Process Review on the 17 June 2017 Draft of the report entitled

"An Impact Assessment of OnePlan policies and rules on farming systems in the Tararua District and the Manawatu Wanganui Region"

I have been asked to review the method and processes underlying the report entitled "An Impact Assessment of OnePlan policies and rules on farming systems in the Tararua District and the Manawatu Wanganui Region", undertaken by Terry Parminter of KapAg to help build a more thorough understanding of the costs and practicality of consenting requirements for intensive land use activities in the Region. The purpose of the Impact Assessment is to "calculate the costs associated with applications for intensive farming land use activities and the economic impact of mitigations to reduce nitrogen leaching likely to be incurred as a result of the recommended improvements to the consenting process."

The report used a 'case study' approach whereby representative farms were identified, and then their nutrient discharges were analysed against policy-imposed targets. In all cases, mitigation strategies were required for the model farms to become compliant. The farm-level economic costs of compliance were calculated by comparing operating profit and return on assets for each farm operating under 'status quo' versus 'compliant' systems.

While I was not given the detailed spreadsheets underlying the calculations (so I cannot comment on the accuracy of the numerical results), I am comfortable with the overall approach that was taken for the analysis. The author took care to source data from established databases and industry experts, and to analyse the data appropriately with Overseer, accepted budgeting techniques and Farmax tools. This form of 'farm budgeting and investment analysis' is a common approach to exploring the farm-level impact of policy changes in New Zealand, and overseas.

I do, however, have a number of observations that might help provide a context within which to interpret the results:

- The messages that comes through quite explicitly in this report are that 1) compliance with environmental regulations will be costly in financial terms, and 2) compliance is likely to require fairly dramatic changes to established farming systems.
- Implicit in this second point is the fact that there are likely to be associated costs in terms of enterprise risk and social well-being that are likely to be significant. Consequently, the results in the report should be viewed within a wider social context.
- The results are also essentially static in nature, which is understandable given the timeline for the report. Many of the systems changes that have been identified as necessary for compliance, however, may not 'aggregate up' particularly well. It should not, therefore, be

assumed that the aggregate impact of any policy changes is equal to the sum of the farm-level effects that have been identified.

- I also noticed that the post-policy change return on assets for five out of six of the modelled farms indicate a lack of economic sustainability. This implies that further adjustments to industry structure and/or farming systems will be necessary in the longer term.

In summary, I believe that the report used methodology that was highly appropriate for developing a solid understanding of the impact of regulatory compliance at the farm-level. The results highlight the significant costs and systems adjustments that are likely to be required from farmers to meet the tighter environmental constraints. The results also indicate that the impacts will extend beyond the level of each individual farm, as producers experiment with different levels of both inputs and outputs that will enable them to hit quantitative targets within specified timelines.

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Brief Bio: Kathryn Bicknell

Kathryn has a PhD in Agricultural Economics from the University of California, Davis. She is a Senior Lecturer in Economics at Lincoln University, where she teaches applied economics and statistics. Katie's research is primarily focused on microeconomic theory as it applies to such topics as farm animal health and welfare, consumer demand, environmental management, sustainability, and regional impact analysis.