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1 March 2018
Environmental Protection Authority
Private Bag 63002
Wellington 6140
New Zealand

Submission for a water conservation order on the Te Waikoropupū Springs and associated water bodies Section 204 Resource Management Act 1991 (RMA) made by Ngāti Tama Ki Te Waipounamu Trust and Andrew Yuill (the applicants).

1. Thank you for the opportunity to provide a submission for a water conservation order on the Te Waikoropupū Springs and associated water bodies.
2. A brief introduction as to my interest in this resource consent follows:
3. I live in Tamaki Makaurau and whakapapa to Ngāti Tama and Te Ati Haunui-a-Pāparāngi. I was raised outside of Whanganui on a sheep farm with strong connections to awa and puna. I have a connection to these springs through my whakapapa. I am a physiotherapist and am currently studying towards a Master's in Public Health and understand the strong importance of caring for our waterways from many perspectives-health, ecological, environmental and spiritual but also understand the perspective of a farmer. This provides the backdrop to my interest in this request for water conservation on Te Waikoropupū Springs and its importance for all aspects of health and well-being.
4. Whilst this is a personal submission, it also reflects the views of my whanau in Whanganui and Manawatu.
5. The executive summary commences with fundamental concerns related to health and well-being and key recommendations.
6. I do not want to present my views at the public hearing.
7. I understand that all submissions will be available under the Official Information Act 1982, except if grounds set under the Act apply.

The primary point of contact for this submission is:

Justine Martin
[redacted]

Yours sincerely,

Justine Martin

ID: 965455142

EXECUTIVE SUMMARY AND KEY RECOMMENDATIONS

1. Thank you for the opportunity to provide a Submission for a water conservation order on the Te Waikoropupū Springs and associated water bodies Section 204 Resource Management Act 1991 (RMA) made by Ngāti Tama Ki Te Waipounamu Trust and Andrew Yuill (the applicants).

2. I support all aspects of the applicant's requests. I strongly support Ngāti Tama Ki Te Waipounamu Trust being acknowledged as kaitiaki over the waterways. I seek that the Special Tribunal recommends granting the order to the Minister of the Environment

3. The wider catchment area must also be protected:
    - For cultural/tikanga Māori and spiritual values
    - to retain the biodiversity and ecology
    - to provide an ongoing habitat for indigenous flora and fauna
    - to ensure continued water clarity and purity
    - recreational values
    - for future generations

4. Intensification of farming and industry has increased in recent years. Minimising pollution must be a priority coupled with ensuring water limits are retained in aquifers and water ways to prevent degradation which is seen in many other New Zealand rivers. Economic returns need to be balanced with potential negative implications on surrounding waterways, which affect well-being. The Springs are of outstanding spiritual and cultural significance to Māori and Pakeha alike. Their value cannot be underestimated as they are precious taonga locally, nationally and internationally.

5. Waterways provide food sources for local iwi, recreational opportunities by way of swimming and fishing and are spiritually significant.

6. Prudent management and collaboration between kaitiaki and other stakeholders is necessary to support the divergent needs without in anyway compromising the current quality of water.

7. A summary of areas for concern if the water conservation order for Te Waikoropupū Springs and other waterways is not granted are highlighted below:

8. <u>Environmental health (upstream issues)</u>
    - Leaching of nitrogen (N) and phosphorus (P) into ground water and waterways
    - Run-off (effluent and fertiliser) entering waterways
    - Bank erosion
    - Loss of biodiversity and reduced ecosystem health (through algae blooms (cyanobacteria), slime (periphyton), sediment and reduced flow)
    - Methane and nitrous oxide emissions contributing to climate change

9. <u>Physical health (downstream issues)</u>
    - Water unsafe to drink due to bacteria in water

- Recreational activities (Swimming, boating and fishing) restricted due to reduced water flow and bacteria
- Poisoning from agricultural chemicals and spray drift

10. Cultural/social health
    - Reduced food source
    - If the issues outlined above occur, the spiritual and cultural well-being of Maori are compromised. Maori value fresh water for its wairua (spiritual dimension) and mauri (life force). Waiora (spiritual connection between human well-being and the environment) is paramount in Maori well-being as Maori are integrally connected with the water ecosystems considering them inherently precious and priceless. Rivers and the natural environment provide nourishment for wairua (soul) and puku (stomach).

Key Recommendations

11. Implement a water conservation order over the Springs and waterways outlined in the application so that the council is supported and over-allocation of water cannot occur. Over-allocation is detrimental to biodiversity and human health and also has impacts on individuals who already have consented water rights.

12. I strongly support Ngāti Tama Ki Te Waipounamu Trust being acknowledged as kaitiaki over the waterways

13. I recommend that complete a Cultural Impact Assessment[1] is undertaken to understand the cultural value of Te Waikoropupū Springs and its relationship with Ngāti Tama Ki Te Waipounamu if it has not yet been completed. This will aid meaningful consultation with iwi, hapu and whanau and relationship building. This aligns with Treaty of Waitangi principles and Part 2 section 8 of the RMA (1991)[2].

Issues to be considered

14. Discharge of nutrients into water ways: Nitrogen and Phosphorus
    With conversion to dairy farming there is clear evidence of water quality degradation through increased nitrogen and phosphorus leaching into waterways along with E.coli and campylobacter from cow's urine and excrement.[3] Dairy farms discharge approximately 28kg/hectare/annum of N compared to 5kg/hectare for sheep (national median rate).[4] Another contributor is fertiliser usage to boost grass growth which is a two-fold issue. Firstly, run-off from fertiliser containing N and P enters ground water and makes its

[1] RMA Quality Planning Resource. (n.d.) Frequently asked questions about cultural impact assessments. Retrieved from http://www.qualityplanning.org.nz/index.php/supporting-components/faq-s-on-cultural-impact-assessments

[2] Environment Foundation. (2014, Dec. 16). Environment Guide: Maori and the RMA. Retrieved from http://www.environmentguide.org.nz/rma/maori-and-the-rma/

[3] Ballantine, DJ & Davies-Colley, RJ (2014). Water quality trends in New Zealand Rivers: 1989–2009. *Environmental Monitoring and Assessment*, *186*(3), 1939–1950. Retrieved from: doi:10.1007/s10661-013-3508-5

[4] The Listener. (2014, Jan. 2) Something in the water? Retrieved from http://www.listener.co.nz/current-affairs/ecologic/something-in-the-water-2/

way to waterways or runs directly off the land. Secondly, fertiliser allows grass to grow for longer periods, which results in increased production of urine from cows[5].

15. Algae bloom
    Excessive N and P in waterways triggers growth of slime and algae (cyanobacteria). This causes reduced dissolved oxygen, slowed river flow and smothers the river bed. This causal chain results in fish eggs covered in slime, depleted food for fish and other aquatic invertebrates and stagnated water in which plants and animals cannot thrive. The outcome is that the biodiversity of the waterway is seriously compromised with resultant loss of fish and plant life[6].

16. Bank erosion causes sediment and turbidity with loss of clarity
    When cows are not fenced off from waterways water sediment increases through bank erosion which distributes P. This can end up on the river bed also suffocating fish eggs and plant life[7].

    Faecal contamination

17. Cows with access to waterways defecate in them introducing harmful bacteria. Run-off from paddocks also carry pathogens into ground water, waterways and aquifers particularly during heavy rainfall[8]. This can cause gastrointestinal upsets through pathogens entering town water supplies and skin infections from swimming[9]. The significance of this issue has been underscored with recent contamination of aquifer water in Havelock North most likely from ruminants causing campylobacter poisoning. It affected over 5,000 people and has harmed the local economy[10].

18. Cultural health and well-being[11]
    The concerns above culminate into an overarching issue for cultural health and well-being and includes waiora (spiritual connection between human well-being and the environment)

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[5] Parliamentary Commissioner for the Environment. (2015). *Update Report Water quality in New Zealand: Land use and nutrient pollution June 2015.* Wellington: Author. Retrieved from http://www.pce.parliament.nz/media/1008/update-report-water-quality-in-new-zealand-web.pdf

[6] Parliamentary Commissioner for the Environment. (2013). *Water Quality in New Zealand: Land Use and nutrient pollution November 2013.* Wellington: Author. Retrieved from http://www.pce.parliament.nz/media/pdfs/PCE-Water-quality-land-use-web-amended.pdf

[7] NIWA. (2016). Farm practices and stream health. Retrieved from https://www.niwa.co.nz/our-science/freshwater/tools/shmak/manual/10manage

[8] Collins, R., McLeod, M., Hedley, M., Donnison, A., Close, M., Hanly, A., … Mathews, L. (2007). Best management practices to mitigate faecal contamination by livestock of New Zealand waters. Hamilton: Author. Retrieved from http://lshs.tamu.edu/docs/lshs/end-notes/best%20management%20practices%20to%20mitigate%20faecal%20contamination-1299352652/best%20management%20practices%20to%20mitigate%20faecal%20contamination.pdf

[9] Ferley, J. P., Zmirou, D., Balducci, F., Fera, P,. Larbaigt, G,. Jacq, E., … Boudot, J. (1989). Epidemioloical Significance of Microbiological Pollution Criteria for River Recreational Waters. *International Journal Epidemiology, 18*(1): 198-205. doi: 10.1093/ije/18.1.198

[10] Macfie, R,. (2016, Sept. 13). New Zealand Listener-What's in our water? The alarming new threats to New Zealand's drinking water. Retrieved from http://www.listener.co.nz/current-affairs/social-issues-current-affairs/water-threats-new-zealand/

[11] Panelli, R., & Tipa, T. (2007). Placing Well-being: A Maori Case Study of Cultural and Environmental Specificity. *EcoHealth. 4*(4), 445-460. Doi: 10.1007/s10393-007-0133-1

and wairua (spiritual dimension)[12]. Whilst these are apparent for Maori, many Pakeha also identify with this world view which embraces the intrinsic worth of fresh, pure water and the diversity of fauna and flora that inhabit it.

19. The spiritual/cultural issues require acknowledgment and consideration: Maori consider fresh water taonga (precious national treasure) which carries mauri (the life force) and provides turangawaewae (identity to a place). This imbues a sense of well-being which although hard to quantify is never-the-less valuable. Maori (and Pakeha) experience a sense of loss when natural resources like fresh water (and the fauna and flora with in it) are degraded.

20. Maori understand the importance of eco-systems and biodiversity and comprehend all life is integrated and connected. If one part of the eco-system is harmed then this will ultimately affect all aspects of that chain, humans included. This integrated thinking includes all generations past and future. Sustaining waterways' mauri (life-force) and wairua (spirit) is of prime importance as kaitiaki (care takers) for future generations and is reflected in the environment's health.

CONCLUSION

21. Thank you for the opportunity to submit on this request for a water conservation order on the Te Waikoropupū Springs and associated water bodies Section 204 Resource Management Act 1991 (RMA) made by Ngāti Tama Ki Te Waipounamu Trust and Andrew Yuill (the applicants). I fully support this request providing reasons and evidence. The health and well-being of the Te Waikoropupū Springs and other waterways needs full protection so that its life-giving attributes, connection to people and mauri (life-force) are not diminished in the pursuit of economic benefits. With collaboration and wise management the varied needs of stakeholders can be provided for.

[12] Durie, M. (2004, April). *An Indigenous Model of Health Promotion.* Speech at the 18th World Conference on Health Promotion and Health Education, Melbourne, Australia. Speech retrieved from https://www.massey.ac.nz/massey/fms/Te%20Mata%20O%20Te%20Tau/Publications%20-%20Mason/An%20Indigenous%20model%20of%20health%20promotion.pdf