

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

Lake Rotorua Nutrient Management –
PROPOSED PLAN CHANGE 10 to the Bay of
Plenty Regional Water and Land Plan

BETWEEN

DairyNZ Limited

AND

Bay of Plenty Regional Council

**STATEMENT OF EVIDENCE OF JUSTINE YOUNG
FOR DAIRYNZ LIMITED AND FONTERRA**

6 March 2017



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1. INTRODUCTION

- 1.1 My full name is Justine Young.
- 1.2 I hold a Bachelor of Science (Zoology) from Massey University and a Masters of Science in Resource Management from Lincoln and Canterbury Universities. I have completed post graduate papers from Massey University on policy theory and resource management law.
- 1.3 I have 23 years' experience working for local, regional and national government in resource management planning and policy advisor roles. I have experience developing regional land and water plans, including regulation and trading of diffuse discharges of nitrogen. I was the Waikato Regional Council planner throughout the development and First Schedule process for the Waikato Regional Plan – Lake Taupo Catchment. I led the policy development team for the Waikato Healthy Rivers Wai Ora project, up until finalising the Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River catchments. My role at DairyNZ is to provide policy advice for DairyNZ involvement in regional plans.

Background

- 1.4 I am familiar with Lake Rotorua Nutrient Management – Proposed Plan Change 10 to the Bay of Plenty Regional Water and Land Plan (referred to throughout as PC10).
- 1.5 I have not had any direct involvement in PC10 process. I have been in my role at DairyNZ since November 2016. I am generally familiar with the Bay of Plenty Regional Council approach for Lake Rotorua. In my previous role at Waikato Regional Council, staff from the two council's occasionally shared information about approaches toward managing diffuse nitrogen discharges.
- 1.6 I am providing evidence as a DairyNZ employee to support the DairyNZ and Fonterra submission.
- 1.7 The purpose of this evidence is to draw together the three strands of evidence provided by DairyNZ and Fonterra and provide the Hearing Commissioners with an outline of the outcome sought by DairyNZ and Fonterra and the key aspects of the joint submission we would like to focus on.

2. SCOPE OF EVIDENCE

- 2.1 My evidence addresses the following matters:
 - (a) An overview of the outcome sought in the evidence to be presented to support the Joint DairyNZ and Fonterra Submission on the Proposed Plan Change 10 to the Bay

of Plenty Land and Water Regional Plan (referred to throughout as the DairyNZ and Fonterra Submission).

- (b) Support for the Bay of Plenty Regional Council (the Council) intention to continue to review and disseminate science information.
- (c) Importance of ensuring the underpinning science is robust, and that sufficient time and flexibility is allowed in PC10 for achieving change on farms, to minimise social and economic costs of achieving water quality outcomes.
- (d) Throughout my evidence I refer to the strikeout version of PC10 for numbering of provisions that follow the PC10 Staff Recommendations. Where relevant, I comment on the Council section 42A report and expert evidence for the Council, as it relates to key outcomes sought in the DairyNZ and Fonterra submission.

3. OVERALL OUTCOME SOUGHT BY DAIRYNZ AND FONTERRA

- 3.1 The overall outcome sought in the DairyNZ and Fonterra submission, is that provisions in PC10 and any subsequent review are achievable by dairy farmers and therefore assist Council to sustainably manage Lake Rotorua. In doing so, dairy farmers should not be required to reduce more nitrogen per farm than is necessary to achieve community-agreed water quality limits in Lake Rotorua (the Lake).
- 3.2 DairyNZ and Fonterra accept that in the Lake catchment, both nitrogen and phosphorus should be managed. DairyNZ and Fonterra support the latest science understanding being used to set and achieve nutrient loads and to determine the relative proportions of nitrogen and phosphorus in the Lake. We support the review of science set out in Method LR 2. Dr Stephen's evidence for DairyNZ/Fonterra sets out the state of knowledge about Lake nutrient dynamics, and notes the importance of considering both nitrogen and phosphorus.
- 3.3 DairyNZ/Fonterra are mindful that the Hearing Commissioners can only alter what is in the Plan Change already. It is not possible to second-guess the result of the science review and therefore, what changes, if any, should be made to the nitrogen loads in the Regional Policy Statement and limits in LR Policy 1. This must be decided through another Resource Management Act Schedule 1 process.
- 3.4 The DairyNZ/Fonterra submission did not request changes to nitrogen targets in LR Policy 1 that links the 2032 sustainable nitrogen load in the Regional Policy Statement with rules and schedules in PC10. However, our submission noted that PC10 rules impose significant costs to dairy farmers. Ms Muller's evidence for DairyNZ/Fonterra, refers to Council experts Mr Matheson and Dr Doole, who have acknowledged individual farmer and catchment-scale costs, and that they will vary from farm to farm. Ms Muller notes that the case studies undertaken by DairyNZ show a significant reduction in farm operating profit (paragraph 5.11). For these reasons,

DairyNZ/Fonterra are concerned that the PC10 farm-level nitrogen targets will not allow people to provide for their social, cultural and economic wellbeing, and maintain community resilience. Page 6 of our submission requested that LR Method 2 addresses all the scientific and policy aspects. We support the recommendations for this method in the section 42A report. Our assumption is that one of the outcomes of the science review is a First Schedule process that gives community confidence that the 2032 on-farm nitrogen limits are robust.

- 3.5 DairyNZ/Fonterra acknowledge that the Council must have confidence that nutrient loss from dairy farms has been reduced to the agreed level. The Nitrogen Discharge Allowance (NDA) on each farm is the environmental outcome sought. Mr Allen sets out in his evidence that the implementation of the rules should allow flexibility for day to day farm operation and the ability to take up innovations that reduce nitrogen as they are available. In Section 4 of his evidence he emphasises that the Council should have confidence they can monitor and enforce a regulatory system where the farm is held to a rolling three year Overseer nitrogen output, with farm management actions (nitrogen inputs) recorded and able to change on an informal basis.

4. DECISION SOUGHT BY DAIRYNZ/FONTERRA

- 4.1 In this section of my evidence I refer to the decision sought by DairyNZ/Fonterra and where this differs from the Section 42A staff report. I refer to the section of the submission headed up “recommendations” as well as the Table in Section 5 of the submission.
- 4.2 Section 4.1 of the submission is concerned with changes to LR Method 2. We support the recommendations of the Section 42A staff report.
- 4.3 Section 4.2 of the submission is concerned with changes to resource consent requirements for those farms 40 hectares or more in effective area. The submission requested that a resource consent for these farms should not be required until 2022, and instead, LR Rule 9 is replaced by a permitted activity rule that applies from 2017 to 2022. Suggested text for this rule was inserted in the Table on pages 14-15. It contains the same requirements as the notified version, that is, to achieve the management reduction target of 2022, and use of OVERSEER and NMP to determine that this can be demonstrated. A further request was that resource consents for a controlled activity rule be required from 2022 onwards. Text for this rule was inserted in the Table on pages 15-16. The recommendations of the Section 42A staff report (paragraph 19 of the summary report page 25) are to decline these submission points. The reason given is that adverse effects may differ from farm to farm and these cannot be adequately managed in a permitted activity rule.
- 4.4 The permitted activity rule suggested by DairyNZ/Fonterra is deliberately transitional in its nature, and covers the period where many dairy farms are already meeting their 2022 MRT. Two of the three case study farms described in Ms Muller’s evidence are in this category. The requested permitted activity rule contains conditions that essentially mean that the permitted activity will achieve the same result as a controlled activity

consent. Therefore the permitted activity gives the Council the ability to manage adverse effects and confirm its rule implementation monitoring plan. As noted in paragraph 6.7 below, the ability to transfer nitrogen begins in 2022. The assumption made in the submission was that the science review will be complete and any subsequent processes agreed by the Council will be confirmed. DairyNZ/Fonterra wishes to see a controlled activity consent from 2022 with a 20 year consent duration, as this will give landowners more certainty than a continued permitted activity. From an administrative point of view, given the potential for changes and therefore consent reviews, a transition from a permitted activity to a controlled activity in 2022, is more efficient for the Council. The alternative is to go through the process of granting consents, and then if there are changes because of the science review, to go through a s128 consent review process for each property.

- 4.5 Section 4.3 of the submission is concerned with use of OVERSEER and reference files. We support the Council officers excellent work in reviewing the reference files and how dairy farms are represented. However, as Mr Allen has noted in Section 5 of his evidence, the Council could set up a system as Fonterra has done, to run a version control method for each farm. If this is done, reference files are not necessary.
- 4.6 Section 4.4 of the submission is concerned with Nitrogen Management Plan (NMP) requirements. We support the minor change to refer to these as nutrient management plans. Mr Allen's evidence sets out why we do not support the Section 42A staff report recommendation to reject the submission points that request that outcomes should be managed rather than inputs. Section 5 of my evidence also sets out why the Council should have confidence that an output control can be confidently used to manage and reduce nitrogen over time.

5. CONFIDENCE IN THE SCIENCE UNDERPINNING PC10 RULES

- 5.1 In this section of my evidence, I give further reasons to support the changes already recommended to be made in the Section 42A report. My intention to give context for the Hearing Commissioners about why DairyNZ/Fonterra have bought expert evidence on the underpinning water quality science for PC10, and the economic implications at a farm-scale of the 2032 nitrogen targets.
- 5.2 In LR Method 2, the Council signals its intention to continue to review and disseminate science information, and gives some detail about what will be included in the review. DairyNZ/Fonterra support this method, and the changes recommended by staff in the section 42A report.
- 5.3 DairyNZ/Fonterra has provided evidence on the need for ongoing reviews and therefore confidence in the science underpinning PC10 rules. Our submission (Section 4.1 page 6) noted the financial cost to individual landowners of nitrogen mitigations to achieving a TLI of 4.2 in 2032. Ms Muller sets out results of investigations into financial cost to some individual landowners. DairyNZ/Fonterra support the need for nitrogen leaching limits for farms within the Lake catchment. However, we believe this must be achieved

in a way that enables dairy farmers to continue to provide for their social and economic wellbeing. Because of the significant cost to individuals and the community of the proposed nitrogen reductions, it is important to ensure the Council and community are confident that these can continue to be justified. Over time, the Rotorua Lakes Programme may need to adjust the relative and absolute reductions of both nitrogen and phosphorus through actions in the catchment and through in-Lake interventions.

- 5.4 The integrated framework included in the introduction of PC10 is focused on nitrogen. Farm-scale limits in PC10 are nitrogen limits. Throughout the development of PC10, and the first diffuse nitrogen regulation in Rule 11 of the Bay of Plenty Regional Land and Water Plan, the understanding was that nitrogen-focused initiatives will achieve the community desired water quality outcome for the Lake (which are encapsulated in a Trophic Level Index of ≤ 4.2 , as set out in the Land and Water Regional Plan Objective 11, and the Regional Policy Statement sustainable load target of 435 tonnes of nitrogen per year).
- 5.5 Dr Stephens is a water quality specialist, and his evidence for DairyNZ/Fonterra refers to the expert evidence provided for the Council by Dr Hamilton, Dr Rutherford and Mr Bruere. He agrees that both nitrogen and phosphorus are important to manage to ensure an ongoing trophic Level Index of ≤ 4.2 . Dr Stephens notes the complexity of Lake dynamics, and the increasing knowledge gained through continued measurement of water quality, catchment and lake modelling and in-lake interventions. He emphasises that it will be important for the Council to focus on phosphorus, and how it interacts with nitrogen to result in changes in algal growth.
- 5.6 My understanding of the existing and emerging knowledge about nutrient interactions in the Lake, is that the limiting nutrient in the Lake at present is phosphorus. This situation does not mean that nitrogen management can be relaxed. Instead, it emphasises that biological systems are dynamic and the difficulty of setting numerical loads in relatively inflexible RMA documents. It appears that all the experts agree that Council will need to implement in-lake and catchment actions, to ensure the amount of phosphorus in the Lake does not reverse the water quality gains made in recent years. Our understanding of the Lake and how it responds to different conditions is still emerging, including conditions that promote potentially toxic cyanobacteria. I support the science review and the way the Council is approaching it by using an independent expert to peer review the results, as set out in LR Method 2 (f) of the staff strikethrough version of PC10.
- 5.7 LR Method 2 may have an impact beyond rules in PC10. It is possible that the flow on effects of the science review will impact both the science underpinning nitrogen rules in

PC10 and other initiatives within the Rotorua Lakes Programme (summarised in Mr Lamb's evidence paragraphs 25 - 29).

- 5.8 The DairyNZ/Fonterra submission did not request changes to LR policies. LR Policy 1, 3 and 4 link PC10 to the 2032 sustainable nitrogen load of nitrogen set out in the Regional Policy Statement and set out the course of action for achieving it that is described in LR Policy 4 as an adaptive management approach. In Part 6 of my evidence I refer to the changes sought by DairyNZ/Fonterra to implement an adaptive management approach in a more streamlined way, within the overall guidance of LR Policies 4 – 17.

6. DEALING WITH UNCERTAINTY THROUGH ADAPTIVE MANAGEMENT

- 6.1 The purpose of this section of the evidence is to support the DairyNZ/Fonterra submission point that requests outcomes to be managed rather than inputs. As noted in my paragraph 4.6, this submission point was recommended to be rejected in the Section 42A report. This is also covered in Mr Allen's evidence.
- 6.2 Council staff have noted that PC10 takes an adaptive management approach. I support this. I wish to highlight the importance of new knowledge about biological processes being used in responses at a property level, and note that this is not easy to incorporate in Resource Management plan rules. I think there is an inherent tension of providing certainty for farmers and at the same time, allowing for adaption at the farm scale. I refer to the Council advisors acknowledging that information is not perfect, and as knowledge changes this will be passed on to the community, and that LR Rule 9 rule implementation will allow farmers to choose how they want to farm (Section 42 A summary report Section 5.3.8 and evidence of Mr Lamb paragraphs 63 and 103)). I support these as underpinning principles to the approach of achieving the desired water quality in the Lake in the long term.
- 6.3 Regulatory regimes take time and effort to put in place and in my experience, are slow to respond to changes in technical understanding. PC10 requires dairy farmers to make large property-level nitrogen reductions in LR Rule 9. As noted by Ms Muller for DairyNZ/Fonterra (paragraph 5.11), the changes needed on some dairy farms will be far reaching in terms of how each innovation will fit into the farm system. As knowledge changes and further nitrogen reductions are needed in each five year block, capital expenses have to be factored in to the farm business. The scale of the nitrogen reductions make farm-level response complex and relatively inflexible.
- 6.4 I note that the Section 42A recommendations have added more detail about phosphorus management. These include changes to LR Schedule 6, to clarify the process to follow to meet good management practice as set out in LR Policy 2. As Ms

Muller points out in paragraph 7.5, mitigation strategies chosen for one nutrient are not necessarily as effective when the other nutrient is factored in.

- 6.5 As it is written, PC10 is not clear in how it will allow for adaptive management at a farm-scale. LR Rule 9 has a Matter of Control vi) over the mitigations and methodology to meet the Managed Reduction Targets. Council staff have provided brief comments on the implementation of LR Rule 9. This is primarily contained in Mr Lamb's evidence (paragraphs 105-106) and the same paragraphs are in the section 42A summary document paragraphs 107-109). I understand that farmers will be required to provide the most detailed set of mitigations in the first five-year block, and less detail in the middle five-year block and the final five-year block. The resource consent then runs for a further five years (LR Policy 14 states that controlled activity consents will be granted for a term of 20 years).
- 6.6 Mr Allen covers the difficulty for the farmer of knowing what mitigations will be needed for each five-year step of nitrogen reduction to meet the 2032 NDA. The DairyNZ/Fonterra submission (Section 4.4 page 11) requested that the Nutrient Management Plan Schedule LR 6 should be modified so that it has a stronger focus on managing outcomes rather than inputs. Mr Allen's evidence for DairyNZ/Fonterra states that PC10 can be improved though using the dairy industry's growing knowledge of how to farm within limits. He demonstrates that there are some elements of PC10 that hinder streamlined and practical implementation. Even after reading evidence from Mr Lamb, Mr McCormick and Mr Park, it has been difficult to see how the Council will implement LR Rule 9. To some extent, the detail can't be known until the consents have been granted and monitoring starts. And a PC10 rule implementation plan is intended to be developed in clause a) of LR Method 5. However, we would like to see a clear description of the steps to be undertaken, from the time the NDA is confirmed and a Nutrient Management Plan (NMP) is developed, through to how Council implementers will treat small changes in farm management that do not alter the OVERSEER-modelled nitrogen leaching.
- 6.7 Requiring farmers to specify management actions and inputs to achieve each of the three nitrogen reductions that result in achieving their 2032 NDA, gives the Council confidence that the nitrogen target will be achieved. However, this approach does not acknowledge two important factors. First, the choices made on the farm will be impacted by new nitrogen mitigations recognised in the OVERSEER model, and changes in climate, prices and labour. These changes are not known in 2017. More importantly, the scale of reductions on some farms means nitrogen must be purchased if they are to remain economically viable. In some cases, wholesale land use change is the most rationale course of action. These points are noted in Dr Dooles evidence (paragraph 20 e) and a) respectively). Farmers will need to alter farm management inputs to adjust

their farm system to all of these factors. It is possible that major changes in inputs, and therefore the NMP, will need to occur more often than the five yearly staged reductions in nitrogen in 2022, 2027 and 2032. For instance, the ability to transfer nitrogen from 2022 could change the sorts of farm management inputs and therefore the actions specified in the NMP. Mr Lamb notes that 'it is not Council making choices on mitigations but the owners/managers' (paragraph 107). I agree that this is the important aspect, and I also agree that 'mitigation actions can be reviewed and NMPs amended if required' (paragraph 108). The critical aspect is that the time and cost for Council to approve farm management changes does not place an unnecessary cost burden on farmers, or discourage innovation in how nitrogen is mitigated.

- 6.8 From the S42A staff report or evidence produced for the Council, DairyNZ/Fonterra were not able to judge what is needed for the Council to approve changes to the Nutrient Management Plan (section 5(a)(ii)). For instance, the section 42A report (paragraph 105) acknowledges the need to provide further information on how compliance would occur. In the absence of guidance in either the staff recommendations or documents outside PC10 such as a rule implementation guide, DairyNZ/Fonterra are concerned that the time and cost to farmers of implementing LR Rule 9 will be higher than necessary. Mr Allen covers this topic in his evidence. Both farmers and Council staff will need to develop ways of working together that achieve the outcomes sought in PC10.
- 6.9 At a science understanding and catchment scale, as written, the impact of PC10 on farmers is uncertain. Reliance is placed on resource consents being reviewed to account for changes in science understanding. While this could be described as adapting to changes in understanding, it is difficult for farmers to plan for. For instance, Council science advice (Dr Rutherford, paragraph 18 i)) is that the tonnes of nitrogen per year the Lake target may need to be reviewed downwards. This has been reflected in staff recommended changes to LR Rule 9, to clarify that Council may review the consent to require greater nitrogen reductions at a farm-level (a new matter of control in LR Rule Matter of Control v)).
- 6.10 In summary, changes sought by DairyNZ/Fonterra are that the Hearing Commissioners ensure that the PC10 rules give the community confidence that Lake water quality outcomes are achieved, and at the same time, are practical and flexible enough to allow for month by month farm decisions and for trust to be built up between farmers and Council implementers.

JUSTINE YOUNG

6 MARCH 2017