

**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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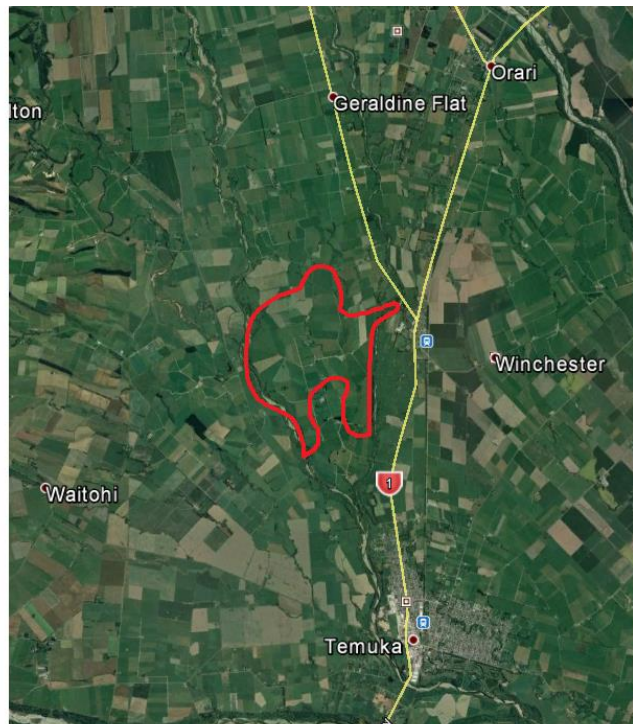
**STATEMENT OF EVIDENCE OF BRENT THOMAS SCHRIDER ON BEHALF OF  
THE TEMUKA CATCHMENT GROUP INCORPORATED**

Dated: 17 July 2020

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## Introduction

1. My name is Brent Schrider and, with my wife Hayley and my parents, we own a dairy farm operation in the Temuka catchment. We have been farming in the area for 10 years.
2. I am the Chair of the Temuka Catchment Group Incorporated (TCG), and have been an active member of the Temuka Catchment Working Party (TCWP) since its formation in mid 2018. I am also a member of Geraldine Water Solutions (GWS).
3. I have been farming for the past 15 years and hold a Bachelor of Commerce majoring in agribusiness from Lincoln University (2003). Prior to farming I was a technical field representative for Ravensdown Fertiliser Co-op in the Taupo/Rotorua area and also hold a Sustainable nutrient management qualification from Massey University
4. Our farm is a 455 effective ha irrigated dairy farm, which is located between the Hae Hae Te Moana and Waihi rivers on Te Awa Road north of Temuka as shown in the maps below:



5. Our irrigated land is supplied water by both the Kakahu Irrigation Scheme (which brings water from the Opuha River into the Temuka catchment) and from our own consented "A" and "B" shallow groundwater, which are subject to minimum flow restrictions for the Temuka River at the Manse bridge recording site.
6. In relation to our scheme water, we own 265 K class shares and lease 100 K class shares giving us the option to apply this water comfortably over 365 Ha of land. Our consented surface water takes are for 119 litres/second of "A" water and 21 L/s of "B" water and enables us to irrigate the balance of our dairy platform when consent conditions allow.

7. My evidence is provided on behalf of the TCG in support of its submission on Plan Change 7 (PC7). The TCG's submission seeks similar decisions to those of the TCWP, which the TCG has worked very closely with over the last two years. For that reason, my evidence also supports the submissions of the TCWP.
8. My evidence addresses the following matters:
  - a. Background to the Temuka catchment and the complexity of its water quality and quantity issues;
  - b. Background to the formation of the TCG and the TCWP, and those parties' involvement in the development of the OTOP Zone Implementation Programme Addendum;
  - c. A summary of the TCG's concerns with PC7;
  - d. An outline of the focus of the TCG and TCWP since the notification of PC7
  - e. Impacts of PC7 for our farming business;
  - f. Conclusions.

#### **Temuka catchment**

9. The Temuka Catchment includes the Hae Hae Te Moana, Kakahu, Waihi and Stoney Rivers, Taumatakahu Stream and Raupo Creek and all their tributaries.
10. In addition to water takes for irrigation from these water courses and groundwater, there are takes for community supply and industrial use, which includes takes by the Timaru District Council and Barker Fruit Processing.
11. The Opihi River Regional Plan (ORRP) has been operative since September 2000, and for the Temuka catchment, sets allocation limits of 1600l/s for the 'A Block and 400l/s for 'B' Block (covering both surface water and stream depleting groundwater), with minimum flows at Manse Bridge. Under the ORRP, A Block permits are those that were granted either prior to 1 January 1999, or those that were subject to applications being processed at 1 January 1999.
12. While one would have expected that these allocation limits would have informed consent decisions being made by Environment Canterbury since September 2000, such that consents seeking to take more allocation than was available within the stated limited would have been declined. Unfortunately, this has not been the case, and we are now faced with a situation where the current level of A and B allocation in the Temuka catchment exceeds the ORRP's allocation limits. As noted in PC7's proposed Tables 14(i) and (j), the current allocation sits at: 2,503 L/s for A permits and 784 L/s for B Permits.
13. In addition of the overallocation issue, I understand there are issues with the way in which the A and B blocks overlap due to the way in which the conditions on B consents operate.

## **Formation of the Temuka Catchment Group and Working Party and ZIPA development**

14. It became apparent to many farmers in the Temuka catchment early in 2018, that significant changes were pending with the development of the Zone Implementation Programme Addendum (ZIPA). The most challenging issue was how the catchment's state of surface water over-allocation would be addressed, and the impacts of potential "solutions" for irrigators.
15. The Draft ZIPA released by the OTOP Zone Committee for public consultation in December 2017 recommended a simple minimum flow regime for the Temuka River, which comprised increases in minimum flows at 5 years (to 1050 L/s) and 10 years (1400 L/s). However, no attempt was made to address over-allocation.
16. Several farmers took this proposal to the farming community at the end of May 2018, seeking a mandate by water users in the Temuka catchment to develop an alternative minimum flow and allocation regime that considered the economic impact and reliability on farmers, whilst providing for the much needed changes and improvement for ecology for the Temuka River catchment. This group subsequently became the Temuka Catchment Group Incorporated (TCG), and agreed to fund the project management and technical expert work required.
17. With this encouragement from ECan technical and planning staff and endorsement of the Zone Committee, representatives of the TCG joined with representatives of Barker Fruit Processors Ltd, Central South Island Fish & Game Council, the Timaru District Council and Zone Committee members to form the Temuka Catchment Working Party in early June 2018.
18. A representative of the Department of Conservation attended some of the initial TCWP meetings. TCWP meeting invitations and correspondence were also emailed to representatives of Te Rūnanga of Arowhenua, but unfortunately, none of the invitations were ever accepted or acknowledged.
19. The key mandate for the TCWP was to: *"to debate and determine an alternative flow regime for Manse Bridge that balances ecological and economic impacts, utilising robust expert reports, and to deliver a package of recommendations to OTOP ZC"*. The primary role of the TCWP was to work with ECan staff to develop a preferred environmental flow, allocation and partial restriction regime for the Temuka catchment for submission to the OTOP Zone Committee for consideration in the development of its ZIPA.
20. This was achieved over a five-month period, with seven working party meetings and many technical meetings held prior to the TCWP submitting its preferred regime to the Zone Committee on 31 October 2018. During that time, the TCWP was also assisted by the following consultants:
  - a. Irricon Resource Solutions (Keri Johnston and Haidee McCabe – water resources engineering/environmental planning); and
  - b. Ryder Environmental (Dr Greg Ryder – environmental scientist/freshwater ecologist).

21. The TCWP was also very fortunate to have the ongoing commitment of Mr Mark Webb, a Fish and Game officer, whose knowledge and experience was highly valued by the TCWP.
22. Informed by hydrological, ecological, cultural and economic considerations, the TCWP's preferred regime recognised that a long-term solution was needed for the Temuka catchment as the complexity of issues and the challenges they presented for the future management of its freshwater resources could not be resolved in the short-term. The TCWP's regime therefore proposed change for the catchment by way of time-staged steps to achieve the necessary environmental improvements and the Zone Committee's aspirations for the catchment.
23. A copy of the TCWP's preferred regime is set out in a letter to the Zone Committee, which is included in Appendix A. The fundamental components of that regime were:
- a) Increases in existing minimum flows during the shoulder periods (April, September and October) to reflect instream ecological and cultural requirements, which would take effect three years after PC7 became operative, with further increases in minimum flows in 2040.
  - b) Time staged reductions in allocation, with a goal of bringing allocation in the catchment within the limits originally set by the Opihi River Regional Plan (i.e. "A" allocation of 1600 L/s and "B" allocation of 400 L/s) by 2040. A sinking lid mechanism was proposed to ensure surrendered water could not be re-allocated but would be a gain environmentally for the surface water resources of the Temuka catchment.
  - c) In recognition of the cultural significance of the Temuka catchment to Te Rūnanga of Arowhenua, and in response to their request for an allocation to provide for cultural/mahinga kai purposes, the introduction of an allocation block for habitat restoration/mahinga kai purposes, which would become available eight years after PC7 became operative.
  - d) Flexibility to enable the development of community solutions for alternative secure and reliable water supplies to achieve the intended reductions in allocation and environmental improvements by 2040, including the following:
    - i) The creation of a deep groundwater allocation block ("T block") for existing consent holders who wish to swap their current surface water or hydraulically connected groundwater takes to deep groundwater takes.
    - ii) Enabling A takes to storage at the minimum flows established 3 years from operative (with provision for consent holders to change conditions of their existing consent to implement prior to that date, subject to these flows being adhered to).
    - iii) The creation of a harvest allocation block of 1500 L/s with minimum flow of 90% of mean flow, accessible by existing irrigators as an alternative water source as a result of decreasing the existing A/B allocation blocks.
24. As noted in the TCWP's letter to the Zone Committee, the success of the regime was contingent on alternative sources of water supply being secured for existing takes, and the 2040 timeframe was considered necessary to enable that to occur and intended allocation reductions to be achieved. It was considered essential that the time-staged

steps were progressive and balanced, without crippling existing consent holders in the catchment in the meantime, effecting their ability to seek alternative water supplies for long term catchment solutions.

25. The TCWP's preferred regime was largely incorporated in the December 2018 ZIPA. However, the ZIPA brought forward the TCWP's preferred fourth and final step, comprising further increases in environmental flows, decreases in allocation and the introduction of pro-rata partial restrictions for A and B permits, from 2040 to 2035.
26. As I discuss later in my evidence, the TCG considered at the time, and remains of the view, that this timeframe, and the TCWP's proposed steps towards it, is the most appropriate approach given the financial implications to current consent holders of the alternative timeframes proposed by PC7.
27. During the development of the alternate flow and allocation regime the TCWP and ECan agreed a taskforce group led by ECan would be formed. It's main purpose being to work with consent holders to review allocations both and active and non active to begin the process of unwinding the over allocation of water.
28. This agreed action has not happened to date.
29. The TCG is fully supportive of this taskforce and with clear intent and direction will assist ECan in this process. The vision over time is to return allocations of both A and B takes to levels more aligned with the ORRP (2000). Please reference Annexure A - TCWP Environmental flow and allocation regime for the Temuka catchment.

#### **The TCG's concerns with Plan Change 7**

30. For the most part, the ZIPA recommendations for minimum flows and surface water allocation reductions for the Temuka catchment have been included within Tables 14 (i), (j), (k) and (l). With the exception of the timeframe for implementation for the final "steps" in Table 14(l) (2035), TCG fully supports the proposed minimum flows and allocation limits in Tables 14(i) – (l).
31. While the reduction in allocation proposed is substantial for both A and B blocks, the water users recognise and accept this is necessary so long as they have alternative options and time for change given the economic impacts associated with the implementation of the proposed changes.
32. What the TCG is very concerned about, however, is the following aspects of PC7:
  - a) As noted above, the proposal to bring forward the TCWP's proposed 2040 step, which would require Table 14(l) to be implemented at 2035;
  - b) No including additional mechanisms to incentivise consent holders to voluntarily reduce allocation and enable the global management of consented water within the Temuka FMU; and
  - c) Not recognising the significance of the Barkers processing operations for the Temuka FMU in terms of employment opportunities and the economic prosperity of the wider OTOP sub-region.

33. I understand the Mr Webb intends to explain the underlying scientific reasoning behind the TCWP's regime in his evidence for Fish & Game.
34. Mr Porter's evidence addresses the extent of the economic impact of PC7 proposed minimum flow regime for existing consent holders in the Temuka catchment, and reducing the 2040 "Vision" to 2035. In my opinion, this reinforces the TCWP's original concerns about the need for a long-term time-staged approach for change in the Temuka catchment out to 2040. However, I understand that the full extent of the economic impact is not reflected in Mr Porter's analysis, as the availability data on which it has been based does not account for the impact for consent holders that will have to surrender allocation under the proposed regime.

### **The Working Party's focus since PC7 notification**

#### Submissions and hearing preparation

35. The TCWP regrouped to prepare submissions following PC7's notification in September last year. The TCG undertook water quality sampling and drone footage during this past summer given the low flow catchment conditions, in order to further support hearing evidence that it expected would be able to be prepared jointly with the TCWP in support of their PC7 submissions. This work was been funded solely by the TCG.
36. However, with dwindling financial resources and other priorities in the wake of the Covid-19 pandemic, it has not been possible for the TCG to meet the considerable costs of expert witnesses to defend their position in this hearing. A huge amount of the TCG's time, effort and funding went into the ZIPA process, in the knowledge that the ZIPA recommendations would inform PC7 and that the solution package was arrived at following a very much collaborative process involving key stakeholders, representatives of the community and ECan planning and technical staff.
37. After reviewing the notified plan and subsequently the Section 42A Report, identifying many errors and misinterpretation, the TCG rightly or wrongly, were not prepared to just keep spending money is what seems to be a never-ending battle. Over \$100,000 has already been spent by the TCG to date, in addition to the endless hours of voluntary time invested by all the TCWP members.
38. It has been hugely disappointing to see what I believe is a community-led solutions package not fully delivered in PC7, which fail to give appropriate consideration to the intentions of the package, the considerable time and effort of not only the members of the TCWP but also ECan staff during the ZIPA development phase that was invested in developing the package.
39. In short, the TCG has run out of steam. The TGC (and therefore the TCWP) has therefore had to focus its limited budget on evidence prepared by Mr Grant Porter on the expected financial impacts of the implementation of the PC7 flow and allocation regime on farm businesses in the Temuka catchment. As I have already noted, the group was fortunate to have the ongoing commitment of Mr Mark Webb, a Fish and Game officer, who will address the TCWP's solutions package from Fish and Game's perspective.

### Section 42A Report

40. The recommendations set out in the Section 42A Report go a considerable step further than PC7, placing key elements of the ZIPA's solutions package for the Temuka catchment at significant risk of being eroded.
41. From what I have been able to understand from the Section 42A Report, it appears that the recommendations include:
- a) Bringing forward all of the ZIPA's/PC7's proposed timeframes for minimum flow increases;
  - b) Introducing significant changes to "current" B Block minimum flows (which appear to be for the purpose of addressing the current overlap in the A and B Blocks noted earlier in my evidence, but was already addressed through the ZIPA/PC7 regimes); and
  - c) Wholesale deletion of the alternatives that were central to the ZIPA solutions package, including the T allocation block and related provisions, deletion of the harvesting "C" block.
42. I have struggled to find any explanation of the recommended changes to the minimum flow and allocation regimes that were proposed in the ZIPA/PC7. In particular, I have been unable to find any ecological assessment of those changes or even an explanation of the changes in water availability that consent holders might expect occur under these changes. This is very concerning.
43. The TCG is also concerned by comments made in the Report about a plan change being required to bring new water into the Temuka catchment. It is unclear why this would be necessary as the "new" water would be supplied directly to farming properties (instead of by way of existing direct takes from surface water or hydraulically connected groundwater in the Temuka catchment). In other words, it would not involve augmentation. With allocation limits decreasing, it is unclear why this presents any issues for ECan. On the flipside, the inability to access any alternatives as the Section 42A Report recommends, would leave irrigators high and dry.
44. In summary, the TCG is strongly opposed to the recommendations made in the Section 42A Report in this regard.

### Views of the Papatipu Rūnanga

45. I have personally been very disappointed to read the submissions made by Te Rūnanga o Ngāi Tahu and Te Rūnanga o Arowhenua in relation to the aspects of PC7 concerning the Temuka catchment.
46. The TCWP was fully aware of the importance of the Temuka Catchment culturally to Te Rūnanga o Arowhenua. It is for this reason that the TCWP and the TCG have continuously sort to engage with local iwi on all matters to do with freshwater management and practical enhancement ideas. All efforts we have made to collaborate have been declined.



47. Having grown up in the Taranaki region and seen the collaboration between landowners, the district and regional councils, iwi and other stakeholders, the region now has established native riparian plantings that would be the envy of most other regions in New Zealand. Although every region has its own unique challenges the collaboration that took part there some 25 years ago was practical to implement and manage and been of huge benefit to the freshwater resource.
48. Personally, I don't think we will find the correct community solutions until all parties are around the same table.

### **Impacts of PC7 for my own farm**

49. From our own personal perspective, the access to and reliability of irrigation water is the foundation on which our pastoral farming system is based.
50. We are well resourced having two sources of water, one being augmented Scheme water from Lake Opuha and the other shallow surface water linked to the flow of the Temuka river.
51. When we began farming in the area, we soon realised the unpredictable nature of the east coast weather patterns and after farming here for 10 years we have not really seen any 2 years the same. We have experienced both prolonged dry summer periods with little rain as well as very high rainfall events that have seen our local rivers flooding and hold high summer flows.
52. Due to this unpredictability we have invested heavily in Kakahu irrigation shares to insulate our business against unpredictable weather events and to build certainty into our irrigation system.
53. Grant Porters evidence provides the picture of higher level effects and outcomes at a catchment level but I would like to share with you some of the personal decisions and the implications of water on our farming business below.
54. We estimate the current value of a Kakahu share to be \$6000. Our last purchase of shares was 4 years ago which we paid \$5500 per share. One share provides approx. 25mm/ha for approx. 157 days through the irrigation season. The reliability of this water is 95%. We currently own 265 shares which has required a capital outlay of approx. \$1,590,000. We also lease 100 shares at a cost of \$8500 per annum.
55. The operational and finance charges associated with these shares amount to \$372 per share per annum. This is a fixed cost to our business of \$135,780 per year.
56. Our shallow surface water incurs a \$3000 compliance charge every year for monitoring our usage against our consent conditions. We use Boraman Consulting to report our telemetry data to ECan annually to achieve compliance.
57. The other costs associated with irrigation on our properties is electricity for pumps and pivots (\$117,057 per annum) and repairs and maintenance (\$40,000 per annum).
58. Our total irrigation costs per year on average is \$305,807 which equates to .40cents/KG of milk solids produced. This represents approx. 10% of our farm working expenses or \$672/Ha.

59. We know that we can grow in the range of 17-20 Tonnes of dry matter of pasture or crop per year under irrigation. We also know we can grow between 10-13 Tonnes of pasture or crop per year dry land farming as we currently have some dry land support blocks. If we can grow approx. 6,000kg/ha more dry matter under irrigation at a value of .20 cents per kg this equates to a \$1200/ha gross benefit over dry land systems. The net benefit after taking \$672/ha irrigation costs into account is \$528/ha.
60. We currently have 90Ha of irrigated dairy platform fully reliant on groundwater takes. Dairy NZ studies show it takes approx. 12kg of dry matter to produce 1kg of milk solids so if our pasture production is compromised down to dry land levels due to unreliable irrigation water, we could be faced with losing 500 milk solids per hectare in production. At a \$6 milk price over 90Ha this equates to \$270,000 in lost income per annum. I note that this assumes we were unable to access water.
61. If we where to look at fully sharing up with Kakahu irrigation shares we would need to purchase 190 shares at \$6,000 each. This is a capital outlay of \$1,140,000. We would then also have to add in the share charges of an extra 90 shares (100 already leased) and build another \$33,480 per annum into farm working expenses. We would not be able to purchase this number of Kakahu shares it is not a liquid market.
62. The farm working expenses and capital requirements of irrigation on our property is high but we are comfortable with the reliability we currently have. This has come at a significant investment in shares and infrastructure over the last 10 years.
63. As well as investing in water infrastructure and reliability we also have bank loan interest and principal to deal with and continual repairs and maintenance and improvements to pay for. It takes significant effort, money and time to keep farming businesses sustainable and compliant in the current environment and a workable framework for responsible water use is critical to this.
64. I would like to stress the point that not all water users in the Temuka catchment have the option of different irrigation supply. Most in fact only have access through shallow surface consents. The Kakahu irrigation scheme with its limited delivery network is the only other alternative at this time and it is fully allocated with only small parcels of shares traded amongst users from time to time.
65. As a catchment the water users and other stakeholders have largely come together unified in looking at the current situation. The Temuka catchment working party has developed a robust alternative flow and allocation regime plan to start addressing the over allocation and develop more sustainable minimum flows for the Temuka river. This was endorsed by the Zone committee and included in the ZIPA.
66. Water users support the stepped flow and allocation plan and are confident in business continuity at the first two steps at year 3 and year 5 from becoming operative. Some of this is "paper over allocation" which is consented water that is never used. Looking out after year 5 the steps at year 8 and onwards is where time is needed to develop and refine water use efficiencies, embrace new technologies and potentially have an alternative source of water into the catchment.
67. It is a privilege to be granted consents to use fresh water and as part of that consent we are required to provide accurate water usage data to ECan annually at our cost. It was frustrating ECan could not provide us with the actual annual water usage whilst working with the TCWP on the alternative flow and allocation regimes. One would assume this is why we provide the data to them annually. This annualised data would

be a huge step in the right direction of understanding the actual water use situation and what the water requirements will be in the future under the proposed plan. This needs addressing.

68. From my point of view there appears to be positive momentum gathering now around consistent Good Management Practises on farm. Farm Environment Plans are driving better behaviours and awareness about water use and environmental foot prints.
69. We achieved an A grade at our last Farm Environment Audit carried out in November 2019. We are proud of this recognition after receiving a B from the previous Audit. The auditing process is rigorous and covers all aspects of the farming operation. It is a useful tool for managing the business and ensures our land use consent obligations are being met.

### **Conclusion**

70. I believe a plan that is science based, has robust economic analysis behind it and above all seems achievable, given a realistic time frame, would see farmers and associated industry adopt change more readily. We all need to remember that the land use types and what we grow with water today may be completely different for the next generation.
71. The TCG remains of the view that the amendments sought in its submission on PC7 are needed to ensure that the community-led solutions package developed by the TCWP is fully implemented with realistic timeframes that recognise the challenges consent holders face in terms of adapting their current systems to the changes and/or seeking out alternative sources of water.

**Brent Schrider**

17 July 2020

Orari-Temuka-Opihi-Pareora Zone Committee  
c/- Hamish McFarlane / Barb Gilchrist  
Chairperson / Zone Facilitator  
Environment Canterbury  
PO Box 550  
Timaru 7940

31 October 2018

Dear Hamish and Barb

**RE: TEMUKA CATCHMENT ENVIRONMENTAL FLOW AND ALLOCATION REGIME**

1. This letter follows the Temuka Catchment Working Party's (TCWP's) earlier feedback on the Zone Committee's 21 September 2018 draft recommendations for the Temuka catchment.
2. Since submitting that feedback, the TCWP has completed further evaluations of its preferred environmental flow and allocation regime for the Temuka catchment and considered the feedback it understands has been received by the Zone Committee from other parties, including Te Rūnanga o Arowhenua and Te Rūnanga o Ngāi Tahu (**Ngā Rūnanga**). The further evaluations would have not been possible without the assistance of Environment Canterbury (**ECan**) staff (particularly Dan Clarke), and the TCWP wishes to acknowledge ECan's support in that regard.
3. The purpose of this letter is to provide a detailed overview of that regime and the complementary elements of the wider "solutions package" that the TCWP has developed for the Temuka catchment, which was endorsed by the catchment's farmers at a public meeting held on 29 October 2018.

**Proposed environmental flow and allocation regime**

4. The TCWP's proposed environmental flow and allocation regime for the Temuka catchment is summarised in **Annexure A**. The regime is supported by the hydrological analysis conducted by Mr Clarke<sup>1</sup> and comprises (summarily):
  - (a) Increases in existing minimum flows during the shoulder periods (April, September and October) to reflect instream ecological and cultural requirements, which would take effect three years after the OTOP sub-regional plan change (**Plan Change**) becomes operative, with further increases in minimum flows in 2040.
  - (b) Time staged reductions in allocation, with a goal of bringing allocation in the catchment (currently estimated to be in the order of 300% over-allocated) within the limits originally set by the Opihi River Regional Plan (i.e. "A" allocation of 1600 L/s and "B" allocation of 400 L/s) by 2040. A sinking lid mechanism is proposed to ensure surrendered water is not re-allocated but is a gain environmentally for the Temuka catchment.
  - (c) In recognition of the cultural significance of the Temuka catchment to Ngā Rūnanga, and in response to the request by Ngā Rūnanga for an allocation to provide for cultural/mahinga kai purposes, the introduction of an allocation block for habitat restoration/mahinga kai purposes,<sup>2</sup> which would become available eight years after the Plan Change becomes operative.

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<sup>1</sup> *Evaluation of the Temuka Catchment Working Party's proposed flow regime options 3-6* dated 17 October 2018.

<sup>2</sup> The TCWP's intention is to show how such an allocation block could be accommodated within the environmental flow and allocation regime for the Temuka catchment, as it understood that Ngā

The TCWP's regime recognises that a long-term solution is needed for the Temuka catchment, as the complexity of issues and the challenges they present for the future management of its freshwater resources, cannot be resolved in the short-term. The TCWP's regime therefore proposes change for this catchment by time-staged steps to achieve the necessary environmental improvements, and the Zone Committee's aspirations for the catchment. The success of the regime is contingent on alternative sources of water supply being secured for existing takes, and the 2040 timeframe is considered necessary to enable that to occur and intended allocation reductions to be achieved. It is essential the time-staged steps are progressive and balanced, without crippling existing consent holders in the catchment in the meantime, effecting their ability to seek alternative water supplies for long term catchment solutions.

5. The evaluations undertaken by the TCWP with the assistance of ECan staff indicate that the regime will result in various benefits, including:
  - (a) Significant improvement in river flows by 2040, when flows less than 2 m<sup>3</sup>/s will occur only 20% of the time (compared with 50% under the existing scenario)<sup>3</sup>;
  - (b) Monthly variable flows, which will benefit instream ecology;
  - (c) Water availability for irrigators will improve over time due to the required reductions in allocation;
  - (d) At this point in time, Dr Greg Ryder has been unable to analyse the changes proposed to the shoulder season minimum flow regimes. It should be clarified that this assessment is the minimum flows only in relation to MALF (mean annual low flow), and cannot assess the reduction in allocation which is central to the TCWP proposed regime.

#### **Key mechanisms of the TCWP's proposal:**

6. The success of the TCWP's regime is contingent on the following key enabling mechanisms:
  - (a) **Habitat restoration/mahinga kai allocation block**

The TCWP considers it appropriate that the proposed habitat restoration/mahinga kai allocation block be subject to the proposed minimum flow and partial restriction regime if allocated to consumptive uses. In addition to the proposed habitat restoration/mahinga kai allocation block, it is the TCWP's desire for additional enhancement projects to be undertaken in the catchment for the purpose of enhancing biodiversity and mahinga kai, such as for the protection of spring heads.
  - (b) **Alternative sources of water supply**

It is critical that flexibility is provided in the future OTOP sub-regional plan change (and by implication the ZIPA) for the development of community solutions for alternative secure and reliable water supplies to achieve the intended reductions in allocation and environmental improvements by 2040, and to ensure the Canterbury Water Management Strategy's target of 95% irrigation reliability is achieved, including (but not limited to) the following:

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Rūnanga's feedback to the Zone Committee did not identify the intended size of any cultural/mahinga kai allocation block.

<sup>3</sup> The TCWP understands it is Ngā Rūnanga's preference for flows less than 2m<sup>3</sup>/s to be no more than 10% of the time. With respect, this assumes that there are no takes for irrigation from the catchment, which in the TCWP's is unrealistic.

- (i) The creation of a deep groundwater allocation block ("T block"<sup>4</sup>) for existing consent holders who wish to swap their current surface water or hydraulically connected groundwater takes to deep groundwater takes. ECan has estimated that between 7 million and 10 million cubic metres per year could be available for allocation as part of the new T block, which is a portion of the existing groundwater allocation but would be made specifically available for swaps only. The TCWP proposes that the allocation block be established with a 30% well interference threshold.<sup>5</sup>
  - (ii) Enabling A takes to storage at the minimum flows established 3 years from operative (with provision for consent holders to change conditions of their existing consents to implement prior to that date, subject to these flows being adhered to).
  - (iii) The creation of a harvest allocation block of 1500 L/s with minimum flow of 90% of mean flow. Given the extent of allocation reduction required in this catchment, this proposed block would be accessible by existing irrigators only as an alternative water source as a result of decreasing the existing A/B allocation blocks.
- (c) **Consent Transfers:** No site to site transfers of surface water or hydraulically connected groundwater (direct, high, or moderate).
- (d) **Demonstrated use:** on the application for change of conditions to existing irrigation consents, or renewal of such consents, the annual volume and rate of take of water for irrigation shall be determined in accordance with demonstrated use,<sup>6</sup> or through the review of consents within 5 years of the Plan Change becoming operative.
- (e) **Controlled activity consenting pathway** to enable existing consent holders to apply for a change of consent conditions to reduce irrigation take flowrates to match return period volumes or physical limitations of obtaining the consented flow rate. To incentivise reduction in paper allocation, the TCWP suggest that ECan consider providing a free consent processing (e.g. as is currently available in the Rotorua Lakes District), and Irricon would then develop a free application template for applicants to use.
- (f) **Common expiry date** of 1 January 2035, to be imposed on all replacement consents, to allow integrated catchment management.
- (g) **Community water supply takes** including the Barkers Fruit community supply take<sup>7</sup> are not subject to minimum flows or allocation reduction, however both will require water management plans/strategies (including to address management of takes during water shortage conditions) in accordance with existing requirements under the Canterbury Land and Water Regional Plan.
- (h) **Water User Groups:** the TCWP see the use of water user groups as essential for managing the use of reduced allocation (i.e. as allocation management blocks).

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<sup>4</sup> Similar to that introduced in the Hinds catchment under Plan Change 2 to the Canterbury Land and Water Regional Plan.

<sup>5</sup> This is higher than the current threshold under the Canterbury Land and Water Regional Plan, which is 20% but similar to that introduced in the Hinds catchment under Plan Change 2

<sup>6</sup> In accordance with Method 1 of Schedule 10, Canterbury Land and Water Regional Plan.

<sup>7</sup> The TCWP notes that the Barkers Fruit community supply take has its own water supply protection zone under the CLWRP. The TCWP's proposal reflects the similar approach adopted under the Pareora Catchment Environmental Flow and Allocation Regional Plan for water supplies used for frost protection for frost sensitive crops in the Pareora catchment.

- (i) **Data/information:** The TCWP considers it essential that ECan implement a robust hydrology and ecology data monitoring programme for all tributaries of the Temuka Catchment within six months of the Plan Change becoming operative to inform future State of the Environment Monitoring (and future plan decisions), and to enable a review of the targets and outcomes set by the Zone Committee. Potentially allowing for the Taumatakahu Stream to be managed by a separate minimum flow regime.

### **Concluding comments**

7. The TCWP acknowledges that its “solutions package” will not result in dramatic changes in the Temuka catchment in the short-term. It does, however, strongly signal change for the catchment and provides a pathway for environmental improvements over time. Realistic timeframes are critical given the complexities and challenges that the catchment currently faces, the interlinked nature of the various components of the existing environmental flow and allocation regime and the costs of change to existing consent holders.
8. Accordingly, the TCWP seeks the Zone Committee’s endorsement of the TCWP’s environmental flow and allocation regime summarised in Annexure A, and the supporting “mechanisms” addressed earlier in this letter.



Haidee McCabe

For and on behalf of the Temuka Catchment Working Party

## ANNEXURE A - TCWP PROPOSED ENVIRONMENTAL FLOW AND ALLOCATION REGIME FOR THE TEMUKA CATCHMENT (31 OCTOBER 2018)

### Minimum flow regime – to take effect three years from Plan Change becoming operative<sup>1</sup>

Min Flow	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temuka A Min Flow	850	850	850	1500	1500	1500	1500	1500	1500	1200	850	850
A reduce to 25%	1150	1150	1150	1800	1800	1800	1800	1800	1800	1500	1150	1150
A reduce to 50%	1475	1475	1475	2125	2125	2125	2125	2125	2125	1825	1475	1475
Temuka B Min Flow	1750	1750	1750	2100	2400	2400	2400	2400	2100	1900	1750	1750
B reduce to 50%	2140	2140	2140	2490	2790	2790	2790	2790	2490	2290	2140	2140

### Allocation<sup>2</sup>

Regime	A Allocation	Total Reduction	B Allocation	Total Reduction
Current	2500	0	750	0
3 years from operative plan	2350	150 l/s (6%)	600	150 l/s (20%)
5 years from operative plan	2150	250 l/s (10%)	400	350 l/s (47%)
8 years from operative plan	1900	500 l/s (20%)	400	350 l/s (47%)
8 years from operative plan	Habitat restoration block of 100 L/s			

### 2040 Vision

#### **Minimum flow**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
A permit	1050	1050	1200	1500	1500	1500	1500	1500	1500	1200	1050	1050
B Permit	2650	2650	2800	3100	3100	3100	3100	3100	3100	2800	2650	2650

- Pro rata restrictions for A and B block. No gap between A and B blocks.

<sup>1</sup> Current regime to apply until this date.

<sup>2</sup> This is a sinking lid on allocation. Any water surrendered or otherwise to meet the allocation reduction targets set out above cannot be reallocated.



**Allocation**

- Intention is for allocation to be reduced to the current ORRP allocation limits for the Temuka Catchment by 2040, as follows:
  - A permit        1600 L/s (including 100 L/s for the habitat restoration)
  - B permit        400 L/s