IN THE MATTER	of the Resource Management Act 1991
AND	
IN THE MATTER	of **PROPOSED PLAN CHANGE 1** to the Waikato Regional Plan
AND	
IN THE MATTER	of the Joint Witness Statement of the water quality experts on Table 3.11-1

STATEMENT OF EVIDENCE OF CHRISTOPHER JAMES SCRAFTON

1. INTRODUCTION

Qualifications and experience

1.1 My name is Christopher James Scrafton. I am a Technical Director – Planning in the consultancy firm of Beca. I have over 18 years' experience in town planning.

1.2 I hold the qualifications of a Bachelor of Arts in Geography from the University of Hull (1999) and a Postgraduate Certificate and a Masters in Town Planning from the South Bank University, London (2002 and 2005 respectively). I am a full member of the New Zealand Planning Institute and I am an accredited Commissioner under the Ministry for the Environment and Local Government New Zealand "Making Good Decisions" 2006 Programme.

1.3 My experience of particular relevance to Waikato Regional Plan Change 1 to the Waikato Regional Plan (**"PC1"**) is set out in my primary statement of evidence for the Block 1 Hearings.

Involvement in Proposed Plan Change 1

1.4 Beca was engaged by Watercare Services Limited (**"Watercare"**) to provide planning services in relation to PC1 in 2018.

1.5 My involvement in PC1 has included the following:

(a) Co-author of the Watercare submission on PC1;

(b) Lead planner in the development of Watercare's further submission on PC1; and

(c) Providing expert planning evidence on the Block 1 and Block 2 topics.

1.6 I have read the PC1 report, section 32 report, the Joint Witness Statement, and all of the submissions I consider to be relevant to Watercare and the Council Officer's Block 3 section 42A report.

1.7 I lodged evidence in chief on Block 3 on Friday 5 July with regard to Policy 17 and the inclusion of a definition of the term "wetlands". In accordance with the Panel's minute of 25 June 2019, this brief of evidence addresses, and is limited to, the Joint Witness Statement ("**JWS**") and Table 3.11-1.

Scope of evidence

1.8 My evidence is structured as follows:

(a) High level outcomes of the JWS (Section 3).

(b) Numeric attribute states (Section 4).

(c) Narrative attribute states (Section 5).

1.9 A summary of my evidence is set out in Section 2 below.

Expert Witness Code of Conduct

1.10 I have read the Code of Conduct for Expert Witnesses, contained in the Environment Court Consolidated Practice Note (2014) and I agree to comply with it. I can confirm that the issues addressed in this statement are within my area of expertise and that in preparing my evidence I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

2. SUMMARY OF EVIDENCE

2.1 Following my review of the JWS, I consider that there is broad agreement between experts with regards to what subject matter should underpin the numeric and narrative attribute states within PC1. In that regard, I note that all experts agree with the inclusion of numeric attribute states for

nutrients and the majority of experts agree with the inclusion of numeric attribute states for E. coli, clarity, macroinvertebrates, and lakes.

2.2 However, I note that the same level of agreement has not been achieved in relation to the details of the parameters or narratives. I am unable to comment on those details as they are outside my area of expertise.

2.3 In my view, the inclusion of numeric attribute states in PC1 (where the experts consider it to be appropriate) should be the preferred approach to implementing the NPS:FM, subject to the numbers that underpin the attribute states being sufficiently robust.

2.4 However, in the absence of such certainty and agreement between the experts on the use of numeric attribute states, narrative attribute states should, in my view, be included in PC1. I consider that this approach will still give effect to the NPS:FM and the Vision and Strategy for the Waikato River. I note that the experts have reached broad agreement that narrative attribute states are appropriate for deposited sediment, periphyton, and wetlands other than the Whangamarino Wetland.

3. HIGH LEVEL OUTCOMES OF THE JOINT WITNESS STATEMENT

3.1 In order to address the concerns raised in the evidence of freshwater experts, the Panel directed that expert conferencing be held on Table 3.11-1[1]. The purpose of the expert conferencing was to clarify the issues regarding the robustness of Table 3.11-1, the process in which it was developed, errors and the level of uncertainty and completeness.

3.2 Following conferencing, a JWS was circulated that sets out the areas of agreement and disagreement between the experts. The JWS is structured around each attribute (including new attributes) which was considered by the experts in sub-groups.

3.3 In order to assist my understanding of the degree of consensus reached, I have summarised Table 1 of the JWS as follows:

(a) All freshwater experts agree with the inclusion of a numeric attribute state for nutrients.

(b) The majority of experts agree with the inclusion of a numeric attribute state for:

[1] Minute from the Hearing Panel – Regarding Expert Conferencing – Table 3.11-1, 27 February 2019.

i. E.coli;

ii. Clarity;

iii. Macroinvertebrates; and

iv. Lakes.

(c) The majority of experts agree with the inclusion of a narrative attribute state for:

i. Deposited sediment;

ii. Periphyton; and

iii. Other wetlands.

(d) The majority of experts agree with not including a narrative or numeric attribute state for:

i. Macrophytes;

ii. Fish;

iii. Riparian;

iv. Temperature; and

v. Toxicants.

(e) Consensus was evenly split on the inclusion of either a numeric or narrative attribute state for Whangamarino Wetland.

3.4 Having regard to the above, there is, in my view, broad agreement between experts with regard to the subject matter that should underpin numeric attribute states within PC1. However, I note that my summary above only identifies whether or not each attribute should be included as a numeric or narrative attribute state and does not include the details of the parameter or narrative. This is set out in Table 2 of the JWS in which, in my view, consensus on each of the attributes is more dispersed.

3.5 In my opinion, the content of the JWS reflects the difficulty in developing (and reaching consensus on) a robust set of numeric attribute states. This is only compounded by attempting to determine numeric attribute states out to the year 2096.

4. NUMERIC ATTRIBUTE STATES

4.1 In my view, the inclusion of numeric attribute states (where the experts consider it to be appropriate) in PC1 should be the preferred approach to implementing the NPS:FM, subject to the numbers underpinning the attribute states being sufficiently robust. In my view, the inclusion of quantitative requirements regarding water quality will assist the certainty of preparing and processing resource consent applications by providing clear numeric requirements.

4.2 Notwithstanding the above, I also consider that:

(a) For this approach to be appropriate, it is also necessary for processing planners not to simply use numeric attribute states as limits or targets in resource consent conditions. I have discussed this concern in more detail in my Block 1 evidence.[2]

(b) The most appropriate approach to moving towards the achievement of the Vision and Strategy for the Waikato River ("**Vision and Strategy**") and the achievement of the numeric attribute states of PC1 is through an ongoing, progressive process in which all applicants are required to contribute towards their achievement in a proportional manner[3]. In order to address the current policy void with regard to such proportionality, I have recommended changes to Policy 12 in my Block 2 evidence[4] to provide greater guidance as to the relative proportionality of improvement for a point source discharge consent application on a case by case basis.

(c) Further consideration of the target time frame of 2096 should be undertaken in every plan review cycle (typically every 10 years) having regard to both the anticipated lifespan of a regional plan and the relative degrees of scientific certainty associated with the numeric attributes. In my view, this approach allows for further consideration of the appropriateness of the numeric attribute states every plan review cycle in order to determine if any changes are required to achieve the restoration and protection of the Waikato and Waipa Rivers by 2096.

4.3 In line with the discussion above, I have recommended changes to the objectives and policies of PC1 as notified, in line with recommendations I provided through my Block 1 and Block 2 evidence. For reference, I have

[2] Paragraphs 5.2 – 5.4, Statement of Evidence of Christopher James Scrafton – Block 1.
[3] Paragraphs 2,17, Statement of Evidence of Christopher James Scrafton – Block 2.
[4] Paragraphs 2,20, Statement of Evidence of Christopher James Scrafton – Block 2.

attached a "clean" version of recommended changes in relation to point source discharges at **Appendix A**.

5. NARRATIVE ATTRIBUTE STATES

5.1 In my opinion, the use of narrative attribute states, in the absence of being able to identify appropriate numeric attribute states, is an appropriate approach to giving effect to the NPS:FM provided the freshwater objectives seek to maintain overall water quality in accordance with Objective A2 of the NPS:FM. From my review of the JWS, I note that the freshwater experts have recommended the use of narrative attribute states for a number of attributes.

5.2 In the absence of numeric attribute states, I consider that narrative attribute states should be included in PC1. This approach would result in a mix of numeric and narrative attribute states set out in Table 3.11-1, which in my view would still give effect to the NPS:FM as per Policy CA2(e)(iia).

6. CONCLUSION

6.1 In my view, the inclusion of numeric attribute states should remain the preferred approach, subject to sufficient scientific certainty regarding the numeric attribute states. However, in the absence of such certainty and agreement between the experts on the use of numeric attribute states, narrative attribute states should in my view be included in PC1. I consider that this approach will still give effect to the NPS:FM and the Vision and Strategy for the Waikato River.

Chris Scrafton
12 July 2019

Appendix A – Recommended Objectives and Policies (Clean Version - Retention of Table 3-11.1)

Objective 1: The progressive reduction of Diffuse and Point Source discharges of nitrogen, phosphorus, sediment and microbial pathogens to land and water with the aim of achieving the aspirational water quality attribute states in Table 3.11-1 by 2096 as measured at the identified state of the environment monitoring sites.

Objective 7: The achievement of the restoration and protection of the Waikato and Waipa Rivers recognises the importance of the assimilative capacity of rivers.

Objective 8: The achievement of the restoration and protection of the Waikato and Waipa Rivers recognises the importance of existing and future regionally significant infrastructure and associated discharges and water takes in providing for the health and wellbeing of communities.

Policy 10: When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment and microbial pathogens to water or onto or into land, provide for the:

(a) Continued operation of regionally significant infrastructure´;

(b) Upgrading of existing regionally significant infrastructure;

(c) New regionally significant infrastructure; and

(d) Continued operation of regionally significant industry;

Policy 11: When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments, have regard to whether the proposed discharge represents the best practicable option at the time resource consent is being considered.

Policy 11A: Recognise that to achieve sufficient contribution towards the protection and restoration of the health and wellbeing of the Waikato and Waipa Rivers. offset measures may be proposed:

(a) In alternative locations to the point source discharge; and

(b) Preferably within the same sub-catchment in which the primary discharge occurs but:

(c) If this is not practicable, then within the same Freshwater Management Unit or a Freshwater Management Unit located upstream; or

(d) If better water quality outcomes can be achieved, then outside of the sub-catchment but within the same freshwater management unit or a Freshwater Management Unit located upstream.

Policy 12: Consider the contribution made by a point source discharge after the application of reasonable mixing in accordance with Policy 3.2.3.8, to the nitrogen, phosphorus, sediment and microbial pathogen catchment loads taking into account:

(a) The relative proportional contribution of nitrogen, phosphorus, sediment or microbial pathogens that the particular point source discharge contributes to the catchment load and the likely impact of that contribution to:

i. The achievement of the short-term numeric attribute states in Table 3.11-1; and

ii. Progression towards the achievement of the 80- year targets in Table 3.11-1.

(b) The water quality of the receiving environment and whether the proposed discharge will contribute to:

i. The protection of water quality where the receiving environment is of high water quality; or

ii. The restoration of water quality in a manner proportional to the impact of the discharge where the receiving environment is less than high quality.

(c) Where relevant, the extent of improvement of discharge quality when compared to the current point source discharges from the same regionally significant infrastructure.

(d) Past upgrades undertaken to model, monitor and reduce the discharge of nitrogen, phosphorus, sediment or microbial pathogens within the previous consent term;

(e) The ability to stage future mitigation actions to allow investment costs to be spread over time and meet the water quality numeric attribute states specified above; and

(f) The diminishing return on investment in treatment plant upgrades in respect of any resultant reduction in nitrogen, phosphorus, sediment or microbial pathogens when treatment plant processes are already achieving a high level of contaminant reduction.

(g) Where existing point source discharge locations are being amalgamated, the overall effects on water quality when comparing the effects of the proposed discharge/s to the existing discharges.

(h) The influence of seasonal climatic conditions and other natural processes that affect the assimilative capacity of waterbodies and resultant water quality effects.

(i) That in some cases changing landuse can result in positive effects on water quality when compared to previous landuses.

(j) The beneficial social, economic and environmental effects of the point source discharge.

Policy 13: In addition to having regard to the matters set out in Policy 1.2.4.6, when determining an appropriate duration for any consent granted for a point source discharge have regard to the following matters:

(a) The magnitude and significance of the investment made or proposed to be made in contaminant reduction measures and any resultant or predicted improvements in the receiving water quality; and

(b) The need to provide appropriate certainty of investment where contaminant reduction measures are proposed (including investment in treatment plant upgrades or land based application technology); and

(c) Where relevant (e.g. existing infrastructure) history of compliance or otherwise.