

IN THE ENVIRONMENT COURT AT WELLINGTON

IN THE MATTER of the Resource Management Act 1991
 (“**the Act**”)

AND

IN THE MATTER of clause 14 of the First Schedule of the
 Act

BETWEEN **FEDERATED FARMERS OF NEW ZEALAND**

ENV-2010-WLG-000148

AND

DAY, MR ANDREW

ENV-2010-WLG-000158

AND

MINISTER OF CONSERVATION

ENV-2010-WLG-000150

AND

HORTICULTURE NEW ZEALAND

ENV-2010-WLG-000155

AND

WELLINGTON FISH & GAME COUNCIL

ENV-2010-WLG-000157

Appellants

AND

**MANAWATU-WANGANUI REGIONAL
 COUNCIL**

Respondent

**STATEMENT OF REBUTTAL EVIDENCE BY STUART JOHN FORD FOR
 HORTICULTURE NEW ZEALAND IN RELATION TO THE APPEALS ON THE
 PROPOSED ONE PLAN FOR MANAWATU WANGANUI REGIONAL
 COUNCIL ON SURFACE WATER QUALITY**

(20 APRIL 2012)

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QUALIFICATIONS AND EXPERIENCE

1. My name is Stuart John Ford and I prepared a statement of evidence in chief dated 12 March 2012 which sets out my qualifications and experience and confirms that I will comply with The Code of Conduct for Expert Witnesses contained in the Environment Court's Consolidated Practice Note dated 1 November 2011. I reaffirm that that information and confirmation applies to this rebuttal evidence.

SCOPE OF REBUTTAL EVIDENCE

2. In this rebuttal evidence I will comment on:
 - (a) The Economic Caucusing document;
 - (b) The rate of leaching of Horticulture;
 - (c) Ms Marr's evidence; and
 - (d) The opportunity for Nutrient trading.

THE ECONOMIC CAUCUSING STATEMENT

3. I have read the statement that resulted from the caucusing of the economists. Unfortunately I was not able to attend. Although I cannot particularly disagree with anything in the statement I would note that it is all couched in very general terms. Wherever it is required to state an opinion this is expressed as "are likely to", "may not", "generally more", "would be expected to be", "are broadly similar", "is broadly correct" and "may be too high". With everything expressed in this way I am not sure what value there is in the caucusing document to enable you to firm up a position on anything.
4. This is not a criticism of the economists present but points to the fact that there just isn't enough information available for a definite decision to be made based on economic considerations. Between the DV POP and the information that the Council has presented to this hearing there has been no economic consideration at all. There has been nothing in terms of a section 32 analysis carried out. This is disappointing, but the objectors have the opportunity to provide such evidence and have not come up with much specific economic data relevant to the region.

5. That is why I support the decision of the Hearing Panel and the policy approach of Ms Barton which allows some time to work out an appropriate policy approach for horticulture. Although it is my opinion that Horticulture New Zealand provided sufficient evidence and a policy framework to allow Council to adopt it, the Hearings Panel decided that horticulture did not justify it.

THE RATE OF LEACHING OF HORTICULTURE

6. It has been very disappointing for me that the rate of leaching for horticulture has been continued to be set at levels stated by Dr Clothier some years ago at 80 kg / ha /yr with some being as high as 300 kg / ha / yr and these have been continued to be used in evidence in this case. This is despite Horticulture New Zealand, through evidence of Mr Keenan and Dr Fung, and in my evidence, proving that these assumptive values are incorrect and are on average would be much lower in terms of the net impact on the land.
7. Dr Clothier has lumped horticulture and arable together to come up with this value. In our evidence we proved that this assumption of lumping the two very different land uses together was incorrect and lifted the leaching performance of Horticulture to a level which on average was far too high.
8. In making the statement. I am drawing a difference between horticultural crops grown for human food consumption as identified in the Commodity Levies (Fruit and Vegetables) Order 2007; and arable crops harvested with a combine harvester or grown for the purpose of feeding stock.
9. The problem with this assumption is that it has continued into much of the subsequent evidence to this hearing, including that of Dr Roygard, Ms Marr, Mr Ausseil, and Dr Scarsbrook. All of these people have used the 80 kg N / ha /yr in their calculation of the N leaching of horticulture on an annual basis when, at best, it is relevant for one out of 5 or 10 years.
10. The problem is that this then leads them to assume that horticulture is a significant contributor to the level of leaching into the particular catchments that they are interested in, when it is not or is at least a lot less important as a contributor than they assume.

11. One of the factors that contributes to this is the fact that there is a basic lack of ability to accurately model horticulture in terms of discharges. Mr Keenan has given you evidence as to the problems in modelling horticultural crops in OVERSEER® and the investment and work that Horticulture New Zealand has gone through to get that tool up to speed to be able to accurately reflect the discharges from horticulture.

MS MARR'S EVIDENCE

12. There are a number of assumptions in Ms Marr's evidence in which I consider she misinterprets the impact on and of the horticultural industry in terms of N leaching.
13. The first is the assumption¹ of the "... *high risk of pollution resulting from these land uses.*" This is based on Dr Clothier's assumption as to the level of leaching from horticultural practices. This is incorrect for the reasons set out already in my evidence.
14. At paragraph 127 Ms Marr details the "*relatively straight forward*" resource consent process that if the proposed process is followed automatically results in a resource consent being gained. I cannot see the point of putting growers to the cost and effort to apply for a consent which is automatically granted. To me this is a "make work" scheme that does nothing but put Council and the applicant to a tremendous amount of effort and cost in order to achieve an automatic outcome. In short, the cost of such an approach far outweighs any benefit that would be achieved.
15. Ms Marr² says that she:

...considers it a reasonable cost and a necessary one in order to achieve nutrient management planning and to reduce nitrogen leaching across a catchment.
16. I have previously given evidence to you of the high cost if consents were required. However she does not offer any order of costs on which to base her assumption as to what the reasonable cost is.

¹ Paragraph [125] EIC

² Ibid paragraph 129

17. Also one must wonder what would be achieved by applying for and receiving automatically a resource consent in terms of reducing leaching. In my opinion the monitoring of the activity is the method that will achieve outcomes. This is where we again differ as she states that "*Monitoring of a land use does not help to achieve the maintenance or enhancement of water quality.*" Unfortunately she does not offer any evidence to support such a sweeping statement. In my experience monitoring of various aspects of land use is a very powerful tool in achieving environmental gains.
18. In the first instance hearing, Horticulture New Zealand offered the GAP system, which is externally audited, as a means of keeping control on the potential for N leaching from the horticultural industry. This audit occurs now so there would be no need to duplicate a system and the cost of doing so. I believe that eventually in regulatory frameworks we will end up adopting the GAP system to control horticultural leaching where necessary.
19. Ms Marr says that she is "*not aware of any significant industry initiatives at work or proposed for the region which are shown to have actually in particular reduced Nitrogen losses from these farms.*"³ I consider that this is an incomplete picture of industry efforts. It is my opinion that there is a combination of environmental aspects that lead to water quality issues, including discharges of phosphorus, sediment, and nitrogen.
20. In my view the horticulture industry program has been thorough in addressing both soil and phosphorous good management practice. I also refer to the evidence in chief of Chris Keenan⁴ with regard to the continuing development of OVERSEER® type tools to measure nutrients. I would also refer her to the combined evidence of Horticulture New Zealand for the Land Chapter, with particular reference to the Code of Practice for Commercial Vegetable Growing in the Horizons Region.
21. Ms Marr⁵ comments on the small proportion of these land uses in catchments. She comments on the transitory nature of the activity meaning that the area of land may be under reported and that "*the actual percentage of the*

³ Ibid paragraph [131]

⁴ Paragraphs [42] – [72]

⁵ Paragraph [132]

catchment taken up by these land uses will vary over time and may in fact be higher than reported.” I would just add that because of the transitory nature of the land use it is just as likely that it is lower than reported than being higher. In his rebuttal evidence Mr Keenan comments that there is no data that would suggest an increase in horticultural activities with the evidence pointing to a decrease.

22. Ms Marr then goes on to state that *“because of their relatively high rates of leaching, the contribution of these land uses to the total nitrogen measured in waterbodies is actually high”*.⁶ I have already commented on the incorrect assumption that horticulture has high rates of leaching but cannot find anywhere in the evidence that states that the measured rates of total nitrogen from these land uses is high. There are several references to the total proportion of N assumed being as high as 22 % of the total but nothing that I can find that says that it is high. There is nothing in the evidence that points to a connection between the measured rates of N and the actual rates of N from any one land use. The assumptions of the contribution of N are based on theoretical modelling so the connection between the two can be supposed but cannot be validly made.

THE OPPORTUNITY FOR N TRADING

23. There is no doubt that from an economic perspective there are considerable gains to be made from trading of N discharges.
24. Mr Balingall has reported to you on the extensive range of conditions that would be required to ensure that a successful trading scheme was in place. He has also reported the time scales that have been required to ensure that success has been achieved and equity amongst participants has also been achieved.
25. Ms Barton has dismissed the immediate opportunity for N trading while leaving the plan open for its adoption. In my opinion her reasons were not valid but nevertheless the process was too far through without any meaningful discussion on N trading having been held.
26. In his analysis of the opportunity for N trading by Mr Percy on behalf of Mr Day he seems to miss the point that for

⁶ Ibid

horticulture we cannot yet accurately model the amount of N leaching. He analyses Mr Balingalls list of criteria for successful trading. He accepts that criteria B "A definable unit of N loss" can be achieved. It is my contention that this is not yet possible for horticulture. He refers to Ms Marr's evidence that this can be achieved by the use of OVERSEER®.⁷ I reiterate my previous evidence that as yet we are not able to accurately model the discharge performance of horticultural land uses by using OVERSEER®.

27. I share Mr Day's enthusiasm for N trading but suggest that it will be something that will have to be formally proposed by the Council Horizons and then go through a significant period of consultation before it will work properly. Therefore to adopt it at this late stage with little or no consultation with land users would be counterproductive to the process in my opinion.

S J Ford

20 April 2012

⁷ Paragraphs [77] and [78] EIC