Submission on Waikato Regional Council's 'Plan Change One' (PC 1)

To:

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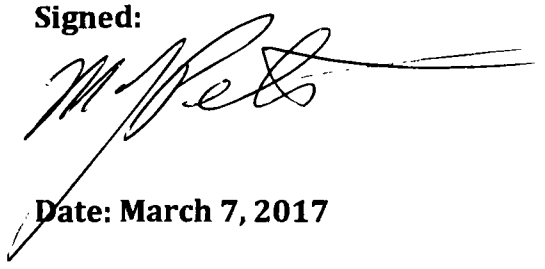
I could not gain an advantage in trade competition through this submission.
I am not directly affected by an effect of the subject matter of the submission.

I wish to be heard in support of this submission

Signed:



Date: March 7, 2017

1. Vision, Goal and Values (3.11.1)

Support with amendments

There is ambiguity regarding the purpose of PC 1. The Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010, Schedule 2, Vision (k) states "the restoration of the water quality within the Waikato River so that it is safe for people to swim in and take food from over its entire length." This requirement 'safe for people to swim in' is not included in the Vision and Strategy of PC 1 (3.11.1 page 20).

Elsewhere in PC 1 (Part A page 13, para 4) it is included ("safe for people to swim in") and that the goal is "aspirational" (see page 28, Reasons for adopting Objective 1). However the concept of "swimmability" is not defined in PC 1.

Decision Sought: that PC 1 be amended so that the vision, purpose and goal is clear and to specifically include the freshwater values it is trying to achieve.

2. Cost of Implementation (Table 3.11-1 & Rules 3.11.5.1 - 3.11.5.7).

Oppose

The cost to reach the goal above is estimated to be $500-$600 m per annum for 80 years (Section 32, C.2.2.11.1, scenario 1 page 70-71). This I understand will cripple the economy of the Waikato Region. For this reason Objective 2 of PC 1 (Section 3.11.2) will not be achieved.

Decision Sought: that PC 1 is amended so that a more strategic and staged approach is implemented to ensure that Objective 2 can be realized (see Section 7 of this submission.

3. Staged Approach and Stock Exclusion (Objective 3, 4, Policy 2, Policy 5 and Schedule C).

Support with amendments

A staged approach is proposed (3.11.2, Objective 3 page 27) with an initial 10-year plan to achieve 10% of the long-term (80 year) goal. PC 1 will be reviewed after this 10-year period.

However, PC 1 (3.11.3, Policy 2e, page 30) requires that the stock exclusion requirement is to be completed before July 2026 (i.e. within the 10-year goal interim goal). From the financial analyses I have seen, the fencing required to achieve 'stock exclusion' is a major cost in implementing PC 1. Thus, while the staged 10 year period sounds reasonable, it makes it financially very difficult for farmers to implement because all these costs are 'up-front' in the first 10 years.

Decision Sought:

- *that 3.11.2, Objective 3 page 27 be deleted* and *a staged approach is planned and implemented based on a sub-catchments (see Section 7 of this submission).*
- *that Schedule C is amended accordingly.*

4. Sub-catchment management (Policy 9, 3.11.4.5).

Support with amendments

PC 1 proposes (3.11.3 Policy 9) that ".... a prioritized and integrated approach to sub-catchment water quality management.... " will be adopted. Then at

"Implementation 3.11.4.5" it states that the "Waikato Regional Council will work with others to develop sub-catchment scale plans...."

The purpose for these sub-catchment plans appears to be (see sections a-g) to prioritize which of the 4 contaminants, or combination of contaminants, is the cause for the poor water quality and plan the appropriate mitigation options reflecting the biophysical properties of the sub-catchment.

This policy appears to contradict the pan-regional approach currently embedded in the proposed PC 1, which attempts to mitigate losses of all 4 contaminants in all reaches of the Waikato River catchment area, irrespective of whether it is required to reach the 80-year water quality goal for the river.

Decision Sought: that PC 1 be rewritten and configured around a sub-catchment approach (see Section 7 of this submission).

5. Emphasis on Nitrogen (Rules 3.11.5.3 and Schedule B)

PC 1 places emphasis on managing N, almost to the exclusion of P and the other two contaminants - sediment and pathogens. This introduces (Rule Section 3.11.5.3 (2) and Schedule B) into the Plan the need for farm-level "Nitrogen Reference Points" (NRP), "Grandparenting" and the use of the "Overseer" nutrient management model (or any other approved model).

However the Section 32 Report (C.2.2.6) states "...phosphorus is more important than nitrogen in controlling annual median phytoplankton biomass..."

Overseer does incorporate a P loss model. A major factor determining P runoff is the soil P concentration (Olsen P test), which is routinely measured on farms. The CV for Olsen P is about 20%, assuming the correct soil sampling protocol is followed. Given that P is a more important contaminant that N, and given that it is routinely measured on farms, and is just as accurate as the Overseer-predicted N leaching loss, it is ironical that the Technical Leaders Group (TLG) dismissed Olsen P and the P runoff model in Overseer as a potential means of managing P runoff (Section 32 page 147)

Decision Sought:

- *That PC 1 be re-written to reflect a sub-catchment approach to water quality management, which requires that the 4 contaminants be prioritized in terms of there likely effects on water quality in the sub-catchment and the Waikato River*
- *The PC 1 reflect the fact that some sub-catchments may not require N mitigation and hence the requirements for Grandparenting, NRPs and the use of the Overseer N model will not be required.*
- *That in sub-catchments where P mitigation is required that the Overseer P loss model is considered together with all the other possible P mitigation options as a means of managing P runoff.*

6. The Use of Overseer (Schedule B)

Overseer was developed as an expert system to inform nutrient management decisions at the farm level. As with any model attempting to describe biological processes, its predicted outputs (e.g. kg N/ha/yr) are subject to 'noise' – errors. For example the minimum error (CV, coefficient of variation) in the predicted rate of nitrogen leaching from Overseer is about 30% but it can be much higher (>100%) if the incorrect input data is used, inadvertently or otherwise.

PC 1 proposes to set absolute discharge limits for N (Nitrogen Reference Points, NRP) for each farm. The 'errors' in Overseer mean that there will always be uncertainty as to whether the specific NRP is met or otherwise. Litigation is a likely outcome.

There is no consideration about the management of the errors in the estimates of nitrate leaching from Overseer in either in PC 1 or the Section 32 Evaluation Report. Indeed the Section 32 Evaluation Report (page 148) states that having an "absolute" number (for the NRP) has the advantages of providing "the community with the sense of a clear quantum of N being capped...." This is not an evidence-based opinion.

This uncertainty in the predicted N losses is exacerbated because Overseer undergoes version changes over time – about 2 versions per year. These changes are necessary to remove 'bugs', improve its functionality and importantly, to incorporate new science. The consequence is that for a given set of input data, the predicted nitrate leaching can change, both up and down, depending on which version of Overseer is used. This is the very problem that has beset Horizons 'One Plan'. There are methods to minimize the effects of version changes on prescribed NRP levels but none are currently included in PC 1.

PC 1 proposes to use 'grandparenting' to allocate N loadings at the farm level. These will be based on the predicted N leaching losses from Overseer for the two seasons 2014/15 and 2015/16, taking the higher of the two estimates (Schedule B). This system is crude, unfair and inequitable because it rewards in perpetuity the least efficient N users and punishes the most efficient users. In any case there are more sophisticated and fairer approaches to allocate N losses to individual farms (see Section 7 of this submission).

The problems identified above are dismissed in the Section 32 Evaluation Report (page 148) because solving them "would require additional resources" and that the ".....public perception could be that landowners are not complying with property limits if nitrogen leaching limits change."

Decision Sought:

- *That OVERSEER not to be used as a regulatory tool but can be used to undertake qualitative what-if-analysis if required for a given sub-catchment where N is identified as a limiting nutrient in either that sub-catchment or the wider Waikato River.*
- *That where Overseer is used to estimate rates of N leaching an estimate of the error (as a CV) should also be given.*
- *That 'grandparenting' is not used to set NRPs*
- *That other methods are explored for allocated N losses to given farms within sub-catchments if required and such limits are expressed as qualitative ranges (< 20, 20-30, 30-40 etc.) to reflect the uncertainty in such estimates*

7. An Alternative Approach to PC 1

The cumulative effect of the submissions 3 to 6 above is that PC 1 should be re-configured around Policy 9 – a sub-catchment approach, based on collaboration between the sub-catchment community and the Waikato Regional Council. This is exactly the model proposed by the Land and Water Forum Report No 3.

Adopting this approach would require:

- Calculating the amount of N, P and sediment that needs to be removed from the Waikato River in order to reach the water quality goals in 80 years.
- Allocating these loadings to each sub-catchment, taking into account the amounts of N, P and sediment currently leaving each sub-catchment.
- Allowing the sub-catchment community, working with the Regional Council, to decide the most cost-effective means to reach the required sub-catchment goals, after taking into account and prioritizing which contaminants are most limiting water quality in the sub-catchment.

If this were done it would:

- Ensure community involvement and commitment towards achieving Objectives 1 & 2.

- Ensure that Objectives 1 & 2 are achieved in a timely manner and at a rate that can be accommodated both financially and socially by the farming communities.

- Reduce the uncertainty introduced Objective 3 (the 10 year sub-goal).

- Remove the inequity of Grandparenting to determine NRPs (there are fairer and more equitable methods for allocating NRPs and in any case N may not be the limiting nutrient in many sub-catchments).

- Reduce the amount of uncertainty introduced by the use of Overseer as a regulatory tool (N may not be the limiting nutrient in many sub-catchments and the use of Overseer as a regulatory tool will be obviated)

- Reduce the costs of implementing PC 1 (the sub-catchment communities will be empowered to come up with more cost effective mitigation solutions, new technologies can readily be incorporated, depending on the biophysical characteristic of the sub-catchment, wetlands (natural and constructed), bund, riparian planting and 'hot-spot' management could replace the need for expensive fencing)

Decision Sought: Rewrite Plan Change 1 based on a sub-catchment approach that addresses the concerns raised above.