

From: [Katia De Lu](#)
To: [Mailroom Mailbox](#)
Subject: Plan Change 7 to the LWRP Submission
Date: Thursday, 12 September 2019 8:54:48 PM
Attachments: [Katia De Lu Submission on Plan Change 7 to the LWRP.pdf](#)

To whom it may concern,

Please find attached my submission on Plan Change 7 to the LWRP.

If there is any further information you require, please contact me.

My preferred contact method is via email to this address (katiadelu@gmail.com), but in case you require my other contact details, they are:

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Kind regards,
Katia De Lu

PLAN CHANGE 7 TO THE LWRP SUBMISSION

Katia De Lu

INTRODUCTION

ECan needs to set stronger limits to safeguard our drinking water, our natural environment, and our health.

Safe drinking water is a human right. I want the safety and purity of Christchurch's drinking water to be protected, now and into the future. I was outraged to learn that ECan has ignored the Christchurch City Council (CCC) on this issue, when it is the CCC that is responsible for maintaining our safe drinking water. ECan must listen to the CCC's expertise and cooperate with the CCC on matters that affect Christchurch's drinking water.

It is not fair for farmers to contaminate hundreds of thousands of people's drinking water for their own private profit, leaving the taxpayer to pick up the tab. They need to take responsibility and farm in a way that is genuinely sustainable. If it is not environmentally sustainable, then it should not be legal or economically sustainable either.

Clean drinking water also relies on a healthy ecosystem, and we have a responsibility to be good *kaitiaki* of the natural environment. ECan must set limits that ensure the safety of aquatic ecosystems as well as humans, which means that the proposed nitrate level of 3.8 mg/l is unacceptably high and must be set lower (around 0.4–0.5 mg/l), in line with scientific evidence.

ECan should also take into account the latest scientific evidence relating to safe drinking water for humans. As recently noted by the Public Health Association, Forest and Bird, and Local Government NZ, international research of 2.7 million people over 23 years found a significant increase in rates of colorectal cancers at levels of 0.87 mg/l – less than a quarter of PC7's proposed limit. We may be seeing signs of this already in South Canterbury and Ashburton, which have high levels of both colorectal cancers and nitrates.

Future generations will have enough to deal with as a result of climate change; the least we can do is preserve safe drinking water for them.

FOR THE ORARI, TEMUKA, OPIHI, PAREORA AND WAIMAKARIRI SECTIONS:

I strongly support:

- The caps on any new water allocation;
- The setting of nitrate limits for rivers and groundwater and the policies and rules that restrict any further increase of nutrient discharges; and
- Higher required reductions in nitrogen losses in High Nitrogen Concentration Areas beyond "Good management practice", but I want to see greater reductions required in the life of this current plan.

In addition, I strongly request all minimum flows and associated partial restrictions to provide for the ecological health of the stream, river, *hapua* (lagoons), etc. within the life of this current plan.

FOR THE WAIMAKARIRI SECTION:

Nitrate leaching in the Waimakariri 'Nitrate priority area', which is modelled to result in a nitrate level of 3.8 mg/l, poses an unacceptable risk to the drinking water of current and future Christchurch citizens.

The implications for future nitrate pollution of Christchurch's drinking water are inconsistent with the following Strategic Policies in the [Land and Water Regional Plan](#):

- 4.4 "Groundwater is managed so that: ...Overall water quality in aquifers does not decline"
- 4.5 "Water is managed through the setting of limits to safeguard the life-supporting capacity of ecosystems, support customary uses, and provide for community drinking-water supplies and stock water, as a first priority...."

The nitrate reduction rules should require appropriate reductions in the 'Nitrate priority area' which will maintain or improve the current quality of the Christchurch drinking water aquifers as is required under the NPS for Freshwater.

The decisions we make today will have serious and lasting implications for current and future generations. I believe it is entirely inappropriate for the activities of private individuals and enterprises to put at risk the drinking water of nearly 400,000 people, with population projections estimating 500,000+ by the time nitrate contamination levels are expected to reach 3.8 mg/l.

The economic assessments, which informed PC7, state: "The total reduction from Current Pathways to the Solutions Package will be approximately \$5.8 million in operating profit, and \$5.7 million per annum in regional GDP" and appear to have a minor impact (0.3%) on the \$1.57 billion GDP for the Waimakariri district.

Economic externalities must be taken into account alongside farm operating surplus assessments, such as the cost to younger and future generations if they are faced with needing to treat their drinking water or source alternative supplies. The future cost to the Christchurch public is likely to vastly exceed that of any short term economic impact on farm profits.

I strongly support a science-based precautionary approach to both the protection of human health and the protection of Christchurch's drinking water sources, which rely on functional, healthy aquifer ecosystems.

- Graham Fenwick (NZ's leading groundwater ecosystem scientist) suggests in his evidence to the Te Waikoropupu springs WCO hearing a trigger value of 0.4–0.5 mg/l as a precautionary value to ensure ecosystem health.
- Chris Hickey (NZ's leading ecotoxicologist) recommends in his evidence to the Te Waikoropupu springs WCO hearing that where long lag times apply, a management limit of 0.55–1.1 mg/l is appropriate (Hickey considers a 'long time lag' to be 8 years, whereas in the lag effects for the Waimakariri 'Nitrate priority area' is modelled as being 50+ years).

I would like to see limits set in the life of this proposed plan that achieve those ranges of limits suggested as part of the Te Waikoropupu springs WCO hearing.

In Graham Fenwick's presentation to commissioners on behalf of Wellington Regional Council in 2018 he stated: "Available research evidence empirically demonstrates that this standard [NZ Drinking Water Standard], designed to protect human health, is inappropriate for ensuring the health of aquatic ecosystems and invertebrates under long-term exposure."

In light of Fenwick's and Hickey's findings mentioned above, it is clear that further to being inconsistent with policies 4.4 and 4.5 the proposed nitrate limit of 3.8 mg/l will not provide for the ecosystem health of the Christchurch drinking water aquifers.

Even though the biodiversity within New Zealand's aquifers is poorly known, the New Zealand Conservation Act 1987 and the New Zealand Biodiversity Strategy require regional councils to ensure that the intrinsic and other values of all biodiversity (including that of "underground aquifers") are adequately maintained and safeguarded for future generations.

The ecosystem services delivered by groundwater biodiversity are integral to sustaining groundwater and surface water resources, cultural identities and economies at local, regional and national levels.

The Resource Management Act 1991 (and amendments) require regional councils to ensure the sustainability of these ecosystem services, to safeguard "the life-supporting capacity of air, water, soil, and ecosystems" by "avoiding, remedying, or mitigating any adverse effects of activities on the environment" to ensure that the needs of future generations are met.

The NPS-FM Appendix 1 sets out national values and uses for freshwater, which explicitly includes "aquifer" as one "freshwater body type". These compulsory national values for ecosystem health are:

- The freshwater management unit supports a healthy ecosystem appropriate to that freshwater body type (river, lake, wetland, or aquifer).
- In a healthy freshwater ecosystem ecological processes are maintained, there is a range and diversity of indigenous flora and fauna, and there is resilience to change.
- Matters to take into account for a healthy freshwater ecosystem include the management of adverse effects on flora and fauna of contaminants, changes in freshwater chemistry, excessive nutrients, algal blooms, high sediment levels, high temperatures, low oxygen, invasive species, and changes in flow regime. Other matters to take into account include the essential habitat needs of flora and fauna and the connections between water bodies.

For these reasons, I consider that the aquifer ecosystem which provides Christchurch's drinking water requires specific protection, greater than what is afforded in the current plan's rules for nitrate reductions.

I do not believe that the modelled nitrate pollution is of any less immediate concern because it is 50+ years away, particularly because ECan's monitoring shows the northern bores are already showing increasing nitrate levels – in line with the model's predictions. Younger and future generations will be facing much greater challenges in the form of climate disruption and all the social, cultural, environmental and economic issues associated with such disruption. The least we can do is provide them a safe, ecologically functional water supply, just like we enjoy today.

FOR THE OMNIBUS SECTION:

I support the rules applying to:

- Greater restrictions on activities to improve protection of the remaining habitat of native freshwater fish;
- Additional stock exclusion provisions for swimming sites,

- Greater recognition of values (such as *mahinga kai*) and protection of sites of significance to Ngāi Tahu, including *wāhi tapu* (sacred sites), *wāhi taonga* (treasured sites), *tuhituhi o neherā* (limestone rock art sites), and *waipuna* (springs); and
- The addition of new salmon spawning sites.

I could not gain an advantage in trade competition through this submission.

Thank you for considering my submission.