

Closing Statement

Healthy Rivers Proposed Plan Change 1

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This plan needs to be developed in collaboration with all areas that impact on the environment. Plan change needs to be developed in collaboration with national policy around water quality. All New Zealanders are guardians of the land and waterways – all resources to be treated in a sustainable manner. The developed legislation must apply equally to all New Zealand landowners. Other players in the environmental sustainability field need to do their part also 9 point source discharges, roading and bank erosion, river level fluctuations and erosion in relation to river use for electricity generation.

A) Lakes and Whangamarino Wetlands (3.11.4.4) – water quality analysis needs to include Lake E coli levels (as do all other sampling sites) along with sediment, nitrates and phosphates. We know what goes in but not what comes out. E coli samples need to be typed so the source of elevated levels can be determined. Lake Waikare and other lakes as well as certain parts of rivers have high water fowl numbers (Determine if we have avian, human, bovine or ovine E coli at these sites.)

Actively decreasing Koi carp needs to be prioritised. (a significant cause of sediment and erosion). Incentivise and not discourage the harvesting of this resource)

B) Schedule B Nitrogen Reference Point

Mathematical modelling systems such as Overseer are NOT the tool for assessing nitrogen leachate. You can't model nature and biological processes – there are too many complex interactions. WRC to do individual leachate analysis on farms in subcatchments with elevated contaminants. Identify the problems down to a farm level. River Watch NZ has 5 probe water tester. Visual soil analysis and brix refractometer can tell us how healthy soil and pasture is and whether there is likely to be nitrate leaching from property. An indication for this can be obtained from Dairy company bulk milk tank milk urea levels. Biologically friendly fertiliser (not acid forming fertilisers like urea and superphosphate) and diverse pastures (Regenerative farming practices) will ensure that nitrate and phosphate loss, E. coli and erosion from a farm will be minimal. Incentivise for farmers to use biologically friendly fertilisers and lime and diverse pasture planting. Penalties for use of acid forming fertilisers (this is where the big NZ fertiliser companies need to take responsibility for advising of these fertiliser regimes over the decades that have caused a reliance of farmers on their products at the expense of the natural nitrogen and carbon cycles). The development of new technologies needs to be written into this so they can be availed of, if/when they develop. Farm and cattle management systems will determine if an individual farm will have contaminant discharge issues. It is not “the cow” but “how”...

C) Farm Environment Plan

Subcatchment information should be used to decide if farms in area are liable to have contaminant discharges. Farm Environment plans developed to address individual farm contaminant issues – identified after measuring of leachates at farm level. Incentives for farmers to increase carbon in soil also (drought resistance of biologically active, well mineralised soil growing diverse pastures). Incentives and penalties as previously indicated

Block size needs to be addressed – small blocks (<25ha) costs to comply may often make the block uneconomic. Assessment of contaminant discharges assessed on farm in relation to stock numbers, classes, fertiliser history, soil assessment. Where a high risk of contaminants is indicated – farm leachate testing. Construct a mitigation plan. A number of smaller blocks may be actively farmed by one farmer. Complying with proposed legislation with each individual block will be cost prohibitive

D) Stock Exclusion

It is not practical to fence off waterbodies on hill country (due to contour and access) and it would be cost prohibitive (without even including maintenance) if it was actually possible. It is not scientifically proven that excluding cattle from waterways on non-intensive hill country will result in improved water quality. Controlled movement of cattle across a moving water body needs to be allowed (at a frequency of ≤ 2 x a week).

E) In relation to erosion and sediment.

Koi carp play a part as mentioned previously

Erosion is the main cause of sediment and it is a result of mechanical/physical disturbance of soil or no soil biology. Poor soil structure is a result of fertiliser practices which have destroyed “natures glue”. There has been loss of carbon and biology and stability. Soils left without cover will erode and lose carbon and phosphorus. Most widespread erosion is mass movement soil slips – widespread in NZ on slopes greater than 15degrees (from an observational study) , rainfall initiated and most extensive in soft rock hill country of North Island(East Coast, Inland Whanganui, Taranaki, Manawatu) – (Landcare Research references). This is not relevant in our catchment soil types. Excluding cattle from slopes greater than 15 degrees is going to have NO effect whatsoever on soil erosion in non-intensive farming situations. In fact, it will decrease carbon storage in diverse pastures on this country. Cattle manure is important in supporting the soil biology and carbon sequestration.

F) Pathogens

Healthy biologically active soil is a natural soil bio filter. Low diversity land and soils (and animals farmed on this land) support more opportunistic bacteria (E. coli and Salmonella etc). Lake E. coli levels are important as previously mentioned - DNA typing needs to identify the origin of the loading. Bird life is hugely underestimated in a number of lakes and river stretches.

The Soil is the Solution to our environmental challenges.

Diversity in all our ecosystems will provide the environmental solutions we require at an individual farm level and ultimately at a subcatchment level.

Agriculture is a big player in our economy and farmers will be hugely impacted by PC1 as it stands now and the flow on effect to communities and the economy will be enormous.

Let's not cripple our agriculture industry – we have all the answers to farm sustainably with huge environmental benefits. At the same time we will be getting carbon back in the soil where it belongs and having a positive impact on our climate.