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**Subject:** Plan Change 7: Opihi Flow and Allocation Working Party (PC7-382) - Evidence in Chief  
**Date:** Friday, 17 July 2020 5:50:39 pm  
**Attachments:** [Evidence of Mark Webb 17.7.20.pdf](#)  
[Evidence of Gregory Anderson 17.7.20.pdf](#)  
[Evidence of Mark Hawkins 17.7.20.pdf](#)  
[Evidence of Grant Porter 17.7.20.pdf](#)  
[Evidence of Caroline Saunders 17.7.20.pdf](#)  
[Evidence of Murray Bell 17.7.20.pdf](#)  
[Evidence of Dan Davies 17.7.20.pdf](#)  
[Evidence of Keri Johnston 17.7.20.pdf](#)  
[Evidence of Dr Gregory Ryder 17.7.20.pdf](#)  
[Evidence of Gregory McAlister 17.7.20.pdf](#)  
[Evidence of Timothy Ensor 17.7.20.pdf](#)  
[Evidence of Jonathan Sutherland 17.7.20..pdf](#)

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Dear Tavisha

We act for the Opihi Flow and Allocation Working Party (**OFAWP**), submitter no. PC7-382.

We **attach** for filing, in relation to the above matter, statements of evidence in chief of the following witnesses on behalf of the OFAWP:

1. Mark Webb (OFAWP representative – Fish & Game);
2. Gregory Anderson (OFAWP representative – North Opuha);
3. Murray Bell (OFAWP representative – Upper Opihi);
4. Deiniol Davies (OFAWP representative – South Opuha);
5. Mark Hawkins (OFAWP representative – Te Ana Wai);
6. Keri Johnston (hydrology);
7. Dr Gregory Ryder (ecology/freshwater quality);
8. Grant Porter (economics);
9. Dr Caroline Saunders (economics);
10. Tim Ensor (planning);
11. Gregory McAlister (drone footage);
12. Johnathan Sutherland (drone footage).

Kind regards,

Georgina Hamilton  
Partner



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**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

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**STATEMENT OF EVIDENCE IN CHIEF OF MURRAY CHARLES BELL ON  
BEHALF OF THE OPIHI FLOW AND ALLOCATION WORKING PARTY  
(SUBMITTER NO. PC7-382)**

Dated: 17 July 2020

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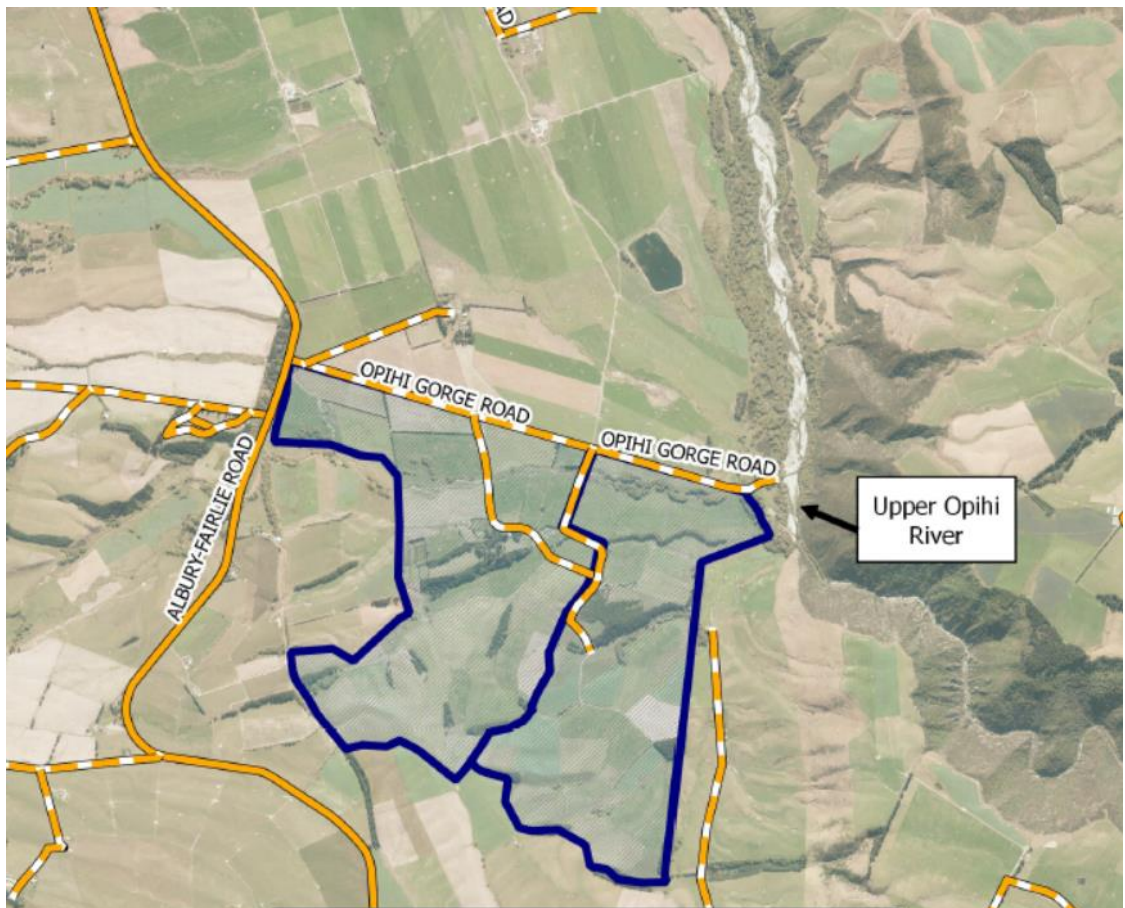
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## 1. INTRODUCTION

1.1 My full name is Murray Charles Bell.

1.2 I own a 360ha property at Opihi Gorge Rd immediately above the Opihi Gorge with my wife Bev. I am a second-generation farmer; my family has lived and farmed the since 1954. For the last 40 of those years, I have either managed or owned the property. During the last 18 months, much of the property has been leased to a third party.



1.3 Our farm is a sheep and beef farm that has traditionally run 2500 - 3000 breeding ewes, with an average lambing percentage of 150%, as well as running between 200 – 300 cattle. We would be considered a summer dry area and without irrigation on 80 ha, we would be considered a store property, or have to reduce stock numbers.

1.4 I was the leader of a group of irrigators on the west side of the Opihi River that were granted resource consents to take water for irrigation in 1999. Our consents (CRC992334.1 and CRC992335.3) allows us to take water from a gallery 1 km west of the Opihi Gorge, adjacent to Coal Stream nominally for the

irrigation of 80ha of our property. In the shoulders of the irrigation season we spread this water over up to 180 ha, starting on the north facing slopes that dry out first, to the heavier flats later. This has enabled us to maximise the use of our consented rate of 33 litres per second for optimal growing of pasture.

1.5 Our consents are “BA” consents as we have held shares in Opuha Water Limited (**OWL**) (or its predecessor, the Opuha Dam Company) and have paid water charges since 1999.

1.1 I am a member of the Opihi Flow and Allocation Working Group (**FAWP**) and am providing this evidence in that capacity. The FAWP made a submission on Part B of Plan Change 7 (**PC7**) (Submitter No. PC7-382). My evidence focuses on the aspects of the FAWP’s submission concerning the Upper Opihi River, which lies above the junction of the Opuha and Opihi Rivers at Raincliff.

## **2. SCOPE OF EVIDENCE**

2.1 In my evidence, I provide some background to the Upper Opihi River, including existing irrigation takes and the current minimum flow and restriction regime. I also provide some background to the FAWP’s submission concerning the Upper Opihi catchment, and address the impacts of PC7 and the changes recommended in the Section 42A Report.

2.2 My evidence is structured as follows:

- (a) The Upper Opihi River;
- (b) Water takes in the Upper Opihi and the current minimum flow regime;
- (c) The FAWP’s submission;
- (d) PC7, the FAWP’s submission on PC7 and Section 42A Report;
- (e) Concerns and impacts of PC7’s approach to pro-rata partial restrictions;  
and
- (f) Conclusions.

### **3. THE UPPER OPIHI CATCHMENT**

- 3.1 Dr Ryder and Mr Webb provide evidence on behalf of the FAWP in relation to ecological and water quality characteristics of the Upper Opihi catchment. However, in the following section of my evidence, I outline some personal observations about the Upper Opihi River under different flows and climatic conditions, which I have made during the last 40 or so years while I have lived and farmed adjacent to the River. This past 36 months I have been a leader in a group of Fairlie and Pleasant Point Lions and other willing volunteers opening up a walking track through the Opihi Gorge. During that time, I have had lots of walks in and out of the Gorge, alongside the Upper River. I have noticed that we are always seeing multiple trout, and sometimes eels, as we traverse the edge of the River. I have taken from those observations that there is an abundance of trout and fishing has been enhanced by the consistent flows of the Opuha that feed in to the Opihi junction at Raincliff, even though this River isn't supplemented in its headwater.
- 3.2 The worst condition I have seen the River in would have been during the 2014/15 drought. At the time all irrigation takes had been off for nearly 7 weeks. This was a sustained drought lasting from October 2014 to approximately April 2015, with no excess rainfall and no excesses cleaning the river base of algae.
- 3.3 Over the last 5 years, I have seen farmers within the Upper Opihi catchment taking responsibility for making sure their stock are excluded from waterways. For our farm, this has meant appropriate fencing of 6 kms of waterways. There are still more improvements that will happen here over time as farmers that farm land towards the source of the tributaries follow through with the actions required by their farm environment plans and take greater responsibility for improving the catchment's water quality.
- 3.4 This year, the summer was dry with lower total rainfall and lower river flows, but I have still seen the quality of the river health remain good, looking at it from the visual observations of algae etc on the river base. While I am not an expert in water quality matters, I consider that the controls on stock grazing near waterways, awareness and management of nutrient leaching is incrementally improving the quality of the waterways feeding into the Upper Opihi River.

#### 4. IRRIGATION TAKES AND CURRENT MINIMUM FLOW REGIME

4.1 The irrigation water takes in the Upper Opihi are mostly gallery takes, but there are also two partial gallery and stream takes, and one direct stream take. The water is taken under individual consents from locations between the bottom of the Opihi Gorge to Seddons Road. A map showing the location of these takes is included in the evidence of Ms Keri Johnston for the FAWP.

4.2 The following minimum flow regime, which relates to flows at the Rockwood recorder site, was first included in the Upper Opihi consents when they were granted in 1999 and has still applies to BA and AN consents (there are no AA consents in the Upper Opihi):

1 November to 31 March: 790 L/s

1 April to 31 October: 1280 L/s

4.3 The consents include conditions that require pro-rata partial restrictions to apply when the flows at Rockwood reach 910 L/s (1 November to 31 March) and 1,400 L/s (1 April to 31 October). The consents also include conditions that allow the sharing of water during times of restriction through the operation of the Kimbell/Fairlie Water Users Group. Traditionally this group has been run informally with phone conversations as new flows decreased, as most takes are gallery related and don't have immediate effect on new river water levels.

4.4 The Upper Opihi consents were granted following a public hearing and extensive consultation with the varying interest groups at that time (Fish & Game, and DOC) The individuals in the group were each granted consent to irrigate with the provision that sufficient shares in Opuha Water Limited's predecessor the Opuha Dam Company were held to match the consent volumes that had been applied for.

4.5 The water that is taken under these consents allows irrigation on the following diverse range of farms within the Upper Opihi catchment, in addition to our sheep and beef farm:

(a) A stud sheep and beef farm;

(b) A cropping farm;



- (c) Two fattening farms/trading farms.
  - (d) A dairy farm; and
  - (e) Three dairy support farms.
- 4.6 Approximately 75% of the dairy farm is irrigated. However, all of the other farms irrigate smaller areas. Each farm is reliant on reliable water to produce quality pasture or crops, depending on the farm system.

## **5. BACKGROUND TO THE FAWP'S SUBMISSION ON PC7**

- 5.1 My neighbour John Wright and I were invited to join the FAWP in late 2017 to represent the interests of the irrigators in the Upper Opihi catchment. Other FAWP's members included representatives of Fish and Game, the Timaru District Council, two irrigators representatives from each of the Te Ana Wai, North and South Opuha catchments and a number of consultants that provided planning, environmental and economic advice to the group. Many of the FAWP meetings were also attended by members of the Orari-Temuka-Opihi-Pareora (**OTOP**) Zone Committee and invitations to the FAWP's meetings were extended to the Chairperson of Te Rūnanga o Arowhenua and the Department of Conservation (but in both cases were never taken up).
- 5.2 The FAWP met regularly following its formation and through 2018 to review minimum flow proposals of the Zone Committee for the four tributaries (Te Ana Wai, Upper Opihi and North and South Opuha Rivers) and discuss alternatives that the group considered would achieve environmental outcomes, reliable irrigation and healthy rivers.
- 5.3 Mr Wright and I would report back to the other irrigators in the Upper Opihi to ensure they were fully informed of the discussions that were occurring around the FAWP table and were comfortable with the direction being taken.
- 5.4 There was a recognition within the FAWP of the importance of flows for the different stakeholder group members and achieving environmental, social and economic benefits for the community. This drove the discussions at FAWP meetings and resulted in proposals that the FAWP submitted to the Zone Committee for consideration as part of their Zone Implementation Programme Addendum, which was eventually released in late 2018 (**ZIPA**).

- 5.5 Like all of the FAWP's proposals, the Upper Opihi minimum flow proposal was developed with the guidance of Mr Mark Webb (The FAWP's Fish and Game representative) and Dr Greg Ryder (freshwater ecologist). Key considerations to achieve the needs for both instream and out of stream needs were identified and drove discussions about alternative options. For the Upper Opihi, these considerations were:
- (a) Flows in September and October for growing fingerling trout and salmon;
  - (b) Flows in December to March that give reliability to irrigators without detrimentally affecting the ecosystem; and
  - (c) Flows in April to September that give flows that are beneficial for migration and spawning of sports and native fish.
- 5.6 The proposal that the FAWP came up with for the Upper Opihi was an increase in the current minimum flows for BA and AN consents across the irrigation season (from 790 L/s to 850 L/s) and autumn/winter (from 1270 L/s to 1500 L/s), with a pro-rata partial restriction regime. The FAWP also proposed a new BN allocation block that would make water available for on-farm water storage in times of high flow. This block was intended to provide farmers with the opportunity to off-set lost reliability as a result of the FAWP's proposed increases in "A" minimum flows.
- 5.7 While the FAWP's minimum flow proposal eventually had the buy-in from all of the Upper Opihi irrigators, it wasn't a very easy sell as existing irrigators realised that their current reliability was going to be compromised particularly with the pro rata restriction system being based on BA and AN allocation sitting on top of the increased flows. As I will discuss later in my evidence, this compromise comes at considerable cost to the existing irrigators.
- 5.8 The FAWP's proposal was included as a first step in the ZIPA, to take effect from 2025. However, a second step involving further increases in minimum flows from 2030 was also included in the ZIPA. These two steps were included in the Upper Opihi environmental flow and allocation regime tables in Section 14.6.2 of PC7, i.e. the first step in Table 14(p), and the second step in Table 14(q).

5.9 It was very disappointing to see the second step included in the ZIPA and then PC7, as I consider that the FAWP invested a considerable amount of collaborative work and effort in coming up with the minimum flow regime that is reflected in Table 14(p), with input and advice from ecological and economic consultants. By contrast, the underlying basis for the second step in Table 14(q) has never been clearly outlined by ECan. The FAWP’s submission on PC7 therefore supported Table 14(p) and requested the deletion of Table 14(q).

5.10 The FAWP’s earlier flow and allocation proposal to the Zone Committee for BN (high flow) takes has been included in PC7, Table 14(y). The FAWP’s submission therefore supports Table 14(y).

**6. IMPACTS OF PC7**

6.1 ECan has modelled the changes in water availability for BA consents in the Upper Opihi as a result of the proposed first step (Table 14(p)) and second step (Table 14(q)) and are summarised in Mr Grant Porter’s evidence for the FAWP.

6.2 As seen from the following table indicating percentage availability from our current position to Table 14(p) in 2025, to Table 14(q) in 2030, we see water availability for the months of Jan through April dropping from between 11-17%. These months are critical in our livestock farming enterprises. While generally we can operate on partial water in cooler months, the effects of losing water reliability in the middle of summer undermines the reliability of a farm’s ability to both grow grass, and its profitability.

UPPER OPIHI													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Current AA + BA	91	91	86	71	88	96	94	97	89	94	100	96	
2025 BA	87	89	80	59	78	76	86	91	79	91	97	94	
2030 BA	80	82	74	54	75	73	84	88	78	90	97	92	

6.3 The ECan’s figures show average availability over a 20-year record, so the variation that can occur between years is not reflected in the figures. To better understand the effect of the proposed flow regimes for BA consents, I therefore asked Ms Keri Johnston to look at the flow data from the 2019/2020 irrigation season to determine when BA consents would have been on restriction.

- 6.4 Ms Johnston's analysis is included in the **Appendix** to my evidence, which indicates that during the past season 2019-2020, which has been an average year, but drier than average towards the end of the summer, but not drought, we have been restricted or cut off 10% of the time. This equated to 2 days off irrigation and 18 days on partial restriction.
- 6.5 Under Table 14(p), we would have only 70% of full availability, 6% days completely shut off which is 14 days shut down. Under Table 14(q) there was 6.8% of full availability but 17% of days completely shut off (41 days). From a reliability scenario this would have been a disaster for people relying on irrigation. But I understand from Dr Ryder's evidence that all the water quality testing done shows the Upper Opihi River was better than all the guidelines set by PC7, bar DIN. The fishing was good and I can vouch for the swimming quality as we swam there frequently. It was only blemished by ECAN's own works upstream during of the Gorge.
- 6.6 It would have meant under Step 2 that our farm would have shifted from an effective finishing property, to having to becoming a store stock seller, cutting our profitability significantly.
- 6.7 While the 2019/20 irrigation season was dry, it has not been a severe drought in the Upper Opihi. I am concerned that the level of restrictions confirmed by Ms Johnston under the PC7 minimum flows, and particularly those in Table 14(q), severely undermines the confidence and viability of farmers to plan and farm in a high cost farming regime. Whether the water flows through our irrigation system or not, our costs don't stop because we aren't pumping. Twenty-five years ago when we started planning for irrigation, we set about planning for infrastructure that was to continue into the next generation. From hundreds of thousands, to millions of dollars, farmers invested capital to benefit not only themselves but their communities and NZ. This is a high cost exercise but perhaps the highest cost is that you can't plan on reliable water when most needed, which can lead to poor decision making.
- 6.8 The reality on a farm is that those 15 or 16 critical weeks from December to March are the making or breaking of livestock farmers. In our own situation, if our water availability drops to 70% during summer, in effect, we would be forced to sell stock store instead of finishing, which greatly reduces profitability. I understand that for a dairy farmer, this may entail them having to dry off cows

two months earlier, depriving them of two months of income and extra costs for feeding.

- 6.9 Mr Grant Porter has undertaken an assessment of the financial impacts for farms of the minimum flow regimes in Tables 14(p) and 14(q). Based on that assessment, it is Mr Porter's opinion that PC7 will result in a reduction of profitability of between 2 and 7% under Table 14(p) minimum flows and between 9 and 12% under Table 14(q) across the various farming systems in the Upper Opihi. It is also Mr Porter's opinion that while dairy farms may still remain viable under both flow regimes, cropping and dairy support farms will be marginal financially, and finishing farms will be unviable. For our farm, Mr Porter anticipates a \$6,802 drop in EBIT as a result of the 2025 minimum flows and a further \$24,509 drop in EBIT as a result of the 2030 minimum flows.
- 6.10 What actually happens on farm, while it is reflected in averages, doesn't tell the whole story. Oftentimes it is the 1 year in 3 that sets the average and that means perhaps a 35% drop in profitability and averages for the other two years. This is very hard to plan for and destroys confidence to farm progressively i.e. what often happens is that while we may have 90% availability across the whole irrigation season, pre-xmas this may mean 100% availability but only 60-70% in February/March. However, it is February and March that are most critical for farmers.
- 6.11 I consider that the reductions in profitability quoted by Mr Porter will be challenging for farmers under the Table 14(p) minimum flows, and detrimental to the financial viability of farmers 1 year in 3 under the Table 14(q) minimum flows. As some background to this comment, the 2014/15 drought saw us completely stop our irrigation for 7 weeks and partial restrictions for a much longer period. On our own farm, this caused a drop on Total Gross Profit of approximately 30% and an increase in farm costs of 10% due to having to buy in hay, grain and palm kernel for supplementary feed. This was a huge hit to our farm business financially and it is not just confined to the year of the drought, as our production going forward was severely compromised by the effects of depressed live weights in our lambing ewes and finishing cattle, meaning poorer lambing percentages, and holding cattle longer to finish them.

This was a situation caused by nature. However, when all the Upper Opihi irrigators had to stop irrigating, we only saw approximately 50 L/sec improvement to river flows.

- 6.12 Overall, I consider that the second step minimum flows in Table 14(q) are a step too far. The implications of the effects on the reliability of irrigation water due to those minimum flows would be such that I consider farming during an average summer would be really difficult. In a dry summer, you may as well be dryland farming, which is incredibly difficult to plan for unless you understocked or are prepared to take a financial hit. What happens if you don't have reliable water to irrigate with is that you tend to plan for being very conservative as you have no guarantee to be able to water, grow grass or crop, and fatten stock. Essentially you farm like a dryland farmer in a very summer dry area. This means running 9-10 stock units to the hectare instead of 13 plus over our whole 360 ha farm not just the 80ha watered part. We would have costs associated with irrigation \$800 - \$1000 for the water charges, power, maintenance and labour, so we need to be able to recoup costs and extras.
- 6.13 I recognise that the financial effects for farmers is not the only consideration that is relevant to the Commissioners' decisions about minimum flows. Mr Mark Webb and Dr Greg Ryder address the environmental considerations in their evidence, which confirms that the Table 14(p) minimum flows are adequate.
- 6.14 From both a farmer's and a conservationist point of view, I realise it takes commitment to the cause, and dollars to invest and stay committed to effect good environmental mitigation, and investing in good Farm Environment Practice.
- 6.15 If farmers are in the red, or in debt, they will not be investing in good environmental mitigation measures. For example, on our property, we have approximately 6 kms waterways, which excludes stock from approximately 5 hectares of land. This comes at a cost of not only lost production (estimation \$2,000/ha = \$10,000 per annum) but also in noxious weed control and fencing.

## 7. SECTION 42A REPORT

- 7.1 The Section 42A Report recommends amendments to the minimum flows proposed under PC7 for BA and AN consents in the Upper Opihi. I understand that those amendments would require:
- (a) The 2025 minimum flows in Table 14(p) to apply from the date on which PC7 becomes operative; and
  - (b) The 2030 minimum flows Table in 14(q) to apply from 2025.
- 7.2 There is no clear explanation in the Section 42A Report of these amendments. It therefore makes it very difficult for submitters to understand why the amendments have been recommended.
- 7.3 As I have already explained, the 2025 minimum flows proposed in PC7 (Table 14(p)) will result in a reduction in current water availability that will have consequences for pasture growth and therefore farm production and profitability. The Upper Opihi irrigators reluctantly accepted these minimum flows on the understanding that the flows were needed to achieve environmental outcomes.
- 7.4 The lead in time for the Table 14 (p) minimum flows was proposed by the FAWP as 2025 would give farmers time to prepare how they would live with lower availability of water e.g. by providing extra water storage on farm. This approach would come at considerable cost to a farm. It may be economically viable for dairy farmers but it would not work for our sheep and beef farm, with too large of an upfront capital cost. The alternative would be to change the pasture species class of animals run to a species that requires less water, however, this also has implications for production and consequently profitability.
- 7.5 In my view, the FAWP put considerable effort in coming up with a sound proposal that was good for the environment and yet gives some reliability for irrigation planning. I therefore strongly oppose the changes recommended in the Section 42A Report to Tables 14(p) and 14(q).

## **8. CONCLUSIONS**

- 8.1 Since our consents were first granted by ECan, national policies have been introduced for freshwater decision making, which I understand require that the river must sustain its own life before it contributes to the life of the community in the broader sense. Dr Greg Ryder's research and water testing of the Opihi in this past season indicates that the Table 14(p) minimum flow regime would achieve that outcome.
- 8.2 I am very concerned about the financial implications for farming businesses in the Upper Opihi if the Table 14(q) minimum flows are imposed, or if the Section 42A Report recommendations are accepted. The FAWP proposal for Table 14(p) minimum flows to take effect from 2025 was specifically designed to provide farmers with time to prepare for expected reductions in water availability as a result of those minimum flows. Bringing that timeframe forward, as recommended in the Section 42A Report, would have significant financial consequences for farmers.
- 8.3 I therefore support the FAWP's request for the deletion of Table 14(q). The effectiveness of the Table 14(p) minimum flows, together with nutrient management policies, on water quality and ecological considerations should be carried out in ten years time, at plan review.

**Murray Bell**

17 July 2020



## Appendix

Upper Opihi Water Availability Assessment for the 2018/19 irrigation season (1 September to 30 April) completed by Keri Johnston

<b>2018/19 Season</b>			
<b>Regime</b>	<b>Current</b>	<b>Step 1</b>	<b>Step 2</b>
% full water available	98%	80%	76%
% partial water available	0%	19%	21%
% no water available	1%	2%	3%

<b>2018/19 Season</b>			
<b>Regime</b>	<b>Current</b>	<b>Step 1</b>	<b>Step 2</b>
Days full water available	238	193	185
Days partial water available	1	45	50
Days no water available	3	4	7