

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

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

**REBUTTAL EVIDENCE OF ALASTAIR CHARLES MACCORMICK
ON BEHALF OF THE BAY OF PLENTY REGIONAL COUNCIL**

**Evidence topic: OVERSEER[®] and Proposed Plan Change 10; the Use of Reference
Files.**

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Qualifications and Experience

1. My full name is **Alastair Charles MacCormick**. I am employed by Bay of Plenty Regional Council as a Senior Lakes Technical Officer, a position I have held at various levels for 10 years.
2. My background, experience and qualifications are set out in the full version of my evidence in chief, which I confirm but do not repeat in this summary. Likewise I confirm my compliance with the Expert Witness code of conduct as set out in full there.

Scope of Rebuttal Evidence

3. I respond to the evidence of Mr Christopher Hansen on behalf of Ravensdown Ltd regarding the use of old versions of OVERSEER and specifically paragraph 50 which I understand to describe Mr Hansen's key concern.

Use of OVERSEER 5.4 to determine the reduction percentages

4. In paragraph 50 Mr Hansen states:

"I do not consider it appropriate to have the fundamental building block of the approach in PPC10, the Integrated Framework, being based on OVERSEER® 5.4 which is now redundant."

He further explains that:

"If the proportional reduction percentage values that came about from the Version 5.4 prove inaccurate, then some sectors of the farming community may be contributing much more to addressing nutrient management issues within the area than others, and this raises equity issues."

5. I have spoken to Dr Alister Metherall to clarify the meaning behind the comments and understand his concern to be that changes in OVERSEER® versions may result in differences in the relative loss rate between sectors. These changes may therefore result in the fixed proportional reductions no longer reflecting the original intent.
6. If the average discharge of the dairy and the drystock sectors are compared from ROTAN 2011 (derived from table LR2), the PC10 6.2.0 allocation (derived from table LR 3) and the 6.2.3 revised allocation it can be seen that the dairy average discharge is generally about three times the drystock discharge (Table 1).

Table 1. Average sector losses and the ratio of dairy to drystock under different versions.

	ROTAN 2011 (OVERSEER® 5.4)	OVERSEER® 6.2.0	OVERSEER® 6.2.3
Average Dairy loss (kgN/ha/yr)	54.1	100	95.9
Average Drystock loss (kgN/ha/yr)	15.7	31	34.7
Ratio (Dairy/Drystock)	3.4	3.2	2.8

7. However, whilst the ratio of dairy to drystock discharges is relevant, the main intent of the difference in these reduction percentages was to reflect the difference in opportunity that each sector has to reduce their N discharges while still meeting the catchment reduction target. Generally speaking, because of the higher N inputs, transfers and outputs in a dairy system during 2001-2004, there is greater opportunity to make efficiency gains.
8. In my opinion the fixed proportional reductions from the sectors (35.3% and 17.2%) remain consistent with the original intent. In the future if the ratio of dairy to drystock discharges were to change considerably this would result in either over or underachieving the catchment targets (as demonstrated in my EIC para 66) and the effect of this would need to be assessed under method LRM2.

Name: Alastair Charles MacCormick
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