

Summary statement of Stuart Ford for Waimakariri Irrigation Limited

1. I am a Director of the AgriBusiness Group and work as an agricultural and resource economist. I provided a written brief of evidence for Waimakariri Irrigation Limited (*WIL*) dated 17 July 2020 and rebuttal evidence dated 18 September 2020. My qualifications and experience are provided in my evidence in chief.
2. My evidence has been prepared in the context of the requirements of section 5(2) of the Resource Management Act 1991 (*RMA*) that refers to enabling “people and communities to provide for their social, economic and cultural well-being” and section 7(b) that requires all persons in achieving the purpose of the Act “shall have particular regard to ... the efficient use and development of natural and physical resources” - which includes the concept of economic efficiency. In effect, it is economic efficiency that is the main focus of my evidence.

Achieving the reductions specified in Table 8-9.

3. As well as analysing the aggregated reduction requirements across all land uses, my evidence assesses the relative impact of proposed plan change 7 to the Canterbury Land and Water Regional Plan (*PC7*) between the different types of land uses within the *WIL* Scheme. This is important, as the *PC7* reduction requirements are greater for dairy land uses. In addition, it is more difficult for dry stock land uses to mitigate nitrogen loss, as they have limited use of inputs in their production systems (fertiliser and imported supplements), and their stocking rates are generally within the carrying capacity of the land.
4. All three dry stock land uses have been modelled as experiencing a significant reduction in nitrogen losses to meet the ‘GMP Loss Rate’ by 1 September 2020. Sheep and Beef have the largest reduction at 36%, Dairy Support has been required to reduce by 32% and Arable has been required to reduce by 15%. This is significant, as these reductions are required to be met now (and I understand that the Scheme is currently at or very close to GMP). The further reductions required by 2030, 2040 and 2050 are proportionately smaller, given the 5% reduction required at each stage.
5. The impact of the further reductions in *PC7* would, however, still be very significant as these land uses have already had to make substantial reductions in their N leaching rates in order to meet the GMP 2020 requirement and the only mitigation tools currently available are reductions in intensity of operations, which induce lower output and hence diminished income.
6. On average, the Farm Portal ‘GMP Baseline Loss Rate’ has been modelled as being 22% higher than the actual nitrogen losses from dairy farms. However, *PC7* proposes large reductions in nitrogen loss from dairy land uses. The *PC7* reduction targets therefore have the largest relative impact on dairy land use.

Farm Financial Impacts

7. It is necessary to recognise that the farm systems presented here are for the average farm system, so we can assume that half the farms will have a superior financial result and half of them will experience an inferior financial result.
8. It is therefore my opinion that the first 15% of N leaching reductions is manageable for the average dairy farm but then the second 15% (2040) would put the majority of dairy farms in a difficult financial position, which could only be effectively resolved by selling the farm (with the loss of considerable equity to another farmer, who could manage the farm at a much lower output status and debt, hence the loss of equity to the previous owner).
9. For the non-dairy farms the reductions required to meet GMP have effectively used up their limited range of mitigation options.
10. For the higher leaching farm systems of Arable and Dairy Support, this has been modelled as resulting in a negative financial result by 2040. This would mean that there would be quite considerable activity of farm sales occurring from the adoption of PC7 as proposed.
11. PC7 has therefore been modelled as having a significant negative impact on both the individual farm and the Schemes' economic performance.

Economic efficiency of the WIL solutions package.

12. PC7 is expected to have a significant negative impact on both the individual farm and the Schemes' economic performance by 2040. If it were adequately proven that the proposed reduction requirements to this point are necessary to achieve the desired state in the water ways, this level of economic damage might be able to be justified. However in the case of PC7, the evidence of **Mr Jeremy Sanson, Ms Laura Drummond** and **Mr Neil Thomas** indicates that existing water quality is, with some exceptions, relatively good, and there is a high level of uncertainty around the extent to which on-farm reductions will lead to a proportionate improvement in water quality.
13. It is my view that PC7 as notified cannot be judged as being the most efficient approach because it will:
 - have a significant negative economic impact to the community (and other impacts such as social disruption, which are not considered in my evidence);
 - not necessarily lead to material improvements in water quality (as set out in the evidence of **Mr Jeremy Sanson**, the proposed changes to leaching rates on farm may or may not lead to material improvements in water quality); and
 - WIL's proposed solutions package directly addresses known issues and monitors the water quality across the region in order to diagnose and respond to any potential issues at a far lower cost to the individual farmers and the wider community than PC7.
14. Accordingly, it is my opinion that WIL's proposal is more effective and appropriate because it directly addresses any potential areas of elevated

nitrogen in the waterways through direct action, utilising both MAR and TSA. It also provides for an enhanced level of water quality monitoring to support considered decisions on the likelihood of any of the waterways or groundwater exceeding the limits set in the plan, which in turn allows the appropriate farm reductions to be implemented that will directly mitigate any problem nitrate levels.