it needs to be used within the limitations as indicated in my EIC. I therefore disagree that OVERSEER® is not suitable. As noted in my EIC<sup>55</sup> there are opportunities to use tools other than OVERSEER®.
42. Sheath<sup>56</sup> notes the limitation of OVERSEER® regarding the mechanisms for generating the N leaching. While this is correct, I consider the FEP should assist to address poor farm practices.

Hamish Lowe

10 May 2019

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<sup>54</sup> Sheath paragraph 1.3, 3.1

<sup>55</sup> Lowe EIC paragraph 51

<sup>56</sup> Sheath paragraph 4.6