

Proposed Waikato Regional Plan Change 1 – Waikato Waipa River Catchments

Waikato Regional Council

Submission on “Healthy Rivers”

From – **Waikato Focus on Peat Group**

6th March 2017

Introduction

The Waikato region has about 96 000 ha of peat soil (reference) and of this about 75 000 ha occur in the Waikato and Waipa River catchments. The majority of the land use on these soils is pastoral agriculture. Due to their unique parent material and subsequently high carbon content, peat soils have characteristics which are contrastingly different to more common mineral soils.

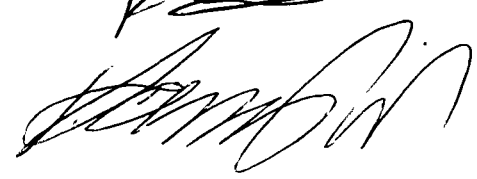
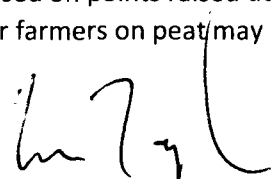
We are a farmer lead group who oversee the Sustainable Farming Fund research project “Sustainable nutrient management on Waikato peat soils”. The project was initiated due to a lack of science on nutrient cycling in drained peat soils and consequently little information on nutrient management practises for farmers. The overall objective of the project is develop more information on Nitrogen (N) and Phosphorus (P) losses when farming the different peat soil types, and to make this available to farmers with peat so that they become better nutrient managers and reduce losses of N and P to the environment. Whilst the group is farmer led we are supported by, AgResearch, DairyNZ, Ballance Agri-Nutrients, Waikato Regional Council, Landcare Research and other dairy farmers.

This submission has been developed on behalf of the SFF group and is based on points raised during our bimonthly meetings and other discussions. It is anticipated that other farmers on peat may make their own submissions.

Ian Taylor (Chairman) 45 Reid Road, Puketaha
ianpennytaylor@xtra.co.nz Ph 027 291 5159

Richard Lansdaal, 71 Motumaoho Station Road, RD 2, Morrinsville
rclansdaal@gmail.com, Ph 027 225 9565

Harry Rich, Orini Downs, Orini Road, RD2, Taupiri.
h.rich@xtra.co.nz , Ph 027 445 9994



We could not gain an advantage in trade competition through this submission.

I am not directly affected by an effect of the subject matter of the submission that:

- (a) Adversely affects the environment, and
- (b) Does not relate to the trade competition or the effects of trade competition.

Submission

We are supportive of the overall direction of PC1, that is to improve the quality of the water in the Waikato / Waipa rivers. However we have reservations about certain aspects as per below.

Point Number 1 : Treat Peat land as a separate case

We are submitting on the totality of the “Healthy Rivers” plan. Particularly as it applies to farmers farming on peat soils.

The science of nutrient movement on peat soils is weak, potentially leading to the results of Overseer nutrient budget modelling being inaccurate.

The fate of applied nitrogen is currently unknown. What is known is that peat is a carbon source, and applying nitrogen will enable microbes to grow on the carbon source, eventually converting it to soil. Whether or not surplus nitrogen escapes the root zone to arrive in ground water is not known. It is known that at approximately 50 cm below the pasture, peat has very low pH. There is also a water table with very low pH (<4.0) and anaerobic conditions. These conditions are conducive to the reduction of nitrates to gaseous form, leading to them being lost to the atmosphere not to ground water.

It is also known that undeveloped peat has low anion storage capacity (ASC) meaning that anions such as phosphate can leach through the soil profile, accumulating at 0.5-1.0 m depth. The fate of this P is unknown. However as peat is developed the ASC increases suggesting that developed peat would have less phosphate loss.

Without good science, poor policy could result, leading to ineffective environmental mitigation and disproportionate and inappropriate sharing of mitigations and potentially significant unnecessary economic hardship for the peat farming community.

Point Number 2 : Potential solution

Because of the lack of good science around nutrient loss in peat, it is proposed that peat land farmers be viewed as a block, in the same manner as the vegetable growers are. That current peat land be limited to the existing area, for a period of time and be excluded from the plan change process, until such time (10 years?) that adequate research has been carried out to understand N and P movement in peat, and have identified management options. During this time, farmers will be expected to follow best management practice as it currently exists. However also during this time significant funding be made available from Waikato Regional Council together with other interested parties, to closely investigate the fate of nutrients in peat during its various stages of development.

At the completion of the research it is anticipated that nutrient budgets generated from Overseer will be more representative of the actual situation, and will lead to more informed and fairer policy formation.

Research would be required to identify:

1. How much nitrogen and phosphate exits the pasture/crop root zone and
2. Fate of nitrogen and phosphate exiting the pasture/crop root zone and

3. Mitigation options for these for the various types of peat.

Current research by our group is going to progress understanding of the fate of nitrogen in undeveloped and in well-developed peat. It is not going to result in a full understanding because peat development occurs over a long time period and our work is focused on nitrogen, to the exclusion of phosphorus.

It should be noted that our group will be establishing lysimeters this summer with AgResearch for the nitrogen work. These are expensive to establish, however once in place could be used to address other research topics such as phosphate mitigation options. To progress this will require funding.

Point Number 3 : Cropping setback areas (Schedule One, 2 b iii)

There is conflicting science relating to the efficacy of these setbacks. It is clear that significantly more land (paddocks) will be required to produce the same volume of feed to support stock through the winter. This in itself will lead to greater environmental impact as more land is cultivated.

Decision sought:

Some flexibility within a Farm Management Plan to achieve the required outcomes but with the ability for farmers to adjust setback distance as needed on a case by case basis. Plan change 1 needs to recognise that managing peat soils requires different rules.

Point Number 4 : Contouring peat paddocks

On peat it is standard practice to contour the paddocks by cultivation to manage the shape of the paddock surface due to subsidence. This contouring needs to go up to the waterway drain edge to be effective. Without this paddock shape correction grass cover can be compromised due to water ponding leading to damaged soil structure and related nutrient loss.

Plan change 1 needs to recognise that managing peat soils requires different rules.

Point Number 5 : Water table management

Water table management is important with peat soils. If soil moisture is not well managed by controlling water table height, by managing drain water height, loss of peat by mineralisation to the atmosphere will be accelerated. As a result of this many peat farms have water in their drains all year round.

Plan change 1 needs to recognise that managing peat soils requires different rules.

Point Number 6 : Nitrogen limit grand-parenting (relating to Schedule B, Pg 47 PC1)

As a group we do not accept the nitrogen "grand-parenting" rule. It unfairly restricts farmers who were minimising nitrogen use in advance of the PC1, and enables farmers who were using large

amounts of nitrogen prior to PC1, to modify use to a lower level, but still be above the average nitrogen use. That the years selected as reference points were low payout/difficult years, further restricts fairness.

Issues of identifying N loss under peat aside, Plan change 1 should be fairer by using the loss figure generated per farm, according to the conditions on that farm, NOT according to previous usage information.

Point Number 7 : Nitrogen Attenuation

As described earlier not a lot is known about nitrogen attenuation under peat farms. Numerous papers at a recent workshop at Massey University made it clear that similarly there is not a lot known about attenuation of nitrogen after it leaves the root zone on other soils. Overseer takes a default position of 50% attenuation regardless of what actually happens in various soils.

Surely more science investment is required prior to making firm policy.

Point Number 8 : Future land development (See policy 6, page 32, PC1)

The specific rule that prevents further development of the land from a date now passed, is inappropriate. It unfairly penalises farmers who rightly or wrongly decided not to develop their farm to a greater level of intensity.

Land use should be determined by the attributes of that land, not by broad-spectrum blanket rules. Future generations will be undoing these rules as they struggle to feed themselves.

Summary Statement

Science relating to nutrient loss on peat soils is weak, and likely will lead to weak policy formation for the 75,000 ha of farmed peat land, leading to disproportionate costs being carried unfairly by peat farmers.

It is proposed that peat farms be seen as a block of 75,000 ha and that over a period of 10 years or so, research be carried out to clearly identify N & P pathways in the various peat development stages. As a result of this appropriate policy could be formulated relating to peat farms at that time.

I / We wish to speak at the hearing in support of our submission.

If others make a similar submission, we DO NOT wish to present a joint case.