

**Further Submission pursuant to Memorandum 4 - The Lake Rotorua Primary Producers Collective Incorporated (The Collective): submitter 66**

**A. Comments on matters raised in the new PC10 Strikeout Version, as they relate to key outcomes sought in The Collective submission.**

**1. Policy WL6B**

On page 1 of both PC10 original and PC 10 Strikeout Version, the RPS policy WL 6B is incorrectly transcribed or recorded. Please refer to page 174 of the operative RPS for the correct wording<sup>1</sup>. The word 'Catchment' is an integral part of this policy and the omission is a significant error. During mediation, every word of WL 6B was carefully considered, debated and eventually agreed on in the final consent order. To change this word in this manner is contrary to both the intent and actual RPS wording. BOPRC are arguing that the RPS must be adhered to in all aspects. This word was carefully chosen and this policy was agreed to only on the basis that the 2022 target was indeed a target for the entire catchment. To exclude the word 'catchment' is unacceptable. It alters the entire meaning of the policy.

The explanations which are also of absolute significance are also missing.

**Decisions sought:**

i) that the correct RPS wording is utilised including the word 'catchment' and including the explanations, and that all submitters have an opportunity to correct their submissions if they have been misled or misinformed by this error.

ii) that any rules within PC 10 that relate to a 2022 deadline are consistent with the correct wording and intent of this policy.

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<sup>1</sup> **Policy WL 6B: Managing the reduction of nutrient losses**

Require, including by way of rules, the managed reduction of any nutrient losses that are in excess of the limits established under Policy WL 3B by ensuring that:

- (a) Rural production land use activities minimise their loss of nutrients as far as is reasonably practicable by implementing on-farm best management practices;
- (b) Any land use change that is required within the Rotorua Te Arawa lakes catchments to achieve the limits takes into account an equitable balancing of public and private costs and benefits; and
- (c) No discharges shall be authorised beyond 2032 that result in the limit for Lake Rotorua being exceeded. A **catchment** intermediate target for the managed reduction of nitrogen loss is to be set to achieve 70% of the required reduction from 746 t/yr to 435 t/yr by 2022.

**Explanation**

Managed reduction in the amount of nutrients derived from land use activities is necessary to halt the decline in water quality in at-risk catchments.

On-farm best management practices should be implemented to ensure that all rural production land use activities minimise their nutrient losses as far as is reasonable, practicable and affordable. The aim is to ensure that all rural production land users are operating in accordance with industry best practice.

For Lake Rotorua, current on-farm best practice alone will not achieve the nitrogen load reduction required to reach the sustainable nitrogen load of 435 tN/yr and land use change will be necessary. Beyond 2032 only discharges which enable the 435 tN/yr to be met will be authorised. The development of further resource management policy will have regard to the Oturoa Agreement.

**2. Table LR 1 and Policy LRP4 (pages 2 and 6)**

We object to the removal of the word 'target' and to the substitution of the word 'targets' with 'limits'.

The Regional Policy Statement at the bottom of page 96 uses the following wording in section 2.9.1 Water Quality & Land Use:

*"...In catchments at risk, the Statement sets overall target levels to which specific contaminants are to be reduced, including nitrogen into Lake Rotorua in particular, but does not dictate how the reduction is to be achieved. The Regional Water and Land Plan is to require managed reduction of discharges until each at-risk catchment's target level is met."*

The Oturoa Agreement is also quite clear in its intent:

Clause 13 *"...work with farmers to develop individual farm plans and collective solutions to meet nutrient reduction targets."*

Clause 15 *"options that will achieve the nutrient reduction targets needed from rural land..."*

**Decision sought:** The Collective oppose the removal & substitution of the word target/targets with limits in table LR 1 and Policy LR P4.

**3. LR P1 (page 6)**

The substitution of the word 'land' for the words 'farming activity'.

RPS Policy WL 5B on page 173 of the Operative RPS<sup>2</sup> makes it clear that the allocation should be amongst *"land use activities"*. In addition, LR P16 of PC10 Strikeout Version provides for:

*"nitrogen losses from all sectors located within the Lake Rotorua ground water catchment..."*

The Integrated Framework includes all aspects of nutrient contribution; it is not limited to just farming activity. This change eliminates the ability to apply the Integrated Framework as intended to all nutrient sources.

**Decision sought:** reinstate 'land' instead of 'farming activity' throughout PC 10

**4. LR P11 (Strikeout Version - page 8)**

Use of the words 'avoid' & 'continued operation'.

This Policy is unclear. Submitter 70 requested more directive & outcome based wording to the original LR P12. This new wording does not achieve this outcome.

Decision Sought: adopt the submitter's recommendation of a Discretionary activity status for LR P11 of Strikeout Version.

**5. LR R 8 (vi) and LR R9 (vi) and LR R10 (vi) (pages 18 and 20)**

The Collective have real concern with BOP Regional Council reserving control over the mitigations & methodology used to meet NDA's and MRT. Relevant Industry bodies &

<sup>2</sup> Policy WL 5B: Allocating the capacity to assimilate contaminants

Allocate among land use activities the capacity of Rotorua Te Arawa lakes and other water bodies in catchments at risk to assimilate contaminants within the limits established in accordance with Policy WL 3B having regard to the following principles and considerations:

Research Institutes are better placed to determine the appropriateness & effectiveness of mitigations & methodology used to meet Managed Reduction Targets & NDA's.

Also

**6. LR R 9 (b) (page 18)**

*“.....Management Plan has been prepared for the property/farming enterprise by a suitably qualified and experienced person....”*

This takes away the right of the land owner to determine how they manage their operation in the most efficient and effective manner. The wording implies that the ‘expert’ does not have to get the final approval from the land owners. Thus it implies it is the ‘expert’s’ not the ‘owner’s’ plan.

**Decisions sought:**

- i) Delete LR R 9 (b)
- ii) We object to the Farm Management Plans being used as a point of compliance. The Overseer file should be the primary point of compliance and we ask that Council remove all references to Farm nutrient plans as the primary point of compliance and we ask that they are replaced with the Overseer file output number instead.

**7. Definitions: (pages 22 -24)**

- *‘Start points’* – we support the new definition of ‘start points’ but believe a clear definition of ‘benchmark’ is required as well.
- *‘Commercial Dairying’*  
This definition was not requested by submitter 21. The rules themselves define whether a dairying enterprise is covered by a particular rule or not and are not dependant on such a definition. This term is not used in PC 10 rules or policies.

Decision sought: Remove this definition as superfluous and factually incorrect.

- *‘Managed Reduction Target’*  
The RPS is quite clear on reduction targets. The correct wording of WL 6B (c)states:  
*“A catchment intermediate target for the managed reduction of nitrogen loss is to be set to achieve 70% of the required reduction from 746 t/yr to 435 t/yr by 2022.”*

Furthermore the definition on page 236 of Appendix A appended to WL 6B<sup>3</sup>,

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<sup>3</sup> *“Managed reduction: In relation to nutrients and water quality, “managed reduction” means planned progressive lowering of excess nutrient losses; where a target date exists, the progressive lowering is to reach the nutrient limit by that date.”*

(which Council have strongly relied on in order to argue for staged reductions), demonstrates that there was never an intention to have a particular 2027 target. This point was debated strongly during the StAG process by members of The Collective.

Clearly there is no target date of 2027 in the RPS. The requirement in PC10 to reach any additional target by 2027, or on a five-yearly basis is therefore at odds with WL 6B.

Further the key words in WL 6B(c) are 'catchment' and '2022'. Council have turned a catchment target into an individual target and so any rules relating to this date can, at most, only allow for a share of the catchment target to be placed on an individual land owner's shoulders.

Finally the only absolute target in the RPS is the 2032 target.

Decisions sought:

- i.) Remove the 2027 and any reference to five-yearly targets.
- ii.) Remove the reference to, and use of reference files; for the reasons outlined throughout these submissions.
- iii.) Ensure the 2022 target is a whole of catchment target.

- *'Nitrogen Discharge Allocation'*

The Collective has no objection to the term 'allocation' being used instead of 'allowance' throughout PC 10, however The Collective opposes the addition of the words ...*'They are expressed as a percentage of the relevant reference files' to this definition.*

Decision sought: Delete all comments about, references to, and use of 'reference files' both in the definition section and throughout PC10.

**8. Schedule LR Three (page 31)**

The Collective oppose the requirement to now supply information in an Excel spreadsheet format. This requirement will force many land owners to purchase independent contract help just to format the requested information. Not everyone has the ability to use spreadsheets or the software. PC 10 rules apply to land of 5ha or more. Both submitters only requested that Council has a clear format of information requirements, and did not request the adoption of complicated computer programs.

**9. Schedule LR Five: Overseer and Reference Files (pages 34 -37)**

We continue to object to the use of reference files and endorse the comments made by Fonterra in their Statement of Evidence. We stated in our original submission that industry should report on sector progress and still endorse this. Council's compliance program merely duplicates what is already happening in industry.

**10. Schedule LR Six: Nutrient Management Plan Requirements (NMP) (pages 38 -40)**

The Collective object to the additional statement on page 38 that:

*"...Nutrient Management Plans are the primary point of monitoring & if necessary*

*compliance, particularly the mitigation actions, described land uses and Overseer input parameters specified in the Nutrient Management Plan.”*

It was agreed during the collaborative process at StAG that the primary point of compliance for PC 10 would be the Overseer file. Also that how an enterprise managed its internal nutrient loading did not matter, so long as the nitrogen output from the property did not exceed the Benchmark, the 2022 & 2032 NDA target. The Overseer file is the sum of all the block activity in and out of the farm, and very quickly demonstrates that an enterprise is on target.

It is only the property NDA and the Overseer file output information that informs the Catchment nutrient loading *not* pre-planned actions.

Decision sought:

Delete all reference to the NMP being the primary point of compliance.

## **B. Comment on matters raised in the section 42A report and the further evidence of Council, as they relate to key outcomes sought in The Collective submission.**

### **11. Alum Dosing**

#### **Page 7 – 2.3.1 - [16]**

We challenge the statement that Alum Dosing is not a long-term solution for Lake Rotorua. There is no definitive science to support this statement at this time. It is based on conjecture. Professor Hamilton took a precautionary approach when he advised that more research is necessary to establish the long-term viability of alum use. We support this position. The report 'Sediment survey in Lake Rotorua' (Document 615, McIntosh (2012) and Abell et al (2012) concluded:

*“sediment survey data do not support the hypothesis that Al accumulated in the main basin of Lake Rotorua.”*

We ask that statements are based on definitive science.

### **12. The Integrated Framework**

#### **Page 10 – 3.1.3 - [10]**

The Integrated Framework was endorsed at StAG, however it was understood by participants during that consultation process that compliance of the NDA would be via Overseer; there was at no time an agreement to police 'on-farm' actions by farmers. The consensus was always that Council were not trying to tell farmers 'how to farm'. The acceptance of the Integrated Framework was made solely on this basis.

### **13. Proposed Rule Framework**

#### **Page 11 - 3.2.1 - [20]**

PC10 is not a relatively lenient regulatory approach. Complete changes of land use will be required in some instances. BOPRC staff and elected representatives have publicly stated that these rules will be the hardest in the country. No other Operative Plan requires a 35%

reduction for a single industry sector.

**14. Nitrogen Allocation**

**Page 12 - 3.2.2 - [27]**

The comment that NDA's are "*summed*" and this is "*the limit required to be met by 2032*" (in order to achieve the required reductions into the lake), is *not* correct now that we know and understand the effect of different attenuation percentages within each sub-catchment. It is not correct to say all nitrogen reduction has the same effect on the lake.

**15. Nitrogen Management Plans:**

**Page 12 – 3.2.3 - [29] and [30]**

The fact that property owners can assist the approved Council contractor in preparation of a NMP, and that they are able to be reviewed, is *not* evidence of any ability to achieve the requisite NDA. It is the Overseer file output figure that indicates if the sum of the on-farm mitigations has resulted in the required NDA. By using Overseer files, as opposed to Farm plans, it allows property owners to adopt the latest innovations and technology for the betterment of the environment without breaching their consent. The Overseer file should be the only point of compliance as discussed at STAG.

**16. National Policy Statements**

**Page 17 – 4.2 - [22], [24] and [26]**

We challenge the implication that the consultation undertaken decades ago around water quality issues with the community, addresses all the requirements of the NPS and of today's Community values.

**17. Local Government Act 2002**

**Page 20 – 4.5.1 – [39] to [42]**

StAG members only endorsed the concept of land owners having a NMP as a planning tool and as a way of assessing potential mitigation actions and their effect, on the property NDA in order to ensure compliance by the year 2032. It was believed throughout this process that the primary point of compliance would be the property Overseer file.

There is, we submit, a strong divergence from this agreed understanding following the disbandment of StAG, and apparently following legal advice to BOPRC on the use of Overseer as a regulatory tool. We have sought, but been denied access to this legal advice, and take issue with the advice if this is indeed what it recommended.

- 18.** Furthermore When 90% of submission points have been either ruled out of scope or rejected, without definitive scientific or economic data to support these rulings, it suggests a closed mind. As such we submit that consultation has not been complied with according to the definition of 'consultation' in the Act.

**19. The Regional Policy Statement and Operative Regional Plan**

**Page 24 – 5.3.1 - [13]**

BOPRC are seeking to persuade the Commissioners that discussion of the RPS is out of scope.

We support the legal submission of Federated Farmers dated 6 March in this regard.

The Collective seek to persuade you that irrespective of any decision on this, there is

sufficient additional knowledge on the science affecting the water quality of Lake Rotorua, that the decisions made, to pursue the current restricted rules approach, should be re-evaluated. The lake behaviour over the last few years has shown that many of the assumptions and models used in developing the RPS were incorrect. There is far better knowledge and understanding of lake and land dynamics. Any plan change should have regard for the latest knowledge.

**20. The Management of Phosphorous by Plan Change 10**

**Page 27 - 5.3.3 [28]**

The statement that: “without Alum dosing the lake remains co-Limited...”,

is factually incorrect. The lake will remain P (or Co-limited) without Alum provided that the P concentration in the lake is less than 20ppm and/or the ratio of N: P is greater than 16:1.

An extract taken from the report titled “*Predicting the effects of nutrient loads, management regimes and climate change on water quality of Lake Rotorua*” written by Hamilton, McBride, White and others ERI 005 states:

*“Reducing solely N or P would little constrain phytoplankton biomass during periods when phytoplankton would otherwise be co-limited, or limited by the alternate nutrient species. Furthermore, attempting to reduce phytoplankton production by P limitation via P load reduction may be difficult to achieve on a sustainable basis, given the natural geological enrichment of phosphorus in aquifers within the Rotorua catchment (Timperly 1986). Focus solely on N load reduction could potentially increase the risk of cyanobacterial blooms if there were periods of adequate P, and N limitation sufficient to induce proliferations of heterocystous species that could fix atmospheric N to meet the shortfall in their nutritional requirements for N (Wood et al. 2010).”*

**21. Page 27 - [29]**

We are concerned with the statement that:

*“...alum dosing is not a permanent or long term solution...”*

In the absence of further research and scientific knowledge this statement is not based on fact, and is pure supposition.

**22. Page 28 - [30]**

It is stated that Anthropogenic P reductions are “*extremely difficult*”

Equally it could be stated the Anthropogenic N reductions are extremely difficult.

Further in Doctor Stephen’s Statement of Evidence, in his conclusion at 7.7 he states that:

*“..a lack of knowledge about P-mitigation hinders knowledge of whether N- and/or P-management is more appropriate for achieving a TLI  $\leq 4.2$  in Lake Rotorua. Of more concern, is that if Prof. Hamilton is correct to suggest P-management to a P-limiting concentration is unlikely, then a 320 tonne reduction in anthropogenic TN-loads proposed by PC 10 will likely degrade water quality further by promoting potentially toxic cyanobacteria dominance....”*

This position is fully accepted by Professor Hamilton at 15(k) of his Statement of Evidence, where he also states that:

*“It is important to decrease phosphorus loads together with nitrogen loads to reduce the potential for potentially nitrogen-fixing cyanobacteria blooms.”*

It is therefore of real concern that if Professor Hamilton is correct in his suggestion that a shift from P-management to a P-limited concentration is unlikely, then the 320 tonne reduction in anthropogenic TN loads proposed by PC10, will likely degrade water quality by promoting potentially toxic cyanobacteria blooms.

Doctor Stephens therefore maintains, at 7.5, that this knowledge gap *must* be filled by way of access to: *“robust, evidence based scientific input at 5-yearly intervals”*, as it is clearly imperative that Council ensures that P reductions occur in tandem with N reductions, and we support this position.

It cannot be emphasised enough that there is now a consensus of science from both Professor Hamilton and Doctor Stephens that it is imperative to reduce P in order to avoid a worsening of the lake water quality by an increase in cyanobacteria blooms.

But more than that, Doctor Stephens also maintains at 7.2 (d), that in addition to the above concern there is:

*“robust scientific evidence”* for *“The sustainable P load needing to be met irrespective of reductions in N loads, to result in co- or P-limitation at TLI  $\leq$  4.2.*

Doctor Stephen’s evidence is therefore that the TLI will not be met in any event by a focus on N alone.

Therefore it is nonsensical to argue as Council does in the s42A, that PC10 must proceed as it is simply too difficult to achieve the P reductions, as the TLI will simply not be met without a solution being found to that problem.

**Without a rule and a plan that takes account of both N and P, PC 10 will fail to achieve its objective TLI and worse than that it will likely cause the very harm it is designed to prevent.**

**23. Page 27 [33]**

We dispute the statement that:

*“Phosphorous limits for Lake Rotorua will need to be set (RPS WL3B) (NPS-FW) but this is not expected to change the level of reductions of Nitrogen required “*

This is in direct contradiction to the evidence of Doctor Stephens as above at [22], as well as the earlier evidence of Professor Hamilton presented in his following report: *“David P.*



Hamilton, Chris G. McBride & Hannah F.E. Jones 2014<sup>4</sup>, which clearly showed firstly that there were alternative combinations of N and P that could achieve the required TLI, and secondly that the current Target TLI would not be reached by targeting N alone. This position is further supported by Professor Hamilton in his Statement of Evidence in paragraph 15(K), where he states only modelled scenarios with alum will meet the TLI target.

Please see also the Rotorua ‘Science Evening’ report; ‘Phosphorus loads to Lake Rotorua’, by D. Hamilton, Grant, Tempero, McBride and Abell. The last power point slide from David Hamilton’s presentation shows a Summary of annual phosphorus loading to Lake Rotorua as follows:

		<b>Annual Loading t P/y</b>	
	Total	Anthropogenic	Baseline
Dissolved reactive Phosphorous	27.7	6.1	21.6
Particulate phosphorous	21	17.3	3.7
Total phosphorous	48.7	23.4 (43-64%)	25.3

- To achieve a TLI target of 4.2 would require an estimated reduction in TP of 10-15 t Y<sup>-1</sup>
- Anthropogenic TP loading would need to decrease from c.23.4ty<sup>-1</sup> to 8-13 t y<sup>-1</sup>

#### **24. The Use of Sub-Catchment Plans** **Page 31, 5.3.4 – [46]**

We disagree with the statement that sub catchment plans:

*“will not result in reducing diffuse sources of Nitrogen”*

We believe it is only through the use of sub-catchment plans that efficient and effective reductions of both N and P be achieved. The ROTAN Annual report by NIWA (attached to expert witness Rutherford’s Statement of Evidence), shows the different attenuation rates in each sub-catchment, that are only now known. Sub-catchment plans are therefore the only way to maximise the effectiveness of the investment for the Incentives fund, the gorse fund and for land management changes.

**Paragraph [42] on page 30** of the Section 42A states the many attributes of sub-catchments which are the precise reasons why plans need to be drawn up at the sub-catchment level.

<sup>4</sup>David P. Hamilton, Chris G. McBride & Hannah F.E. Jones 2014. Assessing the effects of Alum dosing of two inflows to Lake Rotorua against external nutrient load reductions: Model simulations for 2001-2012. Environmental Research Institute Report 49, University of Waikato, Hamilton, 56 pp.

**25. Lake Rotorua Nitrogen Loads and Science**

**Page 33 – 5.3.5 [53]**

we agree that: *“The 435t/N limit has been reiterated through numerous scientific research reports completed since the 1980’s”*, but it has been simply taken as read until the recent ROTAN Annual review, which appears to be yet another reiteration rather than a scientific re-evaluation of that target.

**26. [54]**

Doctor Rutherford’s report (ROTAN Annual) with due respect did not consider the effect of N: P ratio, or P concentrations on cyanobacteria growth and their ability to fix their own Nitrogen from atmospheric Nitrogen. The ability of algae to “fix” their own nitrogen significantly undermines the effectiveness of N mitigations to achieve a TLI of 4.2

**27.** In terms of the scope argument we respectively submit that PC 10 should not proceed unless it is the best way forward to achieve the target TLI. We maintain the position that the 435 target would not have been chosen by the community processes if the facts as they are now known, were known by the Community at that time. We further believe that PC 10 is not giving correct effect to the RPS policies individually or as a whole.

**Decision Sought:**

PC 10 should be amended so that it is consistent with all the relevant Policies of the RPS, as well as with the true intent of those policies.

**28. The Use of OVERSEER and Reference Files**

**Page 36 – 5.3.6 – [67]:**

*“The use of Reference files provides an element of certainty and upholds the intent of the allocation methodology. “*

We dispute this statement and the use of reference files. We submit that they provide very little certainty. Council requires an enterprise to submit an Overseer file as the measure of nitrogen loss from the land covered by that enterprise. This is the most accurate and transparent measurement of actual loss. The reference file bears no similarity to the farm being measured by Overseer! The percentage calculated also has no relevance.

The only accurate measure of a farm nitrogen loss is the Industry accepted Overseer model. All farm systems are inherently different and cannot be averaged with any degree of accuracy for something as important as the property Nitrogen Discharge Allocation.

Evidence from the statement of Evidence of Richard Allen at 6.4, demonstrates that Fonterra has the ability to run large numbers of farm files; *“over 9000”*, per year, with different versions of Overseer. This completely negates the need for reference files with their inherent inaccuracies, and the use of Reference files as a means of measuring a property’s NDA.

Further on reading the evidence from DairyNZ and Fonterra in Richard Allen’s Statement of Evidence, we submit that there is clear evidence that reference files add too much distortion from reality, to be fit for purpose.

## 29. The Use of Nitrogen Management Plans

Pages 43- 44 – 5.3.8 – [102] – [109]

We support the use of Overseer as the primary compliance point, (as was the agreed understanding during the Stag Consultation process). We do not agree with the concerns raised in these paragraphs about the use of Overseer as a compliance tool. Compliance can occur at any point following the first 3 year (or 5 year) period when using a 3 yearly (or 5 yearly) rolling average.

The Council are using circular arguments to justify the use of the Nutrient Management Plan for compliance, instead of using the agreed Overseer file numbers. **Paragraph 102** correctly states that in-put regulation was rejected, yet at **paragraph 108** examples of inputs are listed (stock numbers, fertiliser use etc.) that will be used to establish “resource consent conditions”. Council then goes on to maintain at [109] that this is not a high level of specificity! We do not agree.

We submit that using Overseer as the decision tool in developing the NMP, but not as the point of compliance, is counter intuitive and nonsensical.

## 30. Trading of Nitrogen under Plan Change 10

Page 46 – 5.3.9 - [119]:

*“ ... To not provide this “head start” may require any unachieved Incentives Scheme target to be allocated in the future.”*

We are concerned with the implication in this statement, (and elsewhere in the 42A report), that any failure to achieve any part of the Integrated Framework, including a failure by the Incentives Fund to achieve the 100 Tonnes, will fall back on the shoulders of the pastoral sector by way of additional rules. This clearly undermines the very integrity of the ‘Integrated Framework’.

The Integrated Framework was developed by the Stakeholder Advisory Group. It was recommended to and accepted by Regional Councillors at a full committee meeting. It was agreed that neither would it be possible for pastoral land to achieve a greater reduction than the 140 tonnes currently required, nor would it be equitable to require this in view of the legacy load to the lake which is the major contributor to the current state of the lake.

'The Lakes Rotorua and Rotoiti Action Plan 2009' states:

*“Internal loading in Lake Rotorua is 360 tonnes/yr nitrogen and 36 tonnes/yr phosphorus “*

Central Government agreed and provided funding to secure 100 tonnes of Nitrogen, independent of the pastoral requirement. Local Government of the day also agreed and provided additional funding to create what is now known as the ‘Incentive Fund’.

It is essential that this understanding is honoured by all parties; through all future plan changes and science reviews and that the agreed 100 tonnes remains the responsibility of Local Government and is not passed back to the pastoral sector to mitigate in the future.

As noted in the section 32 economic report by Parson, Doole, etc., **none** of the modelled dairy farms could get down to their NDA without trading, yet PC10 bans trading until after

2022 and puts significant restrictions on trading after that date. These restrictions will significantly curtail the efficiency resource allocation.

**31. Allocation from Forestry and underutilised Maori Land**

**Page 51 – 5.3.10 – [145]**

We fully endorse paragraph 145:

*“Recent economic analysis suggest that the existing allocation to the dairy and dry stock sectors already may not be achievable in some cases, and any reallocation will impose increased costs and reduced flexibility. Reducing the allocation for the dry stock or dairy sector will further reduce the ability to achieve the targeted reduction, and further impact the viability of farm enterprises. The economic impact of PPC10 is outlined within the evidence presented by Lee Matheson; Dr Nicola Smith, and Professor Graeme Doole.”*

**32. Impacts on Population Growth and the Operation of the Rotorua WWTP**

**Pages 55-59 – 5.3.12**

As already submitted above at paragraph [30], we oppose any policy that shifts any further share of the Integrated Framework back onto the pastoral sector and onto individual farmers. The allocation method and the Integrated Framework were established following extensive consultation. To allow for a further burden from urban to pastoral in response to potential future changes is inequitable and will result in an even greater burden than the current one which is already difficult.

**33.** Increased demand on Infrastructure relates to subdivision, waste water treatment plant, roading, population increase; all of which contribute to nutrient loadings. All land use change must meet the allocated nitrogen allocation. NOTE **LR R10** allows trading only for farmland.

**34. Economic Impacts of PC 10**

**Page 60 - 5.3.13 – [186]:**

*“These studies show that impacts will be different for different farms, with some farms being able to achieve the necessary nitrogen reductions.”*

The corollary from that statement is that many or most will not be able to achieve the reductions without significant economic harm.

The studies and reports also showed that none of their modelled dairy farms could reach the target NDA without trading N, which is of concern as it is unknown at this stage if there will be trading and /or if it will be economical to trade.

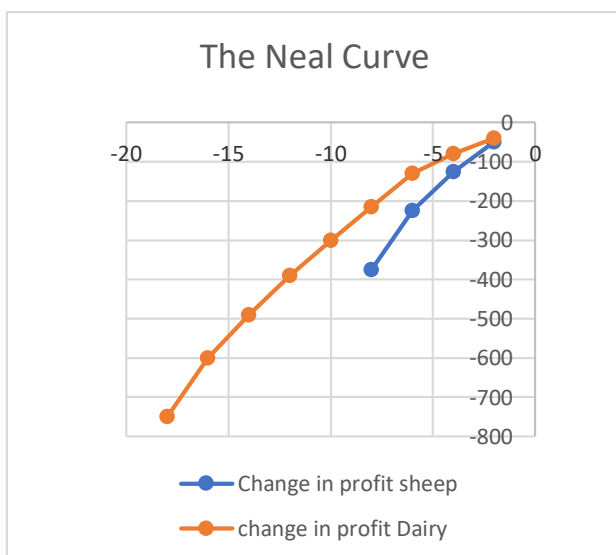
**35. [187]:**

*“No economic research has concluded that the rule framework will have a devastating effect across the farmer sector. The results of economic studies for the Rule Framework are consistent in showing mixed impacts on the profitability of farming in the Lake Rotorua catchment”*

The above statement is misleading on several aspects: None of the studies considered took

into account property debt, servicing or taxation liabilities. The Farmer Solutions Project report estimates the cost to pastoral farmers of the new rules to be over \$88 million. This is without taking account of loss of capital & without factoring in debt and interest. The reports and staff comments made in public meetings clearly acknowledge that there will be devastating effects on individual businesses, and that it is inevitable that some will not survive the impact of PC10.

Furthermore it is of particular importance to appreciate that under pastoral farming in New Zealand, financial losses generally get exponentially greater per Kg Nitrogen mitigated, as the level of mitigation increases. This relationship between profit and Nitrogen mitigation is commonly called the Neal curve (named after Mark Neal of DairyNZ who first used this formalism).



This is an example of cost curves delineating the relationship between the abatement of nitrogen and the associated change in farm profit.

In addition it is noted that Professor Doole's paper<sup>5</sup> states the following:

*"When Implemented at a large scale, land use change is associated with significant economic and social upheaval."*

*"Various case studies conducted over hundreds of farms show that reductions in leaching above 5-10% are likely to reduce farm income"*

*"Indeed, there currently appears to be no transformative practices or systems available that have the potential for wide adoption, alongside being capable of greatly reducing the environmental footprint of pastoral farming in New Zealand"*

<sup>5</sup> Paper by Graeme Doole, Professor in Environmental Economics at the Department of Economics in the Waikato Management School at the University of Waikato. Paper published in The Journal December 2016.

**36. Page 69 - Appendix 1 – Draft Compliance Platform**

*“Schedule LR Six includes a statement on Nutrient Management Plans being the primary point of monitoring and if necessary compliance”*

We oppose the NMP being the primary point of Compliance.

Council have stated that they are not in the business of micro managing farm businesses. Almost three years was spent working collaboratively at the Stakeholder Advisory Group working on specific tasks set by Council. It was accepted at that forum that the main point of compliance was the NDA. The measure of that NDA is via the property Overseer file. To allow for weather variations and the dramatic effect on pastoral land systems, the Collective requested a five-year rolling average for the assessments of Overseer figures. Even with a 5 Year rolling average properties can still be monitored using annual overseer files to see if property is tracking in the right direction.

- 37.** It is the output Nitrogen figure i.e. the property NDA that should be the only measure of compliance. Actions must not be subject to control nor compliance, unless the property is deemed to be in breach of its NDA.

**C . Conclusion**

- 38.** The overarching hierarchy is as follows:

RWLP: objective 11: Requires Lake Rotorua to be at a TLI 4.2



RPS: WL 3B (c) Nitrogen shall not exceed 435 tonnes



PC10: rules to achieve 435 limit

- 39. What has changed since the agreed RPS mediation which resulted in the 435 N target being established as a component of RPS WL 3B (c)?**

- a) Overseer has moved from version 5.4 – 6.2.2 (etc.). resulting in new understandings of attenuation and transport pathways.
- b) This new Knowledge of attenuation allows for targeted actions to manage/remove N from the flow path *before* it reaches the lake.
- c) This new knowledge of attenuation has also allowed for the possibility of targeting specific geographical regions within the catchment where N reductions will be effective in a much faster time span than in other areas.
- d) The true cost of the plan, (in excess of 100 million dollars), has become apparent.
- e) The lake has demonstrated it is P limited. Controlled and monitored use of Alum since the RPS process has resulted in the discovery of P and/ or co-limitation with resultant new options to manage it.
- f) There is a new and agreed Understanding of N: P ratios, the Importance of P loads, and the different P and N combinations. The necessity of targeting both nutrients, is now the consensus science.

- g) There is now a realisation of the risk of not achieving the lake's TLI, under PC 10 as notified, if there is a focus on N alone.
- h) There is an agreed risk to the lake of cyanobacteria blooms if PC 10 proceeds as notified.
- i) There is a managed but currently stable lake, albeit due to the use of alum. This stability provides the time and opportunity to stand back and review what is happening and the ability to use scientific learnings and advances to find the right solution. The community has the luxury of enough time to 'do this once and to do it right'.
- j) The NPS – legal framework: We believe it is highly unlikely to have been complied with, by some good fortune, before it even existed. It is simply not plausible and we do not accept that the NPS has been fully complied with.

**40.** The Collective believe that if the above listed knowledge had been at the RPS mediation table, the 435 target would not have been used in these policies. The appropriate target would have been the TLI of 4.2 and with hindsight, it is unfortunate that the 4.2 TLI was not used in its place.

**41.** It is clear that the overarching goal of the BOPRC on behalf of the Rotorua Community is to ensure that Lake Rotorua meets the target TLI of 4.2. Page 173 of the operative RPS in the explanation for WL 3B at page 173, makes it clear that:

*“The 435 tonne annual sustainable nitrogen load for Lake Rotorua includes stream and groundwater flows, rainfall, and treated sewage effluent and excludes internal loads from the lake bed. The 435 tonnes is required to achieve the 4.2 trophic level index target currently set in the Regional Water and Land Plan. “*

The Collective support the Community goal of maintaining Lake Rotorua at this TLI.

**42.** When the RPS was mediated it was widely believed that the only way to do this was to achieve a limit of 435 Tonnes of N. It is now apparent, on reading the Statements of Evidence of the science experts for the Council - Professor David Hamilton, and for DNZ and Fonterra - Doctor Tom Stephens that this is no longer the case.

**43.** Not only are there alternative ways available to achieve the requisite TLI, but it is also now apparent that the TLI cannot be achieved through a limit of 435t of Nitrogen alone and furthermore that to do so would actually result in potential risks to the water quality of the lake.

**44.** Doctor Stephen's evidence is that it is essential that reductions of P occur alongside, and in the correct balance with, any reductions of N.

**45.** This can be either by way of continued alum dosing or by way of other phosphorus reductions or any combination of the two but this will need to occur.

**46.** If Council are maintaining that there is currently no viable way to ensure the requisite reductions of P then PC 10 will fail, and so the pain and suffering of individuals and the loss to the Community, will have been in vain.

47. Furthermore, the current PC10 will not only fail to achieve the TLI but will actually put the community at risk of an increase of algal blooms; the very thing the Community sought to prevent by establishing the TLI target and the very thing that the rules seek to address in PC 10.

48. It is clear that the science review should currently be under way, as agreed in the Oturoa Agreement, the science MOU of 2016, as well as in the notified draft PC10 rules. Despite this we have now been made aware by Council staff that the science review is in fact on hold and will not proceed in 2017, nor indeed until PC 10 is finalised with all appeals resolved:

In an email of 1<sup>st</sup> February 2017 written by Andy Bruere, in response to the following emailed question of The Collective written on 19<sup>th</sup> January 2017:

“What is happening with the Terms of Reference around the proposed Science Review for Lake Rotorua due to be undertaken in 2017”

We were told the following:

*“The terms of reference for the science review are set out in Plan Change 10 LR M2.....You will also be aware of MoU on Lake Rotorua Science and Policy Reviews, between BOPRC, LWQS and Collective. This specifies that BOPRC will carry out a review in 2017. However, the review is specified as part of Proposed Plan Change 10 which is currently subject to the RMA hearing process. As the science review is a specified requirement of PC 10 it would not be appropriate to commence any review until the outcome of the plan change is completed. This will be dependent on receiving decisions from the hearings panel during 2017 and also subject to the details of any appeals that may be lodged against that decision. Regional council staff will seek the views of the MoU parties when we are preparing for the science review.”*

The Collective are incredibly disappointed by this attitude and believe that there is nothing to prevent the science review being commenced outside of this RMA process in accordance with the agreed understandings of the Oturoa agreement and the Science MOU. Indeed, to do otherwise is a disservice to the Community and an affront to common sense.

49. The Collective submits that:

- a. to proceed with a Plan which has now been judged likely to fail in its only goal, is contrary to common sense and good judgement.
- b. to proceed with a plan which was in need of serious review before it even became operative and when the science review is imminent, is nonsensical.
- c. there is a better way to achieve the TLI of 4.2, but more importantly than that the scientists believe that the science review is essential and that an alternative way forward is the only way to achieve the 4.2.
- d. there is a real and unjustifiable risk in proceeding with PC10 prior to the review, on the premise that some Nitrogen is required in any event, because it is clear that PC 10 will cause irreversible harm to individuals and the community at large.



- e. it is therefore unconscionable to allow this to occur when there is the strong probability that the harm is unnecessary and unwarranted.

**50. Decisions Sought:**

- i.) that the science review proceed and that the best combinations of N and P are established before PC 10 becomes operative; or at the very least before the reductions post 2022 are imposed, as any reductions in excess of the 2022 targets will result in permanent changes to land use and irreversible harm that could not later be reversed.
- ii.) that Overseer files are used as the point of compliance, as agreed and understood at StAG, in order to allow and incentivise land owners to adopt new and innovative solutions as they become available and in order to maximise resource use efficiency through adaptive management.
- iii.) that Council encourage and resource Sub catchment action plans as the primary point of actions.
- iv.) that PC10 aligns with the intent of the RPS Policies and that it achieves the real goal of a lake maintained at TLI 4.2, in the most cost efficient way.
- v.) that Council ensures full compliance with the NPS

Thank you for your consideration of these submissions.

A handwritten signature in black ink, appearing to read 'Gisele A.M. Schweizer', with a long, sweeping underline that extends to the right.

[Gisele A.M. Schweizer]  
Co-Chair - Lake Rotorua Primary Producers Collective

Dated 6<sup>th</sup> March 2017