
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 STUART JOHN FORD

Block 2 Hearing Topics

Dated: 10 May 2019

REBUTTAL OF EVIDENCE OF STUART JOHN FORD

Block 2 Hearing Topics

- 1 My name is **Stuart John Ford** I have the qualifications and experience recorded in my 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 rebut the evidence of the following expert witnesses:
 - 3.1 Dr Bruce Thorold for DairyNZ;
 - 3.2 Dr Graeme Doole for DairyNZ;
 - 3.3 Ian Millner for Federated Farmers;
 - 3.4 James Allen for Fonterra;
 - 3.5 Hamish Lowe for The Waikato and Waipa River Iwi;
 - 3.6 Dr Frank Scrimgeour for Waikato District Council;
 - 3.7 Jon Palmer for Waikato Regional Council.

Dr Bruce Thorold for DairyNZ

- 4 At Para 27 Dr Thorold states, under the heading that “A gradual transition allows time for better management options to be proven”, that :

.... it is my opinion that the widespread and rapid adoption of this system (Pastoral21 Future Farm system) is not feasible or desirable because;
- 5 And at Para 28 he concludes that:

These factors all support the gradual transition proposed in PC1.
- 6 I do not support Dr Thorolds conclusion that the gradual transition proposed in PC1 is either necessary or desirable.

- 7 In my evidence at Para 122 I conclude that:

The range of dates that are provided in PC1 by which landowners may be required to action and implement measures to meet the freshwater objectives in Table 3.11-1 will mean that the action of farmers will be variable and that it denies innovative landowners the commercial certainty of operating under consents designed to comply with best practice methods. By providing for enterprise scale consents it is likely that less consent applications will be lodged because some landowners will combine to submit such applications and therefore the staggering of the dates is not necessary.

- 8 It is my opinion that there are a considerable range of mitigation options that are available to land owners that were not part of the Pastoral21 Future Farm system (which Mr Thorold relies upon for his analysis) that are very suitable to be uptaken by land owners now. In my opinion this allows for the Waikato Regional Council (**WRC**) to engage in some significant action now in terms of relying on the individual land owners Farm Environment Plans (**FEPs**) to deliver significant gains in terms of water quality.

Dr Graeme Doole for DairyNZ

- 9 I cannot agree with Dr Doole's contention that a disproportionate share of the costs of abatement will fall on the Dairy industry based on the modelling which was carried out under the HRWO model.

- 10 As I stated in my Block 1 evidence because of the considerable doubt about the accuracy of the data that was used to populate the HRWO model there was considerable uncertainty as to the results that it produced. Therefore there will be considerable uncertainty over the relative spread of costs that can be derived from that modelling. In my view, the Dairy industry is the largest contributor to effects on the river catchment therefore it should be responsible for the largest share of the costs. This is consistent with the polluter pays principle.

- 11 I support Dr Doole in his contention that (Para 2.2 (f)):

A staged approach provides for adaptation and learning, without placing undue financial risk on farmers.

- 12 That is why I am of the opinion that adoption of FEPs as the corner stone of achieving the water quality objectives of the planning regime accompanied by an adaptive management approach is both more effective and efficient than what is proposed in PC1 at present.

Ian Millner for Federated Farmers

- 13 I am in complete agreement with Mr Milner where he states (Para 3.5) that:

I have read the s42A report on the use of Overseer and I generally agree with the reporting officers. I specifically support that Overseer be used as a decision support tool to inform the development of a farm environment plan and not in a way that requires compliance with a number.

James Allen for Fonterra

- 14 I do not agree with Mr Allen where he states in his conclusion (Para 9.1) that:

In summary, I am supportive of the proposed rules in PC 1 around the 75th percentile rule regarding nitrogen management.

- 15 In my Block 2 evidence (Paras 71 to 82) I traverse the various reasons why the 75th Percentile is neither an efficient or effective means of achieving the PC1 objectives, which can be summarised as:

15.1 It is unlikely that PC1 Objective 3 (short-term freshwater objectives) will be achieved in all sub-catchments by 2026.

15.2 At best there is a very tenuous link between the amount of N available at the end of the root zone as modelled in OVERSEER and the freshwater objectives detailed in Table 3.11-1.

15.3 There is no estimation of the true impact on river quality factored into the mechanism.

15.4 Its adoption will most likely achieve an unknown amount of reduction in N getting into the river, poor effectiveness, having potentially large negative impacts on the Regional economy, and poor efficiency.

- 16 Therefore my recommendation is to delete the requirement for the 75th percentile N leaching value.

Hamish Lowe for The Waikato and Waipa River Iwi

- 17 I do not agree with Mr Lowe where he states (Para 46) that:

My suggestion is to retain the progressive implementation concept for Priority 1, 2 and 3 sub-catchments as per the current rules....

18 Under the current rules the implementation of Priority 1,2 and 3 catchments is not effective. Even in the officers' view it is unlikely that PC1 Objective 3 (short-term freshwater objectives) will be achieved in all sub-catchments by 2026 therefore I cannot agree with Mr Lowes recommendation that they should be retained.

19 I cannot agree with Mr Lowe where he states (Para 65) that :

While there may be debate about the 75th percentile approach, it is one of a number of solutions for driving an improvement in water quality.

20 My disagreement with his conclusion is based on my analysis of the 75th Percentile mechanism where I concluded that it is neither an efficient or effective means of achieving the PC1 objectives.

Dr Frank Scrimgeour for Waikato District Council

21 I support Dr Scrimgeour where he makes the points (Para 3.1) that:

... methods within PPC1 that set an NRP at an individual property level not to be exceeded, were seen to create potential for inefficient and unfair nitrogen allocation between land based on historical practice (i.e. grandfathering rights to emit higher levels, and locking in lower NRPs which may affect land profitability potential) and;

.... the Overseer approach, is an estimation method where in some scenarios, the model will have limitations.

22 In my evidence on Block 2 I make the point in regard to the impact of the NRP on land values (Paras 83 to 87), which is effectively grandparenting, that it is inequitable, as it may be unfair to reward historic polluters since they may also be best situated to reduce pollution at lower costs and inefficient by allocating a higher number of discharge allowances to operations on lower class or high leaching land.

23 At Paras 29 to 46 I discuss the inadequacies of OVERSEER as a regulatory tool and come to the conclusion (Para 44) where I stated:

In my view, it is more effective and efficient to allow for the adoption of a suite of more inclusive and complete alternative decision support tools in PC1 than to prescribe the use of what has been well described as a particularly crude and uncertain modelling tool.

Jon Palmer for Waikato Regional Council

- 24 I support the conclusions made by Mr Palmer at Para 47 where he states that:

OverseerFM should not be used to regulate against a numerical limit.

- 25 I cannot however reconcile these conclusions with the fact that he then goes on to make conclusions that:

Waikato Regional Council implementers will have to determine an appropriate and efficient methodology to ensure equitable comparative (relative) use of OverseerFM to ensure consistent compliance assessments against the original NRP dataset to minimise OverseerFM output uncertainties.

- 26 It is my experience that the use of a decision support tool in a comparative sense relies on acceptance of any potential inaccuracies in the data entered into a model and the way that the data is calculated within the model because the results of the modelling are to be used to compare various alternative courses of action. There is no guarantee of the accuracy of the results it is the relative difference that is the decision making factor.

- 27 I therefore reject Mr Palmer's desire to ensure consistent "compliance" assessments. It is my understanding that the OVERSEER model has been rejected by the Officers in their Section 42A Report as being not suitable for compliance purposes where they say:

Currently, an OVERSEER derived NRP should not be a point of compliance, but a tool to ensure farm changes described in the FEP do not result in increasing nitrogen leaching. (Para 21)

- 28 It is therefore difficult to reconcile this with the evidence of Mr Palmer who is apparently requiring quite forensic record keeping (Para 45 (g to i) and historical records for provision to WRC. I consider that this level of record keeping as being completely unnecessary from a comparative decision support tool.

- 29 In my Block 2 evidence at Para 74 I state that:

I also have difficulty with attempting to achieve a certain outcome in the river by managing it with a tool that has no relationship with the amount of N in the river. At best there is a very tenuous link between the amount of N available at the end of the root zone as modelled in OVERSEER and the freshwater objectives detailed in Table 3.11-1. This is particularly so when considered in the light of the Block 2 evidence from Mr Williamson which links the modelled N pathways from the end of the root zone to the river and

completely changes our interpretation of the degree of risk at different sites across the catchment.

- 30 In my view, it is more effective and efficient to allow for the adoption of a suite of more inclusive and complete alternative decision support tools in PC1 than to prescribe the use of what has been well described as a particularly crude and uncertain modelling tool. Therefore I reject the conclusions that Mr Palmer has come to.

Stuart Ford

The AgriBusiness Group

10 May 2019