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Thank you for the opportunity to speak with you.



My name is Robbie Moore and I have farmed in the catchment for 49 years. My parents were settled onto the rehab farm in 1946 by the government when my father returned from world war two. He worked on the farm, lived on the farm and died on the farm. Over the last 60 years we have been encouraged by govt depts to increase production, primarily from more cows and more fertilizer.

In the 1980's the ministry of Agriculture put together a small working group of farmers giving us the task of doubling production on the central plateau. A strategy was devised which included;

Retiring steep land from pasture and planting in trees to prevent erosion,

Establishing a comprehensive fertilizer recipe to counter low fertility in our soils,

Applying fertilizer little and often to eliminate waste and maximise growth.

The results were outstanding

Brown top disappeared significantly increasing the ability of our soils to absorb heavy rain therefore reducing runoff.

Rye grass became the dominant species significantly increasing the take up of nutrients.

Production was doubled in 5 years.

During my years on the farm we have hosted many visitors and farmers interested in our farming system.

At the request of the Ministry of Internal Affairs we have hosted politicians and public representatives from

Ireland, Republic of China, Iran.

More recently we have hosted visitors from Japan, China, Vietnam and Professors from Harvard University.

How will the proposed rules affect our business

Very simply we will not have one, these proposed changes will mean it is no longer economic for us to continue farming.

We get no recognition of flood protection and nutrient reduction that was done in the 1980's and 90's. We get no recognition for steep land planted in trees in the 80's, we have harvested those trees and not replanted as we need the increased area to get our stock numbers up.

Changes we have already made to date to reduce nutrient losses include;

- 1) 230 cows and 2 full time jobs have gone from our business
- 2) Stocking rate has been reduced from 3.4 cows/ha to 2.9cows/ha
- 3) Cows are wintered off
- 4) Flood protection work with detention dams, arresting nutrient .
- 5) Flood protection work with detention dams preventing downstream erosion
- 6) Eradicated gorse from our farm 1975
- 7) Protected native bush with a covenant with the minister of conservation

Nitrogen

The value of regular and small applications of Nitrogen can not be overstated for managing pasture growth. From the mid- eighties up to the benchmark years our discussion group lifted productivity by 100%. Winter growth rates trebled, calving date shifted forward from Sept 1st to 14 th July. This has led to a significant increase in productivity from the entire agriculture sector that everybody in this room has benefited from, Port of Tauranga included. A bonus has been significantly less brown top and Ragwort, they are weeds that cannot compete with pasture that has a balanced fertilizer programme (supply) and a calculated stocking rate (demand).

Nitrogen is a natural element not a pollutant, leaching is an act of nature triggered by the Autumn rains, it is not an act of farming. Farms have emissions just like automobiles. Everybody uses their motorcars with the knowledge that one day the cars will be taken off the road when technology and economics combine to provide a solution. Farmers must be allowed this tolerance as well. Nitrogen leaches from all legumes being clover, lucerne, broom and gorse. In terms of productivity and efficiency, nitrogen leached from dairy farms delivers a significant return whereas nitrogen leached from gorse and broom provide zero returns. I am watching to see how successful BOPRC is at removing gorse. It is there in the catchment now, it was there last year, it was there when I went to school on the school bus. How much Nitrogen has gone into the lake from mature gorse in the last 60 years? How much Nitrogen from mature gorse will go into the lake before 2032.? How much nitrogen will go into the lake from gorse after 2032??

What is the problem??

We are told that in winter when the grass stops growing and the water level is high some Nitrogen from urinating cows escapes to the ground water and ends up in the lake in 50 to 100 years. Our grass does not stop growing and our cows are wintered off so there is no urine contribution.

EBOPRC has produced no evidence to support their theory that the ground water is contaminated even though they spent \$60,000 of our money on drilling a deep well bore on the Dibley property, the first farm to use Nitrogen in the catchment in the mid 1960s. What gives EBOPRC the right to devalue the catchment land by several hundred million dollars and not produce any evidence other than the ROTAN model, largely a collection of memories, and Overseer, plus or minus 30% on a good day. Ground testing is essential to adjust the models. Models are full of assumptions and evidence of nothing. What is needed is independent, peer reviewed science.

We have been told right from the start, about 2003, that there is no attenuation, what leaves the grass root zone all ends up in the lake. Clearly this is incorrect as there are layers of carbon from

previous eruptions (kaharoa and taupo) that sequester Nitrogen, also there will be attenuation from the streams that feed into the lake. Recent information from Massey University informs us that all soils have attenuation below the grass root zone, the minimum being 25% and the maximum being 75%. Environment Waikato allows 50% attenuation. Now all of a sudden we have 30% attenuation. That is not science that is politics. That 30% attenuation has suddenly seen over 100 tonnes of Nitrogen vanish from the system and the science. What if the real attenuation is 50% like Waikato, suddenly another hundred tonnes vanishes. What if the attenuation is 75%. What is needed is independent peer reviewed science.

We have been told right from the start that the target to achieve a TLI of 4.2 in the lake needs a sustainable load of 435 ton of Nitrogen. The TLI has already been achieved with a load of 658 ton of Nitrogen. The streams on the western side of the lake remain in pristine condition with the Awahou and Hamurana used for municipal water supply. If the water is good enough to drink then it should be good enough to go into the lake, it isn't, because the tolerance for nitrogen has been set so low. We are still allowed to drink the water. It is simply the best. What is needed is independent peer reviewed science.

The lake is telling everyone that it is phosphate limiting. Phosphate can be controlled on the farm as it flows on the surface whereas nitrogen leaches into the ground. There are tools in the toolbox to work with Phosphate, with Nitrogen there will be tools in the future but right now there are none. Phosphate works quicker, better and is way way way cheaper. Again I use the analogy of the motor car, phosphate is the engine oil, petrol is the nitrogen. What is the value of your car if you can't get petrol. Again we need independent peer reviewed science.

For rules to work they need to be accurate, enforceable, and accepted by the public. These rules are not accurate, not enforceable and not accepted by the public. These rules, described as best science estimates on page 2 of the rules, will kneecap farming in the catchment, property valuations will drop 50% from the benchmark years leaving subsistence farmers trapped on their farms with no equity to enable them to shift, and no money to pay the mortgage. Bankers are not impressed with best science estimates. The flow on will be into town where the service industries suffer, and rates rise as farms have lower values therefore lower rates.

Sadly our elected representatives on council have chosen to notify the rules, even though the lake is already at the target level required and there is legitimate concerns around the evidence, the science, the accuracy and enforcement. In their haste to restore the lake to water quality of the 1960's they have forgotten that;

There are now 50,000 more people living in the catchment, Rotorua became a city of 20,000 people when I was at high school, about 1962

There are now 3 million visitors to Rotorua per year, compounding the failure of the current waste water treatment plant.

The weir in the Ohau Channel is maintaining an artificially high lake level preventing the lake from flushing and causing silting in the inflowing streams. They need dredging as they used to be in the 1960's so people can get their boats up the streams.

The introduction of trout as an added attraction for tourists has in Don Staffords words "proved fatal for much of the indigenous foods." Trout have eaten the native fish that are part of the lifecycle for the native Kakahi which filter nutrients out of the water.

Significant water takes for Rotorua City from springs and streams not operating in the 1960's are reducing the volume of clear clean water entering the lake and increasing the volume of grey water returning to the lake.

There were more animals in the Rotorua County in the 1970's than there is today, 71,000 beef cattle, 66,000 dairy cattle, over 1 million sheep producing 3 million kilos of wool.

The incredible work ethic of our forbears who fought two world wars and a depression, cleared the bush, and struggled with bush sickness and low fertility soils. No one should be encouraged to put now productive farmland back into trees.

Diversification of land use in the catchment was tried in the mid- eighties, when supplementary minimum prices were withdrawn. To my knowledge Blue berries at Mamaku is the only business that has prospered. The rest have gone back to beef, dairy, sheep, radiata and gorse. Land use change has been tried and failed.

These rules will destroy farming in the catchment for the possibility that the lake may improve in 80 years, allowing for the time lag of ground water entering the lake. This is an intergenerational problem that needs an intergenerational solution. Nowhere in NZ is any one farming successfully at the low stock levels required by these rules. Not guilty productive farming is being sacrificed for a non productive lake. If the sediments on the bottom of the lake were not there then the current input of nutrients from the catchment to the lake would be fine. Farmers of today are being forced by these rules to rectify the mistakes of previous generations. Once the nutrient discharge allowances get registered on the title they will never come of. There is more chance of raising the Titanic. What is needed is more emphasis on Phosphate and a much less restrictive Nitrogen target. Then we can have a sustainable farming sector, a prosperous community and a clean lake. Profitability is part of sustainability.

It does not have to be the lake or the farms, work with farmers to make improvements we can do now, detention dams arrest nutrient, prevent erosion, eliminate flooding and stop soil reaching the lake securing our lake for future generations.

Farmers have always been prepared to adopt new technology that passes the economic test.

I have been to meetings where council representatives have said,

The purpose of rule 11 is to drive the dairy farms out of the catchment, and more recently, that the farmers will have to bear more pain. These are not the actions of a collaborative council, clearly the council have notified the rules to drive the farmers out of the catchment.

I wish to speak to my submission