

**BEFORE INDEPENDENT HEARING COMMISSIONERS**

**IN THE MATTER**

of the Resource Management Act 1991

**AND**

**IN THE MATTER**

Proposed Waikato Regional Plan Change 1:  
Waikato and Waipa River Catchment

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**STATEMENT OF PRIMARY EVIDENCE OF JUSTINE YOUNG RESPONDING TO JOINT  
WITNESS STATEMENT FOR TABLE 3.11-1**

**FOR DAIRYNZ LIMITED**

**12 July 2019**

**SUBMITTER 74050**

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## **Introduction**

- 1 My full name is Justine Young. I am a senior policy advisor at DairyNZ and have the qualifications and experience set out in my statement of evidence I presented at the Block 1 hearing.

### **Code of Conduct**

- 2 Although this is a Council hearing, I have read the Environment Court's Code of Conduct and agree to comply with it. My qualifications as an expert are set out in my statement of evidence I presented at the Block 1 hearing. I confirm that the issues addressed in this statement of evidence are within my area of expertise.

### **Scope of Evidence**

- 3 I have been asked by DairyNZ to provide evidence on the planning implications of the expert conferencing on Table 3.11-1 to Proposed Waikato Regional Council Plan Change 1 and Variation 1 – Waikato and Waipa River Catchments (**PC1**).

## **Overview of DairyNZ evidence**

- 1 In Block 1, DairyNZ expert evidence focused on setting out reasons for supporting the technical underpinning of PC1.
- 2 Water quality scientist Dr Craig Depree was asked by DairyNZ to assess the adequacy of the water quality approach in the development of PC1. Dr Craig Depree was involved in the expert conferencing for Table 3.11-1 and was part of the sub-groups for nutrients and clarity.
- 3 I begin my evidence with a summary of my response to PC1 Joint Witness Statement Expert Conferencing Table 3.11-1 dated 17 June 2019 (**JWS**).
- 4 The next part of my evidence is to provide additional context in terms of PC1 water quality outcomes. I reference documents downloaded from WRC website, and draw on a previous policy role assisting the Collaborative Stakeholder Group from 2014-2016, including in their discussions about the content scope of PC1.
- 5 The remainder of my evidence are the reasons for my opinion of the planning implications for PC1. In developing this evidence, I found it helpful to refresh my memory of the National Policy Statement for Freshwater Management 2017 (**NPS-FM**) and also how the short-term and long-term water quality attributes relate to the

policies, methods and rules of PC1. I back up my statements by reference to WRC documents, in particular those which relate to s32(1)(a) and whether Objectives 1 and 3 of PC1 (long term and short term water quality outcomes respectively) are the most appropriate way to achieve the purpose of the RMA.

- 6 In summary, my opinion is that the JWS should be seen as a 'tidy up' of Table 3.11-1, and that it is not appropriate to add new attributes to the Table. In my evidence below I set out:
  - a. Changes recommended in the JWS that I believe are appropriate because they are within the scope of PC1, do not alter environmental outcome sought and improve future reporting of water quality.
  - b. One recommended change that is related to the four contaminants, but I believe is a policy question, and in my opinion is not necessary to make.
  - c. Changes recommended in the JWS that I believe are outside the scope of PC1 and should be set aside for consideration in the upcoming council regional plan review, and for future plan changes in Waikato River catchment.
  - d. Changes recommended in the JWS that are related to the four contaminants but may not be sufficiently robust to include without a full s32 assessment
  - e. Rationale for my opinion, starting with an outline of the scope of PC1 and how Table 3.11-1 relates to PC1 implementation.

#### **JWS recommended changes that are 'tidy ups' within PC1 scope**

- 7 My understanding of the recommendations in the JWS are that several changes revise existing attributes and these revisions do not have any implications to the water quality environmental outcome sought. They are essentially 'tidy ups'. For that reason, I believe accepting these changes will improve Objective 1 and 3. These are:
  - a. Nutrient sub-group recommended approach **1c)** for Total Nitrogen (**TN**)
  - b. Nutrient subgroup recommended approach **2c)** for mainstem Waikato River Total Phosphorus (**TP**).
  - c. ***E.coli*** update to align with NPS-FM 2017

#### **JWS 'policy' recommendation nutrient subgroup Approach 3**

- 8 My understanding of JWS nutrient subgroup Approach 3 is that it arises from a concern about policy implementation. For reasons set out below, I do not think it is necessary to make the change, and instead rely on WRC existing and proposed water quality reporting on PC1 provisions.

### **JWS proposed attributes that are not within PC1 scope**

- 9 My understanding of the JWS was that the following new attributes were put up and discussed as attributes to be added, but that are not directly related to discharges of the four contaminants are:
  - a. Fish
  - b. Riparian as an attribute proxy for land use.

### **JWS changes recommended that are within PC1 scope but require more technical assessment**

- 10 There are some changes that a majority of experts in each subgroup have recommended that I believe relate directly or indirectly to the four contaminants. For instance, proposed new attributes that are partly related to a response to increased N, P and sediment in a waterbody, are macroinvertebrates (MCI) and periphyton, and that WRC currently monitors both, but at different sites than the ones listed in Table 3.11-1. I am unable to make any further comment on implications to PC1 because I am not clear about the technical justification for some of the proposals, and given that the proposals came out of the expert conferencing, there is no s32 analysis. The relevant parts of the JWS in this category are:
  - a. Nutrient subgroup Approach 4 and 5 that uses national data sets to derive nutrient criteria related to ecosystem health and periphyton biomass, respectively.
  - b. MCI or QMCI as a new attribute for ecosystem health
  - c. Periphyton
  - d. Deposited sediment
  - e. Dissolved oxygen as a narrative attribute for tributaries
  - f. TN and TP as an attribute in Whangamarino wetland.

### **Context for policy decisions on JWS recommendations to Table 3.11-1**

- 11 PC1 was the culmination of the Healthy Rivers Wai Ora project that was set up in 2013 to assist achievement of the Waikato Vision and Strategy by focusing on the discharges of diffuse and point source contaminants. The topics for review were established by WRC and confirmed when the Collaborative Stakeholder Group

(**CSG**) and Technical Leaders Group (**TLG**) was set up<sup>1</sup>. This can be seen as the 'content scope' of PC1, and in paragraphs below I have noted some of the council resolutions and reports to CSG that illustrate there was careful consideration of what was within scope of Healthy Rivers Wai Ora project. One of the reasons for constraining scope to discharge of the four key contaminants of concern, was to impose some boundaries for what CSG could consider. The group was large and diverse, and had a limited time to come up with recommendations for changes to the regional plan, within the very broad Te Ture Whaimana O Waikato, as the direction-setting document for the Waikato River. This was explained by Ms Tracey May when she presented evidence in Block 1 of hearings, and touched on in WRC opening legal submissions.

12 In my previous role at WRC, I wrote reports for the CSG and TLG about project scope, that were debated at length early in the process (WRC 2014a). The TLG attributes documentation (WRC 2015), also provided an opportunity to test which attributes were going to be most useful in demonstrating, over time, whether or not PC1 provisions were working. The TLG attribute assessment was tested and debated by the CSG. Since that time, there may be attributes that clearly demonstrate a cause and effect response to the four contaminants in water bodies. I defer to technical experts on these matters. In reading the JWS however, I note many comments about complexity of the expert conferencing and time constraints that prevented individuals from a measured assessment. I believe it is necessary to have time to reflect on alternatives and implications when making decisions that WRC will have to use in its monitoring and reporting over the coming decade or more.

### **Debate on PC1 scope and relationship to water quality attributes**

13 The Stakeholder Engagement Strategy is listed as a 'welcome pack document' sent to the CSG prior to the first meeting in March 2014. It set the approach to be taken. Other helpful boundaries in that document are geographic scope as Waikato River catchment, and unique legislative context of the Te Ture Whaimana o Te Awa o Waikato - the Vision and Strategy for the Waikato River is intended by the Crown to

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1 <sup>1</sup> Ms May's Primary Evidence provided a diagram of roles and information flows between the various governance, collaborative and technical advisors.

be the primary direction-setting document for the Waikato River and its catchments (including the Waipa River)<sup>2</sup>.

- 14 In the first two meetings of the CSG in 2014, the council reports spelt out the 'content' scope. This included an explanation of the council resolutions and discussions up to that point. The report to the CSG stated:

The 'content scope' of the project is to:

- Promote the reduction, over time, of sediment, bacteria and nutrients (nitrogen and phosphorus) entering waterways (and groundwater) in the Waikato and Waipa river catchments.
- This includes measures that do not specifically control discharges, but aim to mitigate the effects of discharges (i.e. riparian and wetland management).
- To play a part in restoring and protecting the health and wellbeing of the rivers for current and future generations. Note that this project in itself is not aiming to ensure the regional plan in its entirety gives effect to the Vision and Strategy. Additionally this project is only one of many measures WRC and other agencies are providing to give effect to the Vision and Strategy.

#### Secondary benefits

Reducing the four contaminants (sediment, bacteria, nitrogen and phosphorus) will improve habitat quality (i.e. the water quality), thereby going some way to enhancing ecology and food safety of fisheries/kai species.

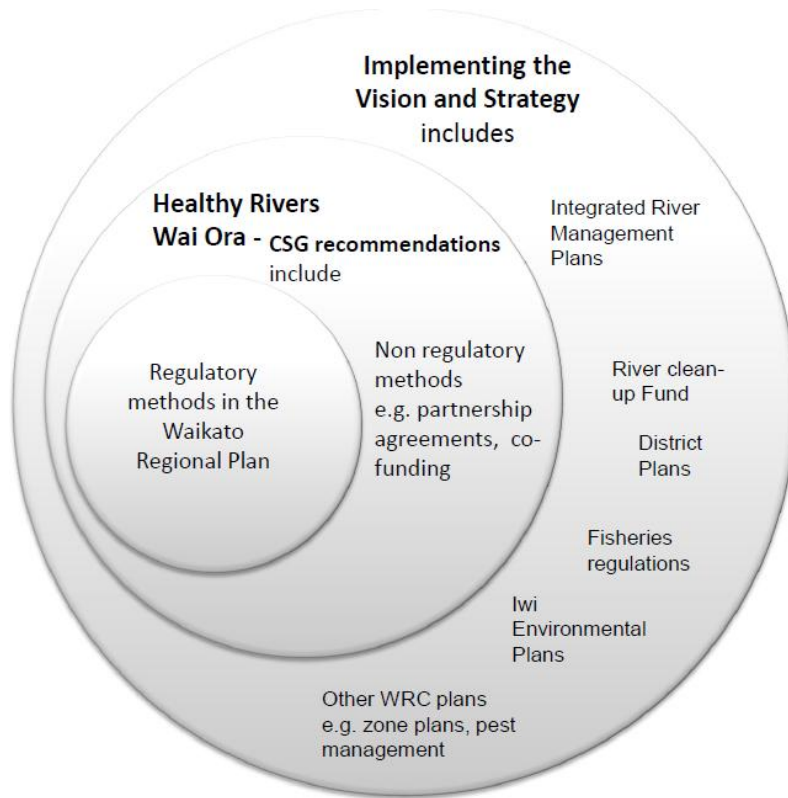
Some measures to reduce the four contaminants will also have benefits for habitat e.g. riparian management will provide shade, reduce stock effects including trampling spawning areas and beds, and provide food and shelter for aquatic life.

(WRC 2014b page 4).

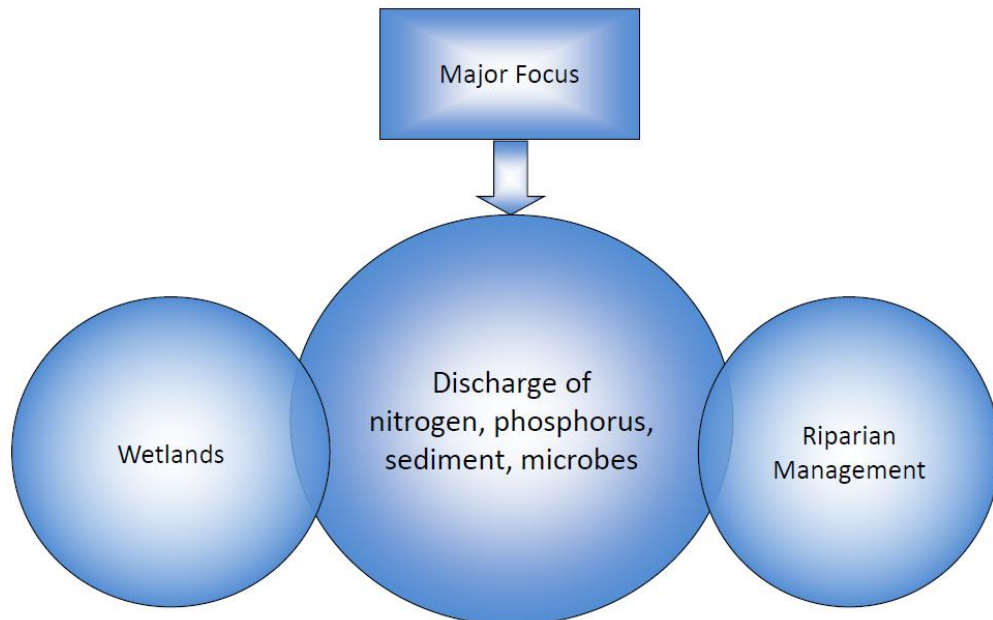
- 15 There were aspects that were not investigated as they were deemed outside a regional council s30 mandate (fish regulation) and aspects set aside as being part of other council processes, such as future changes to adjust existing regional plan provisions, and review of the flood control scheme for Waikato River. The following two diagrams spelt out the understanding in 2014, of what was being asked of the CSG (WRC 2014a).

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<sup>2</sup> Te Ture Whaimana o Te Awa o Waikato - the Vision and Strategy for the Waikato River is intended by the Crown to be the primary direction-setting document for the Waikato River and its catchments (including the Waipa River). It was initially given statutory recognition via the two Waikato River Acts in 2010, and subsequently extended to incorporate the upper reaches of the Waipa River through the passing of the Waipa River legislation in 2012 (Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010, Ngāti Tūwharetoa, Raukawa and Te Arawa River Iwi Waikato River Act 2010 and Ngā Wai o Maniapoto (Waipa River) Act 2012).



## Scope of the project



16 The relevance of these documents is they set the technical aspects that were investigated by the TLG in the course of the plan change development. The planning implications of the JWS recommendations are that there are some aspects that submitters may wish to include in PC1, but where no evaluation under s32 has been undertaken of the new provisions, and the scale of the impacts may be such that there is a natural justice issue where affected people have not had an opportunity to submit.

### **Defining short- and long-term water quality and relationship to actions on the land**

17 Following the approach set out in the NPS-FM, a values-setting exercise and then outcomes were defined by the CSG, as being multi-generational achievement of water quality. The TLG assisted the CSG understand current state, cause and effect about actions on the land and immediate or eventual measurement in the water. The TLG defined attributes that were tailored to address the four contaminants, and relevant for the Waikato catchment, characterised by the Waikato River having a gradient of water quality from very high at Lake Taupo control gates to degraded at Tuakau. Water quality is impacted by increased water travel time resulting from the series of hydro dams, and further by the main tributary, Waipa River, bringing in water of low visual clarity. Further downstream, inputs from eutrophic shallow riverine lakes that are themselves impacted by pest fish, past land use and drainage scheme works, also contribute to degradation of water quality in the Waikato mainstem.

18 Dr Bryce Cooper (Block 1 evidence dated 15 February 2019 paragraphs 8-11) sets out how the CSG used the TLG recommended attributes to make decisions about long-term water quality concentrations to assist achievement of the Vision and Strategy. A report co-authored by Dr Bryce Cooper (WRC 2015) sets out the advice to CSG, including that:

- a) there will be a time lag between actions on the land to reduce contaminants and the amount of contaminant that is measured in the water.
- b) While some CSG members wanted to set water quality numeric outcomes or loads at a sub-catchment level “all the property-level contaminant losses and reductions would have to be assessed and aggregated to a sub-catchment level. In addition, biophysical processes that occur between the property-level



and the surface water would have to be accounted for. Whilst technical knowledge of water quality cause and effect is well established, precise quantification is not currently feasible” (WRC 2015 Section 4).

19 Objective 1 and 3 of PC1 both link to numerical water quality in Table 3.11-1.

Objective 1 seeks a long-term, time-bound outcome of water quality concentrations to be achieved. Objective 3 seeks a short-term, time-bound outcome of *actions* implemented, with the relevant column of Table 3.11-1 being an indication of a 10 percent change in water quality (between current and long-term future). Some have described the inclusion of the short-term column of Table 3.11-1 as ‘accounting, not science’. There has been confusion from some plan users who have looked at a particular subcatchment attribute concentration and assumed there is no need to take action because the short- and long-term concentrations are the same. In my opinion, the important phrase of Objective 3, and the key to the councils reporting of implementation, is around actions implemented.

20 In my opinion the JWS nutrient subgroup approach 3, strays outside technical reasons and into questions about the first step toward 2096 targets. A change to Table 3.11-1 was recommended (12 out of 16 experts) with the comment “Approach 3 presents the advantage of clearly signalling this direction of change across all sub-catchments”. My understanding of the rationale is that there was a concern that plan users whose land drains to a tributary of the River, might not realise that they need to take action to progress toward TN and TP thresholds in the main stem of the River (JWS page 36). In my opinion this is a wider policy implementation question. For reasons I set out below, I do not think Table 3.11-1 requires any change as a result of the JWS nutrient subgroup’s Approach 3.

21 The implication of the modelling done by Dr Tim Cox and discussed in nutrient subgroup approach 3, is that PC1 provisions may achieve more than a 10 percent change between existing water quality and 2096 desired water quality. We already know this is likely, and Dr Graeme Doole covered this in answers to the Hearings Panel in his Block 1 primary evidence. He referred to the modelling requested by the CSG in 2016, to assess whether their policy mix would achieve their desired first step of 10% toward 2096. In that report, “the proposed policy mix is predicted to achieve greater than a 10% movement towards the goals set out for different attributes in Scenario 1..the only sites that fail to meet the 10% steps towards Scenario 1 exist in the Upper Waikato FMUs” (Doole et al 2016 page 46). The CSG did not alter their

policy mix as a result of the TLG modelling. My understanding of the Doole et al 2016 report, is that a number of assumptions had to be made, and that while it gave the CSG confidence their policy mix was on the right track for 2096 water quality, no one could say with any certainty, what the water quality would be in the short-term. The “difficulty in determining the time path of water quality improvement arising from the policy mix, only the end point” is referred to in light of FEP implementation (page 44 Doole et al 2016), as well as uncertainty about historic land use, groundwater travel times and time lags (page 46 Doole 2016).

- 22 The overall question for the Hearings Panel is whether provisions of PC1 need to be changed. The specific question that relates to JWS nutrient subgroup Approach 3, is first, whether they should accept that re-modelling of the policy mix shows a more positive outcome for the River than Doole et al. 2016, and second, what, if anything, needs to change in the short-term column of Table 3.11-1 as a result. The planning question for me, is whether the short-term column of Table 3.11-1 is helpful to plan users at all, given the more nuanced information that WRC holds or will develop to track water quality changes. For instance, current state as at PC1 notification is held by WRC, and I understand staff are setting up for five year rolling average calculations of water quality.
- 23 The explanatory note to Table 3.11-1 is important. My understanding is that any additional explanatory material in regional plans does not have any formal standing, and stops short of being part of any s104 resource consent consideration. Ideally the plan should be drafted so objectives, policies and regulatory methods do not rely on extra material. In this case however, the explanatory note does two helpful things. First there are several paragraphs that spell out what is already covered in Objective 3. Objective 3 refers to “actions put in place and implemented...are sufficient to achieve...water quality attributes, targets.” The explanatory note paragraphs remind plan users that there is a lag between actions on the land and measured water quality. Secondly, the Table 3.11-1 explanatory note refers readers back to operative Waikato Regional Plan Method 3.2.41 which sets out that the numeric values should not be thought of as receiving water compliance limits.
- 24 In paragraph 18, I referred to advice given to the CSG about desired water quality outcomes. The relevance of this advice from Dr Bryce Cooper in 2015 and the explanatory note to the recommendations in the JWS, is that:

- a. Listing numeric short-term water quality attribute concentrations in Table 3.11-1 was only intended to be a retrospective 'tracking' mechanism of PC1 success. That is, actions on the land will not result in measured water quality response in the short term, particularly for aspects where FEPs take time to be in place, then actions undertaken and response in water bodies. If, as a result of future reports on water quality changes, it is found that water quality has improved beyond that set out in the 'short term' column of Table 3.11-1, then that will be a positive story about the success of PC1 policies, methods and rules.
- b. Sub-catchments loads cannot be justified for inclusion in Table 3.11-1 at present. I make this point on my understanding of nutrient subgroup recommendation for Approach 3. If I am correct, one potential implication of accepting that approach, is that some will see this as justification for sub-catchment loads to be inserted into PC1. I refer back to Dr Craig Depree's primary evidence in Block 1, where he cautioned about the assumptions that have to be made before a sub-catchment load can be calculated for each of the four contaminants. As noted in my paragraph 18 above, property-level information on contaminant losses is a necessary prerequisite for a subcatchment load calculation that can be used in regulation. I understand that at the time the report was produced (WRC 2015), TLG had produced what was referred to as 'heat maps' (distribution of N, P, sediment *E.coli* loads in each sub-catchment). These were calculated using measured data (flow and concentration of contaminants), plus an approximate estimate of *E.coli* and N attenuation.

25 In summary, my opinion is that any recommendations accepted from the JWS, should be to 'tidy up' Table 3.11-1 and be relevant to N, P, sediment and *E.coli*. It is not appropriate to add new attributes to the Table, particularly if they are not assessed through a s32 evaluation. My preference is for ongoing technical discussion and inclusion of any new attributes as national direction on NPS-FM is clearer, through the review of the Operative Waikato Regional Plan.



**Justine Young**

**12 July 2019**

## References

Doole, G.J., Quinn, J., Wilcock, B., and Hudson, N. (2016). Simulation of the proposed policy mix for the Healthy Rivers Wai Ora process, Waikato Regional Council report HR/TLG/2016-2017/4.5, Hamilton

PC1 Joint Witness Statement for Table 3.11-1. 17 June 2019.

Ritchie, H 2016. Discussion points – Why Collaborative Stakeholder Group in the Healthy Rivers Wai Ora Project chose certain options. Updated 10 August. Waikato Regional Council Document number 8864413.

WRC 2013. Stakeholder Engagement Strategy. CSG welcome pack. WRC document number 2154945. Downloaded from <https://www.waikatoregion.govt.nz/council/policy-and-plans/plans-under-development/healthy-rivers-plan-for-change/collaborative-stakeholder-group/collaborative-stakeholder-group-workshops>.

WRC 2014a Brief overview of Healthy Rivers project. PowerPoint presentation to CSG first meeting 27-28 March 2014. WRC Document 3009786. Downloaded from <https://www.waikatoregion.govt.nz/council/policy-and-plans/plans-under-development/healthy-rivers-plan-for-change/collaborative-stakeholder-group/collaborative-stakeholder-group-workshops>.

WRC 2014b. Scope, goals and drivers of the Healthy Rivers plan for change. Report prepared for CSG May 7-8 2014. WRC document 3037840. Downloaded from <https://www.waikatoregion.govt.nz/council/policy-and-plans/plans-under-development/healthy-rivers-plan-for-change/collaborative-stakeholder-group/collaborative-stakeholder-group-workshops>

WRC 2015. Setting water quality targets and limits. Report to CSG for approval. WRC document number 3626243. <https://www.waikatoregion.govt.nz/assets/PageFiles/28959/21/401%20-%203626243.pdf>

WRC 2016. Water quality attributes for Healthy rivers: Wai Ora plan change. Report prepared for CSG by TLG dated 20 June 2016. Published as WRC technical report 2018/66. WRC document number 6154421.