

From: [Claire Rainbow](#)
To: [WaterReformPublicConsultation](#)
Subject: Sub # 00002
Date: Friday, 22 November 2013 1:11:12 p.m.

I would like to make the following submission re water standards:

I think that NZ is rapidly losing its Green and Clean image worldwide. It is important that one part of the world remains as unspoiled by human interaction, as possible. We HAVE to protect our land and waters for the future generations, else there will not be any!

It is vital to clean up our rivers and ensure that the seas are not polluted too.

There are already big problems with leaching and run-off, there are problems with drought, with water supply, with making sure that all sectors have the water they need. A vital part of this is being more efficient with water, putting an end to flood irrigation and changing the way we think about water. It is a vital resource and once ground water is polluted it is not easily cleaned up again... same with the rivers, which is why we need to ensure their cleanliness NOW!

Therefore I would suggest that

- Contact recreation (swimming) standards should be used as the compulsory national bottom line value for human health, not secondary contact (boating and wading) standards. At present making rivers swimmable is optional. E coli (or faecal coliform levels) which are safe for boating are too high for rivers and lakes to be clean and safe for swimming.
- Too many recognised water quality indicators are missing so councils won't have to monitor these values and we won't get an accurate understanding of the state of our waterways. We need to be looking at key species to ensure water quality. (See below)
- As for the indicators ("attributes") for human health to include the following:
 - Water Clarity which is an important requirement for rivers to be swimmable.
 - Periphyton Cover which is a measure of how much algae, bacteria and detritus is covering the river/stream bed.
- I ask for the indicators ("attributes") for ecosystem health to include the following:
 - The Macro-invertebrate Community Index which is a well used and understood measure of river and stream health. It involves monitoring changes in the number and diversity of aquatic insects such as mayflies, caddisflies, true flies, and snails.
 - A limit on nitrogen and phosphorus as nutrients. The proposed bottom line for nitrate is the level where it is toxic to fish and other aquatic life. This will not prevent nuisance algal blooms. Only one New Zealand river, exceeds the nitrate toxicity limit but excessive nutrients are a problem in many rivers. The proposed bottom lines don't tackle this.
 - A limit on deposited sediment. Soil belongs on the land not in rivers. Sediment smothers spawning areas and habitats.
 - A measure for dissolved oxygen across a river, not just in relation to point source discharges. Dissolved oxygen is critical for life and can vary hugely between day and night..

- Water clarity. In lakes this determines whether submerged plants can survive, and poor clarity can affect the migration paths of native fish leading to loss of habitat.
- Measures for estuaries need to be included in the framework. Estuaries play a key role as fish nurseries and pathways and have important recreational and cultural values.
- I hope you will accept very seriously these considerations... the FUTURE depends on what we do NOW!

Thank you for reading this

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