

BEFORE THE FRESHWATER COMMISSION

UNDER	the Resource Management Act 1991 (the Act or RMA)
IN THE MATTER	of an original submission on the Proposed Regional Policy Statement for Otago 2021 (PRPS)
BETWEEN	OTAGO WATER RESOURCE USER GROUP Submitter FPI043 FEDERATED FARMERS NZ INC Submitter FPI026 and FSFPI026 DAIRY NZ Submitter FPI024 and FSFPI024
AND	OTAGO REGIONAL COUNCIL Local Authority

**EVIDENCE IN CHIEF OF RICHARD ALLAN PLUNKET:
ADDITIONAL EVIDENCE FOR FRESHWATER PARTS**



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1. This brief of evidence is the same as the brief filed in relation to the Otago Regional Policy Statement 2021 - non freshwater parts. New evidence not previously provided to the non-freshwater panel is added in text that is shaded grey for ease of identification.

Introduction

2. My full name is Richard Allan Plunket. I am a shareholder and director of Banarach Farm Limited. We own and operate 2 properties, 1 being a 132 ha dairy farm at 827 Pukeuri-Hilderthorpe Road on the Lower Waitaki Plains and a 440 ha sheep, beef and dairy support block at Boundary Creek, 2 km north of Oamaru.
3. We have 303ha of irrigation across the two blocks, 123ha on the dairy farm and 180ha on the Boundary Creek farm. In both cases water is supplied by the Lower Waitaki Irrigation Company (LWIC). I was a Director of LWIC (until October 2022) and have previously held the role of Chairperson.
4. The purpose of this evidence is to assist in understanding the practical realities of implementing the changes required by regulation and the various dynamics that need to be considered in doing do.
5. Based on my personal experience implementing change at farm and irrigation scheme level is complex and influenced by many factors, some of which are entirely outside the control of you as the farm owner or as the operator of a scheme.

The Lower Waitaki Irrigation Scheme

6. Construction of the Lower Waitaki Irrigation Scheme commenced in 1970 and first began supplying water in 1974. Construction was finally completed in 1982. The Lower Waitaki Irrigation Company was

formed to take over the previously Government owned scheme in 1989. The scheme map can be found on our website.¹

7. The LWIC scheme delivers water to over 200 shareholders covering 20,000ha and also providing supply to commercial, industrial business (such as Alliance and Road Metals) and domestic supply for the Oamaru Township.
8. The water for the scheme is sourced from the Waitaki River at Black Point. The intake is shared with the North Otago Irrigation Scheme, another large irrigation scheme in the area. The allocation of water for the takes from the Waitaki River regulated by Environment Canterbury. So, LWIC has to work with two regional councils – ECan for the allocation of water, Otago Regional Council for the nutrient management/land use controls etc.
9. At peak operation the LWIC distributes 1.4 million m³ per day. As of August 2021, there are approximately 5500ha of border dyke and 14,500ha of spray irrigation. The water is delivered to farm offtakes via a gravity network comprising 200km of open canals and 12.5 kilometres of siphons and pipework.
10. We are making progressive improvements to the scheme including upgrading to automated gate control systems, installing telemetered canal flow monitoring and reducing race losses. Over the last 9 years we have completed construction of 4 scheme balancing ponds. These works were part of our long-term strategic plan to improve scheme efficiency and respond to the changing irrigation types within the scheme.
11. These changes are driven by the increasing focus on water use efficiency and conversion of border dyke irrigation to spray which creates a different demand profile for water within the scheme. Broadly, higher proportions of pivot irrigation require more consistent delivery of water to each water user. This is because pivot irrigation

¹ <https://www.lowerwaitakiirrigation.co.nz/map>

requires 'a little and often'. The buffer ponds provide water storage at strategic points of the scheme when water delivery via the races will not be sufficient to keep up with demand from water users who may all require water to be delivered at the same time. The buffer ponds are also used to capture bywash water and avoid it being lost.

12. This is contrasted with a predominantly border dyke scheme which would typically operate on a roster system where different users get access to water at different times. For the remaining border dyke irrigators LWIC operate on a 16 day roster, where users have access to water for 2 days of every 16.
13. Within the scheme land use is heavily weighted to Dairy and Dairy Support, with 81% of the current land use being for these purposes. The balance comprises 9% sheep and beef and 10% cropping and horticulture.

Need for change within the scheme

14. In recent years the Regional Council has completed more detailed monitoring of water quality within the Lower Plains Aquifer, over which most of the LWIC scheme is located.
15. From the early 2000's there was a declining trend in water quality within the aquifer, which was obviously of concern to everybody. There have also been occasional spikes in E-coli levels which have consequences for those who rely on groundwater bores for their drinking water supply.
16. The groundwater flows and interactions with surface water and the scheme itself are reasonably complicated. Changes to the irrigation methods (particularly the conversion from border dyke to spray) appear to have contributed to the changing water quality trends. It is likely this is a combination of increased land use intensity and reduced groundwater flows as a result of increased water use efficiency. In essence widespread border dyke use (and leakage from the race network) was driving groundwater flows and helping dilute nutrient losses within the groundwater.

17. Most recently we have seen the National Environmental Standards for Freshwater come into effect which has placed controls on use of nitrogen fertiliser and required consents for winter grazing, farm effluent ponds etc.
18. LWIC knows that when the Waitaki Water Allocation Plan is reviewed by ECan in approximately 2025 that water use efficiency will be a significant driver. We expect that it will almost inevitably compel conversion of any remaining border dyke irrigation to spray because we simply will not be allocated enough water to maintain border irrigation methods within the scheme.
19. We also know that spray irrigation is considered the gold standard for nutrient management. So future changes to the Otago Regional planning framework are also likely to require that.
20. In light of this the LWIC board sent very clear messages to shareholders about the need to begin the transition. We also began investigating the types of changes that would be required from the scheme point of view to ensure water delivery could be maintained as the transition occurred.
21. The main changes that would be required of the scheme are as follows:
 - (a) Piping to shareholders that don't have access to a race on their property.
 - (b) Potential piping of Pukeuri / Oamaru race which currently supplies our commercial/industrial and Community water supplies. This would be a multimillion dollar project and costs are likely to be unpalatable to the end water users.
 - (c) Lining of porous sections of race network to reduce race losses.
 - (d) Fish screen at Bortons Pond – being the intake from the Waitaki River. This will also be a multimillion dollar project and one that

has to be done in conjunction with the North Otago Irrigation Scheme.

22. These changes (including the establishment of pumps and pivots on farm) also require a significant amount of electricity supply. Therefore, we consulted with Network Waitaki, our local electricity distribution network company to understand how we needed to work with them to ensure the electricity distribution network would be available to support the changes we needed to make.
23. Their message was a significant reality check for us. Effectively we were advised that the scale of network upgrade and extension work that would be required would take between 10-15 years to complete.
24. This has significant implications for the way we can roll out the changes to the scheme, and the way that our shareholders can implement their own on-farm changes. There is little point them investing in spray irrigation infrastructure if we cannot supply the water to them. Equally, neither they nor the company can complete some of its work until there is the necessary electricity supply available. It makes for a very complicated puzzle.
25. Obviously as the scheme owner there is only so many pieces of the puzzle that we get to control. To assist our shareholders we have identified those on the parts of the scheme that will be affected by electricity constraints. For those landowners there is a difficult balance to be struck as costs for installing infrastructure continue to rise significantly. Their options are:
 - (a) to make the decision to commit to buying the infrastructure, put it into storage and bear the cost of servicing the debt without being guaranteed when they will actually be able to install and use the infrastructure; or
 - (b) sit and wait and contend with the uncertainty of the future costs, and the risks that they will not be able to continue to operate their farm system in the face of new regulation (for example,

nutrient limits are set that cannot be complied with when using border irrigation or reduced water volumes).

26. Whichever way you cut it, some of our shareholders are forced into an unenviable position.

Making the change manageable

27. The farming sector is facing an avalanche of change. Some of it is overdue, but even in those circumstances the practical realities of actually making the changes on the ground need to be acknowledged.
28. For a number within the LWIC scheme the need for irrigation upgrades is going to coincide with the need for effluent infrastructure upgrades necessitated by Otago Regional Plan Changes 1 and 8. Both of these pieces of work are significant from both a cost and time perspective. For some, they will not be able to access the funding to do both at the same time.
29. We also know that the construction and contracting sector is under significant pressure. So even those who have the money may not be able to access the specialist skills and resources required immediately.
30. As an example, I have recently commenced an upgrade of the fixed grid infrastructure on my property. We obtained initial quotes for the work in 2020 to allow us to decide how to proceed, how much funding we needed to access and get those ducks lined up. We also needed to get the project locked in with the contractors. In the 11 months between the quote, and being ready to commit to the project the cost of each individual sprinkler increased from \$976 to \$1236 – we needed 240 sprinklers. We also had to commit to the purchase of PVC pipe in August 2021, roughly 12 months prior to the project starting as we were advised of a 10% cost increase pending. Since we purchased it there have been at least three further cost increases for that product. The valves and radios for the system were ordered at the end of 2021 and did not arrive until July 2022. Effectively there

was a \$50,000 cost increase between first obtaining the quote and committing to the project less than 12 months later.

31. We will obviously also be facing the increased costs associated with climate change response, Freshwater Water Farm Plans, requirements to upgrade or consent effluent systems, obtain consents for intensive winter grazing and the like. These place extra demands on our capacity - both financial and human.

Conclusion

32. The farming sector is under a lot of pressure. For the most part we understand and agree with the need for improvement and change. What we are asking for is some acknowledgment of the contribution we make to our communities and recognition that implementing change can require a fair few stars to be lined up. It is not just about what we can control on our own individual properties.
33. As a farmer, I would like to think I am still relatively young. We have change and unexpected difficulties coming at us from all directions including:
 - (a) Environmental;
 - (b) Production costs;
 - (c) Health and Safety;
 - (d) Animal Welfare changes;and
 - (e) Employee shortages.
34. We don't get to simply ignore some of it. It is stressful and at times very frustrating.
35. Farming is all I ever wanted to do, so you could say I'm living my dream. But I don't know if I want my 2 boys to follow in my footsteps. The stress and pressure that I am dealing with is not sustainable. I am not necessarily proud to tell people what I do anymore because of

the perception of farming within the community at large. This is despite me feeling very proud of the quality of our operation.

36. I know there are laggards within the sector and I want them to pull their socks up as much as anyone. But, every sector has these issues. In other sectors, they don't seem to taint the wider group in the same way.
37. The reality that I see on the ground, and know from the changes that we have implemented throughout our own business is that the majority have made huge changes over the years to improve what we are doing. We genuinely consider ourselves caretakers of the little piece of dirt we have and aim to leave it in an improved state for the next caretaker. We are also up for the change and challenges that need to be addressed. What we need is certainty and an appropriate timeframe to complete the transition.
38. We are the only industry that pays full retail for every purchase we make but sell our product at wholesale, we can't pass our costs on!
39. What is important to me, is that the practicality of making change is recognised. I am not opposed to making improvements, I am just asking that the sector be given the time and space to do it, that reflects the complexity of the systems and different stakeholders that need to be involved.

28 June 2023

R Plunket

Banarach Farm

APPENDIX 2 – Images of scheme upgrades

LWIC has been undertaking a staged scheme upgrade programme. The images that follow are of the series of buffer ponds that have been constructed throughout the scheme over the last decade. The total cost of these works has come to \$2.8M so far.

Terrace Buffer Pond

Constructed in 2015 with a capacity of 8000m³. Designed to reduce bywash losses and ensure end users on the race are not affected by upstream pumps. The pond will service 230ha of irrigation area and reduce bywash loss to zero.



Hilderthorpe Pond

Hilderthorpe Pond was constructed in 2026 with a capacity of 13,000m³. It is a clay construction with PPE liner and will provide supply to 1600ha once full conversion to spray on farm is complete. Also picks up bywash from this part of the scheme reducing the levels significantly.





Seacliff Pond

Seacliff Pond was constructed in 2020 has a capacity of 21,000 m³. It has a clay construction and PPE liner. It will service 800ha once all border dyke has been converted to spray . Will reduce by-wash considerably from 2022 onwards and expect to get to zero losses to bywash.







Ferry Road Pond

Ferry Road Pond – Constructed in 2012 with capacity of 120,000m³. Installed to capture excess water (bywash) in the order of 50-70Mm³ per year. Also provides emergency supply for Oamaru and Pukeuri Freezing Works when the Waitaki is in flood and water is too sediment laden for the treatment plants. Construction also enabled main race to be shut down for maintenance for the first time in scheme history.



