

**BEFORE THE CANTERBURY REGIONAL COUNCIL
HEARING COMMISSIONERS**

IN THE MATTER of the Environment Canterbury (Transitional
Governance Arrangements) Act 2016

AND

IN THE MATTER of submissions on Proposed Plan Change 7 to the
Land and Water Regional Plan and Proposed Plan
Change 2 to the Waimakariri River Regional Plan

**SUMMARY OF EVIDENCE OF JANICE CARTER FOR THE CHRISTCHURCH CITY
COUNCIL**

11 November 2020

INTRODUCTION

1. My name is Janice Carter. I here provide a brief overview of my evidence in chief and rebuttal evidence prepared as part of submissions in relation to Plan Change 7 (PC7). I also provide my view on the effect of the National Policy Statement for Freshwater Management 2020 (NPS-FM 2020) on aspects of my evidence in relation to Plan Change 7 (PC7).

OVERVIEW

2. The Resource Management Act 1991 (RMA), the higher order documents (including the NPS-FM 2020) and the objectives of the Canterbury Land and Water Regional Plan (LWRP) in relation to protecting the quality of the Christchurch aquifers and other spring fed surface water support a better outcome than provided for in PC7.
3. In terms of the LWRP, the relevant objectives are 3.8, 3.8A, 3.12, and 3.24 and are outlined in my evidence in chief.
4. Collectively these water quality objectives set a clear target of managing quality (and quantity) of freshwater to safe-guard the life supporting capacity of ecosystems, ensuring availability of high-quality freshwater for drinking water supply, having regard to community outcomes and protecting Canterbury's freshwater resources from quality (and quantity) degradation.
5. The key objectives of the Canterbury Regional Policy Statement to be considered are Objectives 7.2.1, 7.2.3, and 7.2.4. Objective 7.2.1 requires that freshwater is managed sustainably, that life supporting capacity of water is safeguarded and that provision is made for community supply.
6. The construct of Objective 7.2.1, may need to change in the review process in terms of its emphasis as a result of giving effect to the higher order NPS-FM 2020, by giving greater priority to the health of the water body and the health needs of people over other the ability of people to

provide for their social and economic well-being, however, overall I consider the objective to still be relevant to consideration of PC7.

7. Objective 7.2.4 requires the integrated management of freshwater within and across catchments, between activities, and between agencies and people with interests in water management in the community, considering: the Ngai Tahu ethic Ki Uta Ki Tai (from the mountains to the sea); the inter-connectiveness of surface and groundwater, the effects of land use intensification, kaitiakitanga, the net benefits of using water, and water infrastructure, and the significance of those benefits to the Canterbury Region. However, I consider that the NPS-FM 2020 will require a reset of this objective given the hierarchy of priorities now to be given effect to.
8. The NPS-FM 2020 supports the relief sought in the CCC's submission in particular the fundamental concept (1.3 (1)) of Te Mana o te Wai and the hierarchy of obligations (1.3 (5)). Both are outlined below:

1.3 Fundamental Concept – Te Mana o te Wai

(1) Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater also protects the health and well-being of the wider environment. It protects the mauri of the wai. Te mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.

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(5) There is a hierarchy of obligations (1.3 (5)) in Te Mana o te Wai that prioritises:

- a. First, the health and well-being of water bodies and freshwater ecosystems*
- b. second, the health needs of people (such as drinking water)*
- c. third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.*

9. This fundamental concept and hierarchy of obligations is encapsulated in Objective 2.1 (1) and Policy 1 of the NPS-FM 2020. Objective 2.1 reiterates the hierarchy of obligations outlined above.

10. Policy 1 states (my emphasis added):

Freshwater is managed in a way that gives effect to Te Mana o te Wai.

11. This is a step change (or paradigm shift) from the previous 2017 NPS.

12. Section 3.12 of the NPS-FM 2020 outlines the method that regional councils must undertake to achieve the target attribute states in Appendix 2A, including identifying limits on resource use that will achieve the target attribute state and include the limits as rules in its regional plans. For nitrate the relevant attributes are identified in Table 6 of Appendix 2A.

13. As per my evidence in chief at paragraph 49 this shows that a stricter target for nitrate toxicity, requiring protection of 95% of species from growth effects (>1.0 and ≤ 2.4 mg NO₃-N/L¹, with a national bottom line of 2.4 mg NO₃-N/L, annual median) where previously it was to protect 80% of species (>2.4 and ≤ 6.9 mg NO₃ - N/L² with a national bottom line of 6.9 mg NO₃ - N/L, annual median).

14. Kreleger and Etheridge adopted 3.8 mg NO₃ – N/L for spring fed rivers to set a limit for the Christchurch deep aquifers to calculate the required nitrate loss reductions in Table 8-9 for Sub-area A (Kreleger and Etheridge, 2019 at page 61). This limit now does not meet the national bottom line for spring fed rivers in the NPS-FM 2020 and further nitrogen loss reductions in Table 8-9 of PC7 will be required to achieve the NPS-FM 2020. This supports the CCC submission that the limit adopted in PC7 is too high and will result in further degradation of the Christchurch groundwater resource. I note that Schedule 8 should also be updated. Scope for this to occur is provided in the CCC submission.

¹ NPS – FM 2020 Table 6 – Nitrate Toxicity

² NPS – FM 2014 (updated 2017) Appendix 2 – Nitrate Toxicity - Rivers

15. The combined effect of being required to “give effect” to Te Mana o te Wai, and the hierarchy of obligations (or priorities) and stricter national bottom lines, in my view gives greater strength the submission of CCC and other submitters, that the timeframes for achieving the targets proposed in Table 8-9 warrant re-examination (see paragraph 8.124 on page 490 of the officer’s Section 42A report).
16. The work undertaken by the zone committee “*sought to find a balance between the cultural, environmental, social and economic outcomes.*” (Section 32 page 288). It is this “balance” approach which I consider may need to be revisited. The discussions, investigations and recommendations that have informed PC7 were not undertaken in a policy framework where certain activities/resources/outcomes would have actual priority as per the NPS-FM 2020 in respect to health and well-being of water bodies and health needs (such as drinking water) over providing social, economic, and cultural well-being.
17. In my opinion, setting a target and timeframes through PC7 (Table 8-9) as a package of measures to reduce nitrate-nitrogen loss through land management practices intended to achieve a limit of 3.8 mg/L nitrate-nitrogen over time in the Christchurch aquifers does not appropriately provide for the maintenance and protection of this freshwater resource.
18. With a target of 2.4 mg/L as a national bottom line for spring fed rivers (fed by shallow aquifers) it is not unreasonable to consider managing deep aquifers at a level of 1 mg/L, particularly when that resource is currently a high-quality drinking water supply.
19. With respect to the CCC submission to include limits for the Waimakariri River, the Christchurch drinking water supply and groundwater in Tables 8-5, 8-7 and 8-8, I consider this is more of a plan structure problem than one of scope. Dividing the region into sub-regions and not providing appropriate limits where there are catchments that overlap in terms of effects is neither integrated nor catchment based. Limits could be set in both the Christchurch West Melton sub-region and the Waimakariri sub-region to manage nitrate entering Christchurch

aquifers, recognising that land use regulations are provided to achieve the limits set.

20. Overall, I reiterate that the planning evidence relies partly on the evidence of Dr Chambers that PC7's proposed target of 3.8 mg/L nitrate-nitrogen for deeper aquifers in the Christchurch – West Melton groundwater system is too high to protect human health, specifically in relation to colorectal cancer. Dr Chambers supports a level of 1 mg/L nitrate-nitrogen as being more appropriate from a health perspective. This lower level is also more consistent with the objectives of the LWRP in maintaining high quality freshwater which will protect community water supplies and ecosystem health. It is also now supported by the NPS-FM 2020 where the hierarchy of priorities places the health and well-being of water bodies and freshwater ecosystems first, then the health needs of people (such as drinking water) over the ability of people and communities to provide for their social, economic, and cultural well-being. The conversation has changed, recognising that protecting the health of freshwater also protects the health and well-being of the wider environment (NPS FM 2020, 1.3).
21. While the approach of PC7 goes some way towards achieving high quality freshwater compared to the operative plan provisions, the proposed target nitrate levels and the timing of staged reductions to achieve these targets being managed by PC7 will not result in meeting the objectives of the LWRP or Objective 2.1 of the NPS-FM 2020.
22. I agree with Ms Bridget O' Brien that PC7 should take a more cautious approach to protecting Christchurch's groundwater supply from nitrate contamination to protect the health of people drinking the water. While proposed PC7 would result in less deterioration in groundwater quality than would otherwise be the case, I agree that it does not go far enough.
23. I also agree that a nitrate-nitrogen limit of 1 mg/L for the deep Christchurch aquifers is appropriate. More stringent land use measures would be required to achieve this than are proposed in PC7, to achieve much faster reductions in nitrate losses from intensive land use.

24. As per the evidence of Mr Mike Thorley on nitrate load travel times, changes to land use practices today will take years to have an impact on nitrate concentrations in some water supplies. It is therefore important that the measures required to ensure the high-quality Christchurch groundwater resource is maintained and protected are implemented in as short a time frame as possible.

Dated at Christchurch this 11th day of November 2020

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Janice Carter