

IN THE MATTER OF

the Resource Management Act
1991

AND

IN THE MATTER OF

applications by Central Plains Water
Trust to:

Canterbury Regional Council for
resource consents to take and use
water from the Waimakariri and
Rakaia Rivers and for all associated
consents required for the
construction and operation of the
Central Plains Water Enhancement
Scheme

Selwyn District Council for resource
consents to construct and operate
the Central Plains Water
Enhancement Scheme

AND

IN THE MATTER OF

a notice of requirement by Central
Plains Water Limited to:

Selwyn District Council for the
designation of land for works
associated with the construction and
operation of the Central Plains
Water Enhancement Scheme

**RESPONSE OF ANDREW WEBSTER MACFARLANE TO S42A OFFICER'S
REPORT**

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Introduction

1. My full name is Andrew Webster Macfarlane. My qualifications and experience are set out in my evidence-in-chief.
2. This evidence is prepared in response to the reports by Mr W A N Brown and Mr G V Butcher, provided to the Commissioners under s42A. In responding to those reports I have continued to adhere to the Code of Conduct for expert witnesses which I referred to in paragraph 5 of my evidence-in-chief.
3. I have read the report by William Alan Nicolas Brown, and Geoffrey Vernon Butcher, and wish to respond as follows:
4. In paragraph 30, Mr Brown notes possible confusion relating to the estimated 10,250ha of non irrigated land the economic returns from which are expected to be enhanced by nearby irrigation.
5. I do not consider that there is any confusion. In my experience:
 - (a) A significant proportion of farms elect to partially irrigate.
 - (b) If those farms were (typically) 50% irrigated, then the non-irrigated section of the property would still benefit through being part of the same farming system. To accurately account for that impact, I complete “whole farm budgets” for dryland and partially irrigated land.
 - (c) Higher cost schemes, such as Central Plains Water, tend to encourage suppliers to partially irrigate (on non dairy properties) in order to spread capital cost.
 - (d) A further impact which I have not budgeted on, but which does occur, is that dryland surrounding farms as far as about 30km from the scheme boundary are exposed to more profitable land uses.
I consider that I have taken a conservative approach.
6. A typical example of this further impact (paragraph 4(d) above) is in the Windwhistle district, where greater areas of kale and barley are being grown to supply dairy farms in the nearby Te Pirita dairy area.
7. I elected not to quantify these figures in my on farm budgets as the impact is difficult to relate to a specific land area.
8. Nevertheless, such impacts lend weight to regional impact calculations as quantified by Mr Donnelly. The impact also underlines why retrospective analyses of irrigation schemes typically show the impact to be greater than projected at scheme instigation.

9. In paragraph 37, Mr Brown notes I do not differentiate between farms supplied with scheme water or newly developed groundwater. He is correct. The impact of the scheme cost for 60,000 ha can be spread over 75,000 ha as I have calculated.
10. While the farmers inside and outside the scheme have different decisions to make, my numbers assume 75,000 ha of land have elected to irrigate, whatever the reason.
11. In paragraph 34, Mr Brown notes that the BCA should be based on long term average prices expected to prevail over 35 years. I agree with this statement.
12. Any changes I have made to pricing reflects price changes as a result of structural changes in world markets.
13. The key drivers to my changes include:
 - (a) The biofuel impact on grain prices;
 - (b) The major impact on world protein consumption from increasing wealth in the countries such as Brazil, Russia, India, China, Bangladesh and Pakistan; and
 - (c) The global impact on food production from climate change and water shortages.
14. My core view is that we are beginning a long term bull market for agricultural commodities, as opposed to the 40 year bear market we have experienced. Within such trends, significant price variations can still occur. Impacts such as short term supply shortage from drought are excluded. Hence grain prices of over \$450/t, or dairy prices around \$7/kg are not budgeted.
15. Underpinning prices is the historically high exchange rate against the United States dollar which would not be sustainable for long if commodity prices dropped.
16. In relation to the timing of our price changes, I note that in April, some commodity price increases were evident, but markets were unclear whether they were a temporary spike or a structural lift. I erred on the conservative side given that entities like Fonterra were not predicting a major lift.
17. By July it became apparent structural changes in world markets were occurring. That view was underpinned by my attendance at the World Farm

Management Congress in Ireland, and visit to Russia in July 2007, where high quality information relating to such issues was presented.

18. Paragraph 39 of Mr Brown's report notes concern over conversion of existing underground take consents to scheme water.
19. While the final conversion rate will depend on economics (cost of interest versus running costs) and reliability, I note:
 - (a) Farmers have several years to finalise that decision before supply commences;
 - (b) I have budgeted on only 50% of released groundwater being re-allocated. Regardless of surrendered consents or not, that water stays in the aquifers if not pumped;
 - (c) Consents will not allow farmers to utilize both sources of water beyond their annual allocation;
 - (d) Potential transferability of consents will encourage speed of uptake of new water;
 - (e) The cost of electricity, pump repairs and maintenance, and pump depreciation is expected to rise in future. The emission trading scheme (ETS)¹ is alone expected to add 20% to the cost of electricity.

Such impacts will favour a gravity fed or pressurized surface water scheme in future.

20. Those same impacts will influence the decisions Mr Brown discusses in his paragraph 41. As discussed above, other factors such as pump costs (repair, depreciation and replacement) influence economics.
21. Farmers will also have to decide between a one-off depreciable cost, and an inflating set of running costs. If they elect to utilize scheme water, they, by definition, will have to relinquish most of their underground water.
22. The note in paragraph 43 of Mr Brown's report is not relevant. A subsequent vote within Barhill Chertsey Irrigation has resulted in a strong share uptake based on similar capital cost to Central Plains Water. A key driver to the vote, despite limited economic data on which to make a decision, was the cost of underground water and its unavailability.

¹ A scheme established by the Government to address carbon emissions through a market.

23. I am comfortable with my predicted change in average performance (paragraph 44 of Mr Brown's report). I do not assume the same farmers will create the increased performance.
24. My figure assumes an average performance increase across existing and new farms. History has shown that new farmers can utilize new technology faster. I do not expect all existing farmers to increase production.
25. Mr Brown discusses the issue of affordability in paragraph 54. I have always acknowledged that this scheme is high cost, and that a number of farmers will not choose to utilize the option to irrigate. Nevertheless, as a result of higher grain and milk prices, the economics of this scheme are significantly better today than they were two years ago.
26. I do not believe experts should get bogged down in the detail of affordability at the consenting stages of a scheme, as long as the economics appear reasonable. Farmers will ultimately decide, depending on their attitude to risk and return, but I am confident the trend is toward an improved return on capital.
27. One very obvious example of the downstream impact of water availability on community wealth through processing infrastructure is the new Synlait plant at Bankside.
28. We will also see similar investments in seed and vegetable processing plants if irrigated land availability increases.
29. Mr Donnelly has commented on issues relating to the rate of uptake. Given the lead time for this scheme, and the cost of shares, I believe the rate of uptake Mr Donnelly has assumed to be very realistic.
30. I anticipate significant land sales movement as those who elect to take up shares, but do not wish to develop, sell to those who do.
31. I wish to note that while capital cost issues are important, (paragraphs 89-91) return on capital is more sensitive to income levels, which are volatile in an upward direction at present. I reiterate that my dairy and arable projections are below current prices.
32. My belief is that 35 year red meat prices will also track well above budgeted figures. Given the issues in the sheep meat industry at present, I have not elected to budget on the higher prices I believe will occur.

33. Against that conservatism, there are also significant cost increases occurring which may partly offset higher income.

A W Macfarlane
Macfarlane Rural Business Ltd
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