

**BEFORE INDEPENDANT HEARING COMMISSIONERS
APPOINTED BY THE CANTERBURY REGIONAL COUNCIL**

UNDER: the Resource Management Act 1991

IN THE MATTER OF: Proposed Plan Change 7 to the Canterbury
Land and Water Regional Plan – Section 14:
Orari-Temuka-Opihi-Pareora

**STATEMENT OF EVIDENCE OF HAYDEN MACKENZIE ON BEHALF OF
THE TEMUKA CATCHMENT GROUP INCORPORATED**

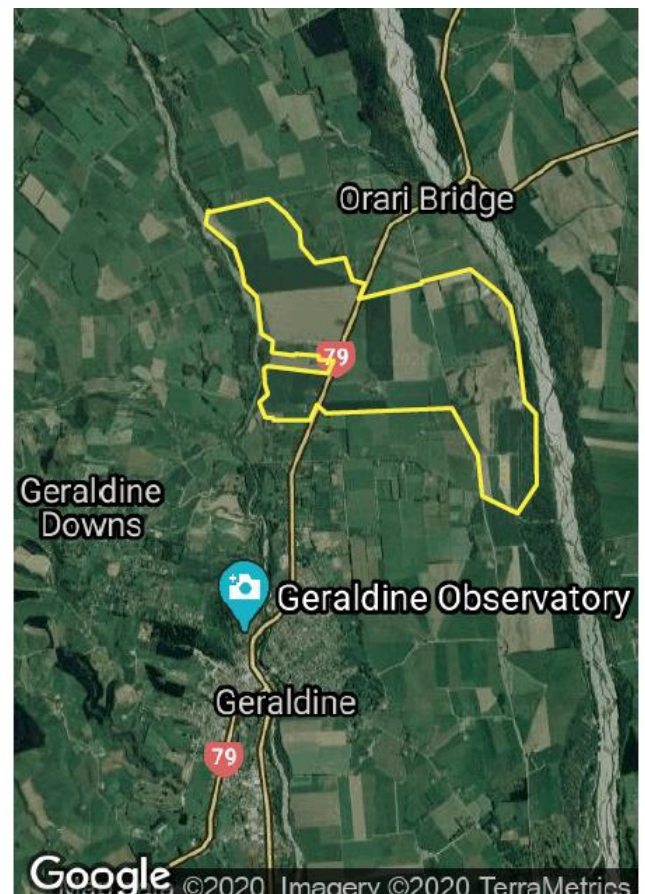
Dated: 17 July 2020

INTRODUCTION

1. The Mackenzie's have been farming the Stover property since 1891. Located on the north side of Geraldine, I am the 5th generation to farm the family farm. My wife and I have three children, Hunter (7), Angus (4), Pippa (almost 3).
2. I am involved in the Temuka Catchment Group (**TCG**) and also Geraldine Water Solutions (**GWS**).
3. Both our mixed cropping operations and our dairy farm (Orkney Farm) have irrigation wells in the Temuka catchment and their takes are affected by the minimum flow restrictions enforced by Environment Canterbury involving the Temuka river.
4. The location of our two farms Stover and Orkney are shown in the maps below.



Orkney Farm



Stover Farm

5. As long as I can remember all I have wanted to be was a farmer and farm our family property, Stover Farm. And further to this, improve on the years of physical, emotional & financial investment and expand the operation that generations did before me. I am very proud and privileged to have the opportunity to farm the family farm and take great enjoyment in the fact that all three of my children love to go with me on the farm to help out and to learn. This help does come at a small price as I have to help them with their toy farming operations, tractors and toy animals when back at home. Farming at home on the lounge floor or in the sandpit is very relaxing as there are no constraints to your farming operation!!

6. Upon completing a Bachelor of Commerce (Agriculture) at Lincoln University and working overseas, I returned home to the family farm in 2001. At the time the farm was run by my father and one other labour unit. It was dry land, 330 ha mixed crop and sheep. In 2001 I started an agricultural contracting business and helped my father run the farm. Since then we have expanded the farming business to over 500 ha mixed cropped, lamb fattening and winter grazing property. We also have a majority shareholding in Orkney Farming Ltd, a 150 ha 520 cow dairy unit. Together the farming operations employ 8 full time staff and my contracting and transport companies employ further 28 people peak season with 16 of those employed full time.

Stover Farm

7. A 500 ha mixed cropping operation based north of Geraldine and encompasses land between the Orari and Waihi rivers. We are very fortunate to be farming in an area that has an annual rainfall of 700+mm and is known to have very little wind. The farm grows Wheat, Malting barley, Maize, Grass Seed, specialist small seed crops for South Pacific Seed, Potatoes, and green feed crops such as Kale, Fodder beet and green feed oats. A normal rotation is 120 ha wheat, 120 ha barley, 10 ha seed oats, 10 ha specialist seeds, 50 ha grass seed, 60 ha maize, 20 ha potatoes, 15 ha fodder beet, 40 ha kale and the remaining in pasture. After cereal harvest, approximately 120 ha of green feed oats is planted for winter feed.

8. We full contract graze 120 dairy heifers from our dairy farm. Getting them as 100 kg calves and grazing them until they leave Stover to calve back at the dairy farm. So from December to mid July we have both R1 and R2 heifers. In addition:
 - a. My wife and children have 120 mixed aged ewes for breeding.
 - b. We run 80 beef cattle we purchase weaned from the dairy farm.
 - c. We buy in and fatten 1500 lambs over winter/spring.
 - d. We graze the Dairy Farm's 520 mixed aged cows as well as a further 1300 mixed aged cows
 - e. We graze 200 cull cows for 6 weeks
 - f. We winter graze 300 R1 heifers
 - g. Most cereal straw is baled and used for winter grazing together with the farm's grass and oat silage

Irrigation is critical to both farming operations

9. Stover has both pivots and gun irrigation systems. This means it is possible to irrigate 320 ha. Some of our pivots are fitted with VRI which is a brilliant system and results in very efficient water use.
10. Stover has 3 shallow wells (6m deep, which have a consent to take 69 litres per second) and 4 deep wells (44 meters, which are consented to take 45 litres per second). These wells are often under restrictions, but with the right rotation and timing of crop harvest dates we can make the water go a long way, further increases to the Temuka River minimum flow limits will be disastrous to our operation, running in the current rotation and production level.
11. At Stover the first irrigation well was put down in 1998 and we drilled the deeper wells in 2000, 2002 and 2008. We are very fortunate to have the privilege of irrigation water. The deeper wells when consented were not linked to the minimum flow of a river as

they were deemed to be in a different aquifer. But since the irrigation system has been set up these rules have been changed so these wells also come under restriction.

12. The later summer autumn drought of 2001 really cemented the need to ensure a secure irrigation water supply and to have the ability to apply the water efficiently to ensure an efficient sustainable farm. With the help of an environmental consultant we obtained some consents for up to 35 years from Environment Canterbury. With this consent we approached the Bank for funding to set up an irrigation system. This funding is extended to us on the basis of it being paid back and is secured with the increased land value due to irrigation and the crop reliability or less costly crop failures. Our consents are only active for the irrigation of mixed cropping ground and will cease to exist if the property is converted to dairy, a stipulation that I believe to be fair. Our system is based on the ability to water more area than is possible with the water we are permitted to take. This is achieved by us utilising crop varieties with different demands for water & a rotation to ensure we can use the water as the different crops ripen at different times. This method enables us to spread our water over a larger area, is very efficient and is a challenging, enjoyable and rewarding system to maintain.
13. The Dairy Farm, Orkney Farming has 3 shallow wells (8m deep which can take a total of 70 litres per second). Water is applied through 4 pivots and k line. This is adequate water in an above average rainfall year. But the farm does experience restriction as a result of the current minimum flows on the Temuka River. This farm is 100 percent linked to the Temuka river and as there are no Kakahu shares for sale there is no ability to offset any further irrigation restriction due to increased minimum flows. Therefore, increased minimum flow on the Temuka River will result in the loss of production and as such deem the farm unviable as a dairy farm.
14. On both our dairy and mixed cropping farms, input efficiency and environmental improvements come before profits. Getting the first two right in almost all cases results in better profit. To be an efficient and sustainable farmer you need to have the ability to maximise yield and reduce inputs. Some inputs such as fertiliser will increase as yield increases but most other such as cultivation, weed, pest and fungicide inputs remain the same for a poor yield or a high yielding crops. In today's technological world we can perfectly time and apply the precise amount of these expensive inputs to reduce cost, waste, and environmental impact.

15. However, the weather is one thing we cannot control. The ability to irrigate your crops at the right time is a massive advantage to utilise all the other inputs to their maximum capacity to produce a crop that fits market specifications and is environmentally sound. It is extremely disheartening and wasteful of expensive inputs to watch a crop practically fail before your eyes as it comes under water stress for a crucial period in its growth stage. In most cases this happens within a 7-day period.
16. To have an efficient irrigation system you need a reliable irrigation system. This is fundamental to our cropping operation. We don't need a great deal of water; we just need water at the right times. Hence reliable.
17. Although we feel very fortunate to have the privilege and ability to irrigate, it now comes with unpredictable costs and compliance that are detrimental to our business. These effects were not present nor expected when we were granted our water consents.

Impacts of Plan Change 7

18. I am disappointed and frustrated that we are issued a water consent based on a particular river flow, to then find the goal posts are shifted to a point that our irrigation system is unreliable and untenable. We have borrowed money from the Banks for the costly infrastructure only to find it is unreliable. We can't 'unborrow' the finance.
19. In simple terms, I see the situation like this. You obtain a consent from the council to build a high spec 5-bedroom house with all the amenities. You borrow the money to build the house and move in. All is good until one day you get a letter from the council saying your consent has changed and you can only use two bedrooms and the lounge on occasion. Your rates are to stay the same and your mortgage will remain. Not only are you lumbered with the debt and costs of a 5-bedroom home, you only have the ability to realise funds from the sale of a 2-bedroom home.
20. Our water consents come with strict conditions relating to a maximum extraction rate per second, a maximum volume per 24 hours, and a total cubic volume per year. Telemetric water meters assist with the recording and measurement of these parameters. These have been a really positive initiative although costly to fit. When updating the water meters on both our farms, \$50,000 was spent on the new system. I am led to believe this is a world class system and other countries, such as the United States, can only dream of having a real time irrigation water use management system.

The water meters are monitored by a company that we pay an annual fee to. This is where the positive initiative stops. One would think with the raft of data that these meters are producing on farms around Canterbury alone, Environment Canterbury could gain real time reports for the water demand and build a data base of water usage over the years. My understanding from my discussions with Environment Canterbury is that they don't have the ability to handle, read or interpret all the data being reported from these water meters.

21. Instead Environment Canterbury use a 150 day pumping model to determine if the catchment is over allocated and how much water is used. The 150 day pumping rule is based on every water consent holder turning their pumps on to the maximum water take and pumping for 150 days non-stop. This is completely mad and outright wrong. Environment Canterbury surely cannot be that impractical that they believe this to be true.
22. This 150 day pumping estimation is a major contributing factor to the reasons why the catchment believed is overallocated.
23. It seems Environment Canterbury are punishing farmers for the fact that the water take is over allocated in this catchment. Further to this they are expecting consent holders to fix the problem for them.
24. As consent holding farmers, the TCG put forward to the ZIPA, a package to help with the over allocation. This package was adopted to the ZIPA but PC7 did not fully implement all the ZIPA recommendations or potentially misinterpreted some of these recommendations. These are as follows:
 - a. TCG suggested a milder increase of the minimum flow of the Temuka River, with steps towards full implementation in 2040. This allowed for an alternative water source to be investigated and secured. PC7 brought dates forward by 5 years to 2035. In effect farmers are giving up water with no future water source. 'C' harvesting block - PC7 misinterpreted this proposition as a swap for existing ground/surface water rather than an additional alternative.
 - b. PC7 shut down the opportunity for farmers to investigate out of catchment water solutions.

- c. 'T' groundwater allocation block - PC7 incorrectly requires volume authorised by new permits granted from this block to be based on past use of existing surface water/shallow groundwater permit that would be surrendered. This block was recommended to the ZIPA as being based on reasonable practical water use.
 - d. PC7 has no flexibility for water permit transfers, including to enable global management of water. Which stops the ability to have mini irrigation schemes between a small number of farmers.
25. Foreseeing the future increase in the minimum flows on the Temuka River, our farm together with three neighbours were working on an expensive long-term solution of harvesting high flow water to a group storage pond, this was to be combined with the ability to combine our water consents to produce a mini-community scheme. High flow water storage together with ground water to storage, would make our farms extremely reliable and reduce the demand on ground water only. However, this is not a possible solution under the new PC7 rules.
26. Farmers at present are under a lot of pressure. Pressure from the Banks, increasing environmental constraints and various compliance issues. It appears that little consultation with the affected parties is being sought on the changes that are causing these pressures.
27. At a recent meeting with our Bank, our own dairy farm was devalued by \$10,000 per ha. This revaluation is a result of the threat of significantly reduced irrigation water and other environmental constraints being implemented on farming resulting in a loss of production. Interest rates as a result have been increased due to the risk.
28. If PC7 comes into effect as proposed, then we will be forced to downsize our businesses which will result in job losses. The prospect of this sickens me. As I am writing this my work colleagues are out on the farm doing a great job, and none the wiser that their job is at threat. They have families as well and they do not deserve to become unemployed as a result of flawed constraints. Some of them have been working with me for over 17 years. Farms generate a lot of income for the community. In our business and off our properties, over 75% of gross income is returned to the community, the remainder goes to the Bank.

29. We need to have a realistic look at these water challenges and fix real problems with real solutions. If we can utilise balanced science and the information provided by specialist consultants with practical solutions while respecting the knowledge and opinions of farmers, the guardians of the land, I believe a tenable, rational, and sustainable solution can be found and implemented.

Hayden Mackenzie

17 July 2020