

SUBMISSION ON:
Ministry for the Environment
Manatū Mō Te Taiao
Clean Water Consultation 2017
April 2017

1. Acknowledgement

1.1 Population Health, Waikato District Health Board (DHB) congratulates the Government in seeking to ensure that 90% of rivers and lakes in Aotearoa will be swimmable by 2040.

1.2 Thank you for the opportunity to submit comments on the Clean Water Consultation 2017.

2 Submission

2.1 Population Health Waikato DHB supports the proposal to ensure that 90% of rivers and lakes in Aotearoa will be swimmable by 2040. Access to swimmable waterways provides opportunities for physical activity and is good for the health of the population. It is important that people are able to swim without the risk of getting sick from contaminated water. However we are opposed to some aspects of the targets for fresh water quality for swimming that are presented in the proposal for clean water, as detailed later in this submission.

2.2 The consultation document states that the definition of swimmable is based on the concentration of *Escherichia coli* in rivers and toxic algae in lakes. It is our view that both the concentration of *E. coli* and of toxic algae needs to be taken into account in assessing whether lakes are swimmable. We note that the proposed National Policy Statement for Freshwater Management does include both lakes and rivers in the attribute table for *E. coli* to assess human health for recreation.

2.3 We are disturbed at the definition used for swimmable, and at the proposed amendments to the National Policy Statement for Freshwater Management 2014 relating to human health for recreation.

- 2.4** The bacterium *E. coli* is used to indicate the presence of faeces, and therefore an increased risk of water-borne infection in recreational fresh water (including rivers and lakes) (Ministry of Health, 2009, p.78¹). Individual human exposure to contaminated fresh water (indicated by high levels of *E. coli*) can cause adverse health effects, including digestive and respiratory diseases (Ministry for the Environment and Ministry of Health 2003²).
- 2.5** The proposed Clean Water *E. coli* guideline for rivers is 540 *E. coli* per 100mLs. We submit that this level is too high, and is not the appropriate level to represent safe swimming. A 95th percentile *E. coli* level of 540/100mL represents a probability of *Campylobacter* infection of approximately 5 in 100 people exposed. However, under this proposal a river would be considered swimmable if it met this level just 80% of the time. The likelihood of *Campylobacter* infection would therefore be expected to be higher than 5 in 100 people.
- 2.6** We advocate that the guideline *E. coli* level for swimmable rivers (and lakes) should be a 95th percentile *E. coli* level of 260/100mL. This level relates to an average probability of one case of *Campylobacter* infection in every 100 exposures, more than five times lower than that proposed (Ministry for the Environment and Ministry of Health 2003³). A surveillance level of *E.coli* of 260/100mL is classified as acceptable for swimming by the “Microbiological Water Quality Guidelines for Marine and Freshwater recreational Areas”. These guidelines were developed by the Ministry for the Environment and Ministry of Health, and are the most appropriate guidelines to define when it is safe to swim, from a microbiological perspective. The proposed definition of swimmable does not align with these guidelines.

3 Hearing

- 3.1** Population Health, Waikato DHB does not wish to be heard in support of this submission.

4 About Population Health, Waikato District Health Board

- 4.1** Population Health provides public health services, including health assessment and surveillance, public health capacity development, health improvement advisory services, and health protection and preventative interventions to people within the Waikato District Health Board (DHB) area.
- 4.2** The primary goal of Population Health is to promote, improve and protect health with a focus on achieving equity for people living in the Waikato DHB area. This aligns with the strategic outcomes for the Waikato DHB:
- To improve the health of its population
 - To reduce or eliminate health inequalities between segments of the population.

¹ Ministry of Health. 2009. *Environmental Health Indicators for New Zealand 2008*. Wellington: Ministry of Health.

² Ministry for the Environment and Ministry of Health. 2003. *Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas*. Wellington: Ministry for the Environment and Ministry of Health.

³ Ibid.

4.3 Population Health has a strong focus and emphasis on the determinants of health or more simply, the factors that have the greatest influence on health. Opportunities for health begin long before the need for medical care, and starts where we live, learn, work, and play.

4.4 The Waikato District Health Board (Waikato DHB) serves a population of 394,340 (2015/2016)⁴ people within 10 territorial authorities and two regional councils, stretching from the northern tip of Coromandel Peninsula to south of National Park and from Raglan and Awakino in the west to Waihi in the east. Approximately 60 percent of the Waikato DHB population of lives outside the main urban areas.

5 Contact address

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⁴ Waikato District Health Board, 2016. Healthy People Excellent Care: Waikato District Health Board Strategy. www.waikatodhb.health.nz/strategy