

BEFORE THE ENVIRONMENT COURT

ENV-2010-WLG-000148

UNDER the Resource Management Act 1991

IN THE MATTER Of an appeal under Clause 14 of the
First Schedule to the Act

BETWEEN **FEDERATED FARMERS OF NEW
ZEALAND**

APPELLANT

AND **MANAWATU-WANGANUI REGIONAL
COUNCIL**

RESPONDENT

**REBUTTAL EVIDENCE OF DOUGLAS CHARLES EDMEADES
16 April 2012**

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My Qualifications and Experience

1. My name is Douglas Charles Edmeades and my qualifications and experience are as described in my primary evidence.
2. I have read the Environment Court's practice note, Expert Witness – Code of Conduct, and agree to comply with it. I have not omitted to consider material known to me that might alter or detract from the opinion I express.

Technical Conferencing

3. I attended the Technical Conferencing on LUC/Best Practice Sub-Topic held on 23rd March 2012 and signed the Joint Caucusing Statement.
4. All the parties to that Caucusing Statement agreed that the water quality issues should be managed at a catchment level. I take this to mean that 'catchment' refers to the 9 sub-catchments defined by MWRC.
5. All the parties agreed that effective management limits will be enhanced by the active participation of farmers. I take this to mean that it is essential that farmers are involved in the decision to set water quality limits in the sub-catchment in which they are involved.
6. All the parties agreed that there is a need to set an N load goal on a sub-catchment basis and that all farmers should know what they are required to achieve. I take this to mean that the N load goal for the sub-catchment must be unambiguous and its implications for the farmers in the catchment clearly understood.
7. The parties disagreed as to how the sub-catchment N load goal should be allocated across the farms in the sub-catchment.

8. In my rebuttal evidence below I provide the evidence for my view that as an allocative mechanism:
 - a. The LUC approach is flawed, and,
 - b. The Reasonably Practicable approach is a superior.

Land Use Capability (LUC)

9. Some have argued that the LUC approach is an appropriate allocative mechanism.
10. In my opinion the LUC approach is flawed, noting that it has already been rejected for sound reasons by the Commissioners.
11. In this context LUC is being used as a proxy for the Natural Capital Value (NCV) of a soil, where NCV is defined as the productive capacity of a soil to grow a clover-based pasture. There is nothing natural about such a system using as it does introduced European clovers and grasses with the application of imported fertilisers.
12. More specifically the amount of N leached from a soil, in today's farming context is not determined by the LUC. The table below identifies the many factors, which collectively determine the rate of nitrate leaching on a given farm.

Category	Components
Landscape	Riparian buffers & Wetlands (natural & man-made)
Farm Type	Dairy, Sheep & beef, Cropping
Farm System	In situ grazing, partial grazing (standoff pads), nil grazing (herd homes),
Animals	Stocking rate, types of supplements with various N contents, wintering on or off.
Pastures	Clover content, pasture types (rooting depth) pasture production & utilization
Cropping	Cultivation technique, timing, fertiliser N practice.
Soil	Irrigation, drainage, soil fertility, pugging management, erosion management.
Effluent	System type and management, pasture or cropping.
Fertiliser	Amount & timing of N fertiliser.

13. This list of factors is very similar to the list of “Farming Practices to Mitigate Nutrient and Contaminant Loss to Water” attached as Appendix 1 to the Record of Technical Conferencing on LUC/Best Practice Sub-Topic, as agreed by the relevant experts.
14. It is emphasized that LUC is not a factor that determines the rate of nitrate leaching in modern farming.
15. The proponents of the LUC concept accept that it does not apply to the Sand country of the Manawatu, soils which have of low LUC classification (i.e. they cannot support strong clover-based pastures in their ‘natural’ state) but with the advent of modern farming practices. (Irrigation, supplementary feeding etc.) They have a high LUC value.
16. If the LUC approach were adopted it would mean that all farms on a given LUC would be allocated the same N leaching target. This is unrealistic and will be inequitable because all farms are different in their ability to manage and hence reduce nitrate leaching, as will be discussed below.

Reasonably Practical Management.

17. All farms and farmers are different with respect to their ability to manage and reduce nitrate leaching. This arises for many reasons.
18. For example the topography of a given farm and its position in the landscape determine the potential to introduce mitigation practices such as wetlands, riparian buffers and stream fencing.
19. Furthermore, the management options (refer to “Farming Practices to Mitigate Nutrient and Contaminant Loss to Water” attached as Appendix 1 to the Record of Technical Conferencing on LUC/Best Practice Sub-Topic) that a given farmer can/will introduce to mitigate nitrate leaching will reflect: personal preferences and skills, farm policies and farm finances.

20. For example, putting in a herd-home or reducing the farm stocking rate, which can have a large effect on N loading, may not be financially viable in some cases but entirely appropriate in other situations. Similarly, a farmer may choose not to use yet another chemical on the farm (e.g a nitrification inhibitor) and yet this could be entirely acceptable for another.
21. Given this degree of specification and individuation a 'one-size-fits-all' policy, such as the LUC approach, is likely to fail or at least be resisted because it does not accommodate these obvious features of farms and farmers.
22. The Commissioners proposed a policy based on "reasonably practicable measures" for managing nitrate leaching. For the reasons given above I support this approach. In effect each farmer, knowing the nutrient loading goal for the relevant sub-catchment, will select from the basket of mitigation options available to him which best suit his/her circumstances.
23. If this approach is adopted then the contribution that each farmer makes to the overall sub-catchment loading will vary from farm to farm. This is fair, reasonable and equitable for all.