

TAPUHI KAITIAKI O AOTEAROA

25 September 2019

Ministry for the Environment / Manatū Mō Te Taiao Environment House 23 Kate Sheppard Place Thorndon Wellington

By email: consultation.freshwater@mfe.govt.nz

Action for healthy waterways: A discussion document on national direction for our essential freshwater

Tēnā koe

The New Zealand Nurses Organisation Tōpūtanga Tapuhi Kaitiaki o Aotearoa (NZNO) welcomes the opportunity to make a submission to the Ministry for the Environment on Action for healthy waterways: A discussion document on national direction for our essential freshwater.

NZNO is the largest health professional workforce voice, with 51,000 members. NZNO embraces te Tiriti o Waitangi and contributes to the improvements of the health status and outcomes of all people of Aotearoa New Zealand through influencing health, employment and social policy development. NZNO aims to represent the main issues and concerns of its members and has consulted all colleges and sections in preparation of this submission, including Women's Health, Infection Control, Public Health, Regional Councils, Primary Health Care Nurses and Te Rūnanga.

NZNO wishes to comment on Section 6 of the document - *supporting the delivery of safe drinking water.* We strongly support the proposals to amend the *National Environmental Standard for Sources of Drinking Water (NES).* We agree with the proposal to strengthen the obligations on all regional councils and territorial authorities to manage risks to source waters through amendments to the Drinking Water NES.

We acknowledge the concept 'Te Mana o te Wai' (restoring and protecting the integrity of water) for fresh water management that encompasses several different aspects of the integrated and holistic health and wellbeing of a water body. When Te Mana o te Wai is given effect, the water body will protect the full environmental, social, cultural and economic values held by iwi and the community.

National Office Level 3 Crowe Horwath House 57 Willis Street Wellington 6011 PO Box 2128 Wellington 6140 T 0800 28 38 48 www.nzno.org.nz NZNO members are of the view that safe drinking water source protection arrangements are crucial to public health. Our confidence in the fundamental service of safe drinking water has been shaken by the outbreak of gastroenteritis in Havelock North in August 2016. Evidence of nitrate levels that exceed national drinking water standards in areas of intensive farming (such as Canterbury) also shows that safe drinking water is currently unreliable in Aotearoa New Zealand. Our members know that the consequences of poor water quality can be illness, or even death. We are therefore very keen to ensure that the law will strengthen the requirements of all drinking water providers to ensure the supply is healthy and does not lead to future health crises, burdens on the health system or risks to individuals.

Better enforcement of drinking water standards regarding nitrate necessary

NZNO members would like to see a more targeted and precautionary approach towards reducing the health impact of high levels of nitrates in drinking water in areas of intensive farming. Nitrate levels in drinking water, especially Canterbury, show that the scope of current regulation does not adequately cover all land-use activities that can cause contamination. This situation poses a risk to human health, if not currently then potentially in the future, especially as these levels are said to likely increase. For drinking water, the New Zealand drinking water standards set a Maximum Acceptable Value (MAV) of 50 milligrams per litre (mg/l) for nitrate, which is equivalent to 11.3 mg/l nitrate-nitrogenⁱ. The most recent Environment Canterbury (ECan) report, released in June 2019, shows that in Canterbury leaching has resulted in 22 private wells with nitrate levels above the national drinking water standardsⁱⁱ. Canterbury Medical Officer of Health Dr Alistair Humphrey has predicted that in Canterbury the worse contamination may be yet to reach the aquifers and water in this region could be undrinkable in 100 yearsⁱⁱⁱ. We are therefore of the view that regional councils and territorial authorities need to act now to ensure tighter management of land use in areas that are sources of drinking water supply to prevent further contamination by nitrates due to the risks to human health, as outlined below.

Established health risk to babies from nitrates in Canterbury

The potentially fatal "blue baby syndrome", a condition that reduces the ability of red blood cells to release oxygen to tissues, can occur when drinking water high in nitrate is consumed by pregnant women or used for bottle formula for young babies. The risk to babies in Canterbury is now deemed so significant that Canterbury District Health Board now issues a public health pamphlet <u>Nitrate in drinking water- blue baby syndrome</u> to mothers because of ongoing water pollution^{iv}. Midwives are advised to consult ECan risk maps to inform new mothers if their drinking water has dangerously high nitrate levels that might cause blue baby

syndrome. These risk maps have recently been shown to be out of date^v. As health professionals, we are concerned that that this situation shows a small but very significant risk to human health, and drinking water supply therefore urgently needs better regulation.

New international research finds links between nitrates and colorectal cancer

Recent international research has raised questions about whether nitrate exposure through drinking water may be associated with the rates of colorectal (bowel) cancer in Aotearoa New Zealand – one of the highest in the world and rising among young people^{vi}. Colorectal cancer rates are highest in South Canterbury, an area where nitrate levels are also known to be high^{vii}. Leading public health expert Professor Michael Baker has recently stated that based on numbers in a recent US study "50 people could be dying from bowel cancer every year in New Zealand because of nitrates in their drinking water"viii. Professor Baker's estimate is based on a meta-analysis study published in September 2019 that shows nitrate pollution may be causing up to 12,500 cancer cases in the US^{ix}. This US research adds builds on findings of a major Danish study published in the International Journal of Cancer in 2018 (involving monitoring of 2.7 million people over 23 years) which reported a link between very low levels of nitrates in drinking water and the risk of developing colorectal cancer. Significantly, the pollution levels in the Danish study were much lower than New Zealand currently allows in drinking water - nitrate levels above 3.87 mg/1000ml substantially increasing the risk of colorectal cancer^x. New Zealand has yet to undertake a quantitative estimate of the colorectal cancer burden that can be attributed to the hazard of nitrates in drinking water. However, NZNO is of the view that international epidemiological evidence is very concerning and warrants attention by regional councils and territorial authorities.

Inequities in access to safe drinking water

NZNO is also aware that there are inequities in access to safe drinking water between urban and rural settings. In most urban settings the council meets the cost of water treatment to ensure that the community is provided with water of acceptable standard. Currently, in rural communities the cost of remedial action is unaffordable so the community has to use unsafe water in many cases. In addition, many of these communities are using individual wells, and there is no monitoring of these wells.

Rather than wait for more science around the risks to human health from nitrates to emerge, NZNO believes precautionary steps in terms of better enforcement of drinking water standards and regulation around intensive agriculture must be undertaken. We urge the

Ministry for the Environment to identify future actions aimed at reducing levels of nitrates going into groundwater and waterways in its upcoming detailed drinking water source protection proposals. We are of the view that it is unfair that while a small minority is responsible for most of the damage to water sources, the entire community has to pick up the tab for remedying the water. Future proposals to protect drinking water may focus on halting land use intensification, reduction of fertiliser use and numbers of cows in areas with high nitrate levels. While we cannot easily change the nitrate levels already in the water, we can change future levels. It is also more cost-effective to prevent degradation of waterways by limiting nutrient pollution than to attempt hugely expensive restoration, a future drinking bottled water and alleviating the impacts of nitrate-associated diseases. The current situation whereby potential harm to babies from blue baby syndrome and individuals from colorectal cancer are viewed as acceptable potential risks that can be mitigated to maintain a viable primary sector is far from ideal.

Nāku noa, nā

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About NZNO

NZNO is the leading professional nursing association and union for nurses in Aotearoa New Zealand. NZNO represents over 51,000 nurses, midwives, students, kaimahi hauora and health workers on professional and employment related matters. NZNO is affiliated to the International Council of Nurses and the New Zealand Council of Trade Unions.

NZNO promotes and advocates for professional excellence in nursing by providing leadership, research and education to inspire and progress the profession of nursing. NZNO represents members on employment and industrial matters and negotiates collective employment agreements. NZNO embraces te Tiriti o Waitangi and contributes to the improvement of the health status and outcomes of all peoples of Aotearoa New Zealand through influencing health, employment and social policy development enabling quality nursing care provision. NZNO's vision is *Freed to care, Proud to nurse*

References

¹ Ministry of Health. (2018). *Drinking-water Standards for New Zealand 2005 (revised 2018)*. Wellington.

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^v Retrieved on 23.09.19 from <u>https://www.rnz.co.nz/news/national/391914/more-wells-with-nitrate-levels-above-safe-standard-forest-and-bird</u>

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^{viii} Retrieved on 23.09.19 from <u>https://www.rnz.co.nz/news/national/395386/health-expert-</u><u>renews-call-for-study-on-nitrates-in-drinking-water</u>

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^x Schullehner, J; Hansen, B; Thygesen, M; Pedersen, C. & Sigsgaard, T. (2018). Nitrate in drinking water and colorectal cancer risk: A nationwide population-based cohort study. *International Journal of Cancer, 143* (1): 73-79.