Greenpeace New Zealand
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23 April 2024

Fepulea'i Margie Apa
Chief Executive
Te Whatu Ora
PO Box 793
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CC:
Vince Barry, Regional Director - National Public Health Service - Te Waipounamu, Te Whatu Ora
Stefanie Rixecker, Chief Executive, Environment Canterbury
Sharon Mason, Chief Executive Officer, Selwyn District Council
Jeff Millward, Chief Executive, Waimakariri District Council
Allan Prangnell, Chief Executive, Taumata Arowai
Ruth Sarson, Regulatory Team Leader, Ōtautahi / Christchurch, Taumata Arowai
Dr Shane Reti, Minister for Health

Tēnā koe Ms Apa,

I am writing to convey my deep concern over high levels of nitrate contamination in town drinking water supplies in the North Canterbury region and the potential implications for people's health.

Greenpeace Aotearoa ran three drinking water testing events in North Canterbury this past weekend. We tested 445 water samples.

This weekend's testing found that several town supplies had levels of nitrate above 5 mg/L (NO_3-N). Those towns were Darfield, Kirwee, and Oxford.

Previous Greenpeace testing has found town water supplies elsewhere in the region, including Dromore, Fairton, Hinds, Rawhiti, Dunsandel, Edendale, and Sandy Knolls are also above that 5 mg/L limit.[i]

I would like to draw your attention to a growing body of scientific evidence which has linked this level of drinking water nitrate to an increased risk of preterm birth[ii] and low birthweight babies.[iii] The New Zealand College of Midwives advises that "if drinking water exceeds this threshold (5mg/L), pregnant women should consider accessing an alternative water source such as bottled water, or investigate effective treatment options."[iv]

While the current Maximum Allowable Value for drinking water nitrate is 11.3mg/L, this has been criticised as "hopelessly out of date"[v] by public health experts, like Professor Michael Baker. The limit was set by the World Health Organisation more than half a century ago in response to blue baby syndrome (methaemoglobinaemia) and does not take account of the growing body of

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evidence which shows potential health risks at much lower levels of nitrate contamination.

This includes emerging evidence indicating an increased risk of colorectal cancer associated with long-term exposure to nitrate in drinking water at levels as low as 1 mg/L.[vivii] This risk increases as concentrations of nitrate increase[viii], meaning that these communities may also be at an increased risk of colorectal cancer from long-term exposure to public water supplies.

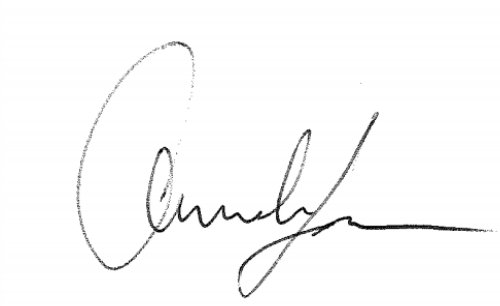
New Zealand public health researchers have estimated that nitrate contaminated water could be causing 100 cases of colorectal cancer and 40 deaths per year in New Zealand.[ix]

The only effective solution to nitrate contamination of drinking water is to stop pollution at source. Data from the Ministry for the Environment show that the largest sources of nitrogen leaching from soil in Aotearoa, in order of magnitude, are dairy cattle, sheep and synthetic nitrogen fertiliser itself.[x] For environmental and human health reasons, Greenpeace has long advocated for a phase out of synthetic nitrogen fertiliser and a reduction in stocking rates.

We are deeply concerned that public drinking water supplies in the Canterbury region have reached this level of nitrate contamination and would like to know Te Whatu Ora's response. How will Te Whatu Ora ensure that rural communities' health is protected and that they are able to safely drink the water coming out of their kitchen tap?

Safe, healthy drinking water is a fundamental human right, and currently, rural communities in Canterbury are facing a potential increase in health risks because their drinking water is increasingly contaminated with nitrate. This is a serious public health concern. I look forward to hearing from you.

Ngā mihi nui,



Amanda Larsson
Head of Campaigns
Greenpeace Aotearoa

[i] Greenpeace Aotearoa (2024) "Know Your Nitrate Map" https://maps.greenpeace.org/maps/aotearoa/know-your-nitrate/

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[iv] New Zealand College of Midwives "Nitrate levels in drinking water: risks for pregnant women and formula-fed babies." https://www.midwife.org.nz/wp-content/uploads/2021/05/Advice-to-member-Nitrates-May-2021-1.pdf
[v] RNZ (2019) "Health expert renews call for study on nitrates in drinking water." Radio New Zealand. 28 July. https://www.rnz.co.nz/news/national/395386/health-expert-renews-call-for-study-on-nitrates-in-drinking-water
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[vii] Temkin, A., Evans, S., Manidis, T., Campbell, C., & Naidenko, O. V. (2019). Exposure-based assessment and economic valuation of adverse birth outcomes and cancer risk due to nitrate in United States drinking water. Environmental research, 176, 108442.
[viii] ANSES (French Agency for Food, Environmental and Occupational Health & Safety), Reducing dietary exposure to nitrites and nitrates, 12 July 2022.
[ix] Richards, J., Chambers, T., Hales, S., Joy, M., Radu, T., Woodward, A., Humphrey, A., Randal, E., & Baker, M. G. (2022). Nitrate contamination in drinking water and colorectal cancer: Exposure assessment and estimated health burden in New Zealand. Environmental Research, 204, 112322.
[x] MFE and Stats NZ 2015 "Environmental Reporting: Nitrogen leached from soil 1990–2012" https://data.mfe.govt.nz/table/2530-nitrogen-leached-from-soil-total-1990-2012/data/

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