

Before a Hearings Panel of the Canterbury Regional Council

Under Resource Management Act 1991

In the matter of applications for Regional Council Resource Consents to take and use water in the Upper Waitaki River Catchments

BRIEF OF EVIDENCE OF MARK ALEXANDER URQUHART

1. My full name is Mark Alexander Urquhart. My wife's name is Sherie and we have three children, Georgia, William and Jock. We farm at Grays Hills, a 21700 hectare property (½ Pastoral Lease and half freehold), on the eastern side of the Mackenzie Basin 31 km up the Haldon Road, 64 km from our service town of Fairlie and 120 km from Timaru. This is considered an isolated area our two younger children do correspondence schooling, with our eldest child travelling to Fairlie School each day, a round trip of 128 km for her.
2. This application for irrigation will actually go some way to reducing the feel of isolation for us and others.
3. At Grays Hills we currently run 15000 sheep (12000 su) and 400 cattle (1800 su). It is mainly flat barren land with light soils and low rainfall. The climate is extreme with hot summers and long cold winters making it prone to drought and highly erodable. It is a hard yet beautiful place to live. I am a third generation farmer and although my passion is for the land and the animals on it, my heart is with my family and its continued wellbeing. One of my key farming drivers is to be able to give my children the opportunity to farm this land in a better state in the future than it was in the past. To achieve this and long term viability we must lessen the threats and risks to our business as with most farms our lifestyle and job are all rolled in together. The main threat that we have is low rainfall at 425 mm average per year, and main risk being inconsistent product to market. All evidence points to strategic irrigation as the most effective farming policy for the future, not necessarily an irrigated farm, but using irrigation to advance farming systems to optimise production, opportunity and optimism.

Production

4. Our current wool production is on average 4.75kg per stock unit (70,000 kg) of 19 micron merino wool which is ideally suited to the leisure market, e.g. Icebreaker, a company whose growth is demanding more wool each year.
5. We currently have over half our wool contracted. This provides us with some financial security, yet due to our climate uncertainty we are always concerned about meeting this contract. This irrigation proposal will go a long way to not only stabilising our wool supply, but increasing it in volume and quality. We produce 7200 lambs from 6300 ewes @ 115% of which we sell 2000 as stores and 1200 as prime. The remaining 4000 are wintered and kept as replacements

or killed in the spring on a premium schedule. This is a high cost on our system if feed is short, however, if adequate feed is available, both premiums of stock selection and spring markets can be made.

6. It is a major goal of this application to improve our lamb growth rates, culling rate and market options, by being able to take our store sales through the winter if we choose to. Thus we will have both more lambs and better weights.
7. Our beef system is simple yet vital for our stock management, as we have a potential high pasture growth in spring and need to control this flush of growth for pasture quality. By running cows our cattle numbers double at calving in the spring and reduce in the autumn. We run 300 angus beef cows and sell 220 – 250 calves annually, this fits our feed supply most years.
8. This irrigation will enable us to maximise our utilisation of these calves and give options of taking them through to prime weights. It is still envisaged that some calves will be sold in autumn.
9. Historically, our income has been heavily dependent on wool (80%). Through development and changes to our stock management we have increased our meat (mutton and beef) component to 60% and wool 40%. It is intended to lift both wool and meat in the same way by stabilising our system and gaining regular markets.
10. Currently we rely on ryecorn, oats and lucerne to provide us with vital winter feed. This is a costly system which can fail in dry events. Irrigation will not totally solve this climatic problem but it will enable us to more accurately gauge our feeding. The irrigation will enable grazing longer into the winter and quicker out of it.
11. This early spring feed reduces the need for extra winter stored feed and improves our ability to react to seasonal changes.
12. I cannot stress enough the importance of having the economic, cultural, and social welfare issues of not only individuals but the region as a whole at the forefront of our thinking because no-one else does. We all realise the importance of the Waitaki River and its hydro energy supply to our nation but we must also complement that with future welfare issues of the people living here.

Currently there is a poor balance between national electricity generation, national environmental protection and our local community future. I have confidence that a balance can be achieved between national good and local growth, be it tourism, farming, or town growth.

13. The fundamental benefits of irrigation on our fragile soils is high as production can soar from less than one stock unit per hectare to up to 15 stock units per hectare, the irrigation done on Grays Hills will increase our stock from 13500 stock units to 17500 stock units not only helping sustain our farming systems with improved production and reliability but it will have several flow-on effects for the local community with an increased need for services including schooling and medical, more demand for contractor labour meaning more jobs and more people. All this helps to strengthen our community and reduce the feeling of isolation without taking away the wonder of the mountain backdrop.

Area Irrigated

14. Currently we are on a trend of reducing stock numbers despite some development, and we see irrigation providing the stabilisation our system needs.
15. Not only will it increase our stock numbers but it will improve our ability to meet contracted markets for premium market prices.
16. We intend to irrigate an area which has a dry land stocking rate less than 1 su per hectare and transform it into producing 12 su/ha.
17. The degree of irrigation applied for is carefully calculated to give the scale of development needed to strengthen and grow our current system without transforming it into a totally new farming system full of unknowns.
18. I stress the point that this application is designed to stabilise and strengthen our current system, not to develop a new one, a key to its success is having a reliable feed source which depends on a reliable water supply and manageable consent conditions.
19. We intend to have 2/3rds of this area in a summer lucerne based pasture and 1/3rd in an early spring/autumn ryecorn, oats crop. Ryecorn provides good early spring growth. Lucerne has good summer heat tolerance and suits possible

drought or low flow limitations. Being winter dormant also suits as the majority of the animals will be on our home block during winter. Lucerne gives the added advantage of grazing, baling or harvesting options, with very high quality feed values.

20. Currently, dry land lucerne production is dependent on the climate, but irrigation will enable us to budget on average 3 times the dry growth. Lucerne also has a low requirement for Nitrogen so N fertiliser applications will be low.
21. In my short farming career my costs of production have increased three times, yet despite development and stock improvements my income has only just doubled, thus repairs, fertiliser applications and pest control are all less than ideal to maintain the essentials of daily farming. It is essential for us to strengthen our core business to avoid slipping too far behind. Development and diversification are the key drivers to get long term viability.

Personal goals achieved in past 12 months

22. Top calf sale – Temuka
23. Top ewe sale – Tekapo
24. 1st Golden Fleece – fine section
25. 1st Merino Ram at Christchurch Show (including champion exhibit)
26. 1st in ram, ewe and wool sections at local show
27. We have a passion and pride in the property and the stock and produce which we produce. The accolades we have had from our farming peers give us satisfaction but ultimately the biggest pride is gained from the health of the property as a whole.

Tekapo River

28. Our boundary is the eastern side of the Tekapo River for the majority of its length. It is a large braided river which has had its average flow of 75 - 90 cumecs dammed for hydro. Currently its flow of 7.5 cumecs is made up as a result of

small streams flowing into it, yet this highly modified River left for dead by the nation for electricity, is now well known as a good trout fishery, albeit an introduced species.

29. The Tekapo River is a release system for the Upper Tekapo catchment which has potential for high flows in the event of a high snow melt or rainfall. Being a braided shingle waterway it is ideal in flood events as the River has a large channel in which to move.
30. The River relies on flood events to not only flush the water eco system but also to clear and renew the water channel.
31. The Tekapo River has now all but lost its ability to function and support an eco system as not only are its spring flushing flows diverted but its regular average flows are also cut off leaving just residual streams (Grays, Maryburn, Faulkes and Irishman which goes underground).
32. An associated effect of this has been the normal flows in Grays Creek have been halved due to the lack of ground water being able to reach the Grays system from the Tekapo via the shingle. A large flow in the Tekapo River pushes water sideways through the shingle which acts to raise the ground water levels throughout the eastern side of the basin including the Grays Creek as the Tekapo River is higher (perched) than the Grays.

Stream fencing

33. We wish for our take to be released from Lake George Scott to at least help enhance the Upper Tekapo. This in time, and with adequate funds may be transferred to the Upper Grays, thus achieving a replacement for our take in the mid-reaches and gaining benefit for the upper spawning grounds.
34. We propose to abstract from the ground water near Grays Creek, which is a spring-fed stream flowing through our property. The stream has been well looked after and is in a largely unmodified state with a solid eco system, yet its flow is somewhat half of its original size as a result of the Tekapo River water being cut off.

35. Protecting the instream values of Grays creek is very important to us and can be enhanced if our viability is also enhanced thus leading to improved land stewardship. We have been mindful of the influences of our take at many levels. The area has been selected after carefully balancing out the effects versus benefits. We have been mindful of the possibility of upsetting our creek and have, in our opinion, chosen a size of development which we can manage. The development will all be done at least 500 metres from the road and at least 50 metres from Grays Creek, avoiding viewing issues and stream contamination problems as much as possible. We have undertaken to fence out 75 ha of our best swamp eco-system, and some smaller areas of stream banks but general fencing of streams would be a huge task and one which would have huge stock management issues, as well as being at constant flood risk.
36. I believe that soil loss in the Basin is the greatest issue we have to deal with. Soil is part of our heritage yet soil loss occurs naturally in nature despite all our best efforts. Our soils are fragile and with low rainfall plus hard winter frosts which heave and lift they are constantly open to the environment for erosion and often blow away out to sea.

Soils

37. Our irrigation system will not only conserve soil but grow soil. This is possible because our plant population will be actively growing throughout the year creating valuable organic matter and soil cover in a more stable growing environment.
38. When the winds blow exposed areas soil is quickly shifted but when plant cover is adequate the soil is held in place.
39. The frost heave is also reduced as vigorous plant roots and organic matter hold soil and plants together reducing the exposure.
40. We intend to use minimum cultivation so the soils are less at risk from the climate, we also intend to establish shelter on the outside of the irrigated areas to further reduce this risk.

41. Trials have indicated that 2.2 tonnes of soil per hectare is lost off the Mackenzie Basin per year, which amounts to 4000 truck loads of soil off Grays Hills per year. That is on average over 10 truck loads every day just on our place.
42. This cannot continue without devastating environmental effects. Stock cannot take the sole blame for this and it is clear the rabbit population has proved by far to be the best soil mover. Irrigation not only grows soil directly under its system but also has a compensatory benefit on surrounding soils as well as enabling farm management to help minimise impacts on the greater areas.
43. The utilisation of our water resources will not solve all the soil losses but will greatly improve the areas where it is possible. With added shelter, reduced stock pressure and improved pest control many thousands of tonnes of soil will remain in the Basin.
44. Doing nothing and making no changes is not an option either we or the nation can afford.