

**From:** [Roddy and Linda Henderson](#)  
**To:** [Mailroom Mailbox](#)  
**Subject:** Plan Change 7 to the LWRP Submission  
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To whom it may concern:

I am very concerned about the proposals included in Plan Change 7 as mentioned above.

It seems that the livelihoods and profits of relatively few farmers are being put before and above the basic human right of over 400,000 people in Christchurch City and rural surrounds to guaranteed access in perpetuity to clean, untreated, pure drinking water, supplied from our deepest aquifers, as is the case now.

"Ours is one of the largest remaining metropolitan cities in the world that doesn't need to treat its water. It is socially unacceptable for any industry or private enterprise to profit from the pollution of our increasingly precious public resources".

I acknowledge that there are very many farmers for whom this is not an issue, and who are taking responsibility for the guardianship of their land, managing it well and conservatively. I thank those people for their care and responsibility.

I also acknowledge that there are farmers for whom this will be a burden, both personally and financially, but again, for the common (and greater) good, it is time to legislate safeguards for our fresh waters that will ensure their protection as safe pure uncontaminated drinking water, forever.

There needs to be a conservative precautionary approach to allowable nitrate levels to protect both ecological health and the uncontaminated drinking water Christchurch has today.

I strongly support reducing the acceptable levels of nitrates in our water and request that they be kept well below the 3.8g/l being referenced as an average maximum (so not a maximum at all). Given that international research looking at 2.7 million people over 23 years of age found significant increases in rates of colorectal cancers at nitrate levels of 0.87mg/l then this limit needs to be seriously considered as a maximum limit, for the health of our population.

**For the Waimakariri section:**

- I consider the implications of 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.
- I consider that the implication for future nitrate pollution of Christchurch's drinking water is inconsistent with the following Strategic Policies in the [Land and Water Regional Plan](#):
  - 4.4 Groundwater is managed so that: ...e. 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...'
- 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 states: "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 requires 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) requires regional councils to ensure the sustainability of these ecosystem services (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 that is afforded in the current

plans rules for nitrate reductions.

- I do not believe that because the modelled nitrate pollution is 50+ years away, that it is of any less immediate concern (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 Ngai Tahu, including wahi tapu (sacred sites), wahi taonga (treasured sites), tuhituhi o nehera (limestone rock art sites) and waipuna (springs), and,

Thank you for considering my submission.

Linda Keall