

BEFORE THE MANAWATU-WANGANUI REGIONAL COUNCIL

UNDER Resource Management Act 1991

IN THE MATTER of submissions on the Manawatu-Wanganui Consolidated Regional Policy Statement, Regional Plan, and Regional Coastal Plan for the Horowhenua, Manawatu, Rangitikei, Ruapehu, Tararua, and Wanganui District Councils

AND

IN THE MATTER of hearings by the Manawatu-Wanganui Regional Council regarding the Manawatu-Wanganui Consolidated Regional Policy Statement, Regional Plan, and Regional Coastal Plan – Water

EVIDENCE OF DAVID JAMES CAMERON

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INTRODUCTION

1. My name is David James Cameron. I hold the degree of Bachelor of Science Zoology (Hons) from Victoria University of Wellington. I am a member of the New Zealand Freshwater Sciences Society and the New Zealand Water and Wastes Association.
2. I am currently employed as an Environmental Scientist by MWH NZ Limited (MWH), based in Wellington, and have been in that position for the last 15 years. Prior to that, I worked for 10 years as a water quality scientist with Wellington Regional Council. My principal role with MWH is to advise on the effects of development projects on natural water quality and aquatic ecology. In recent years I have been involved with a number of resource consent applications for municipal wastewater schemes including those at Hastings, Palmertson North, Tauranga, Hamilton, Hutt Valley and Wellington.
3. I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note and that I agree to comply with it. I confirm that I have considered all of the material facts that I am aware of that might alter or detract from the opinions expressed here.
4. The evidence I am about to give is within my area of expertise and represents my best knowledge about this matter. To my knowledge, I have not omitted any material facts that might alter or detract from the opinion expressed here.

SCOPE OF EVIDENCE

5. This purpose of this evidence is to give an overview of the issues created by the following provisions of the Proposed One Plan (as raised in the Territorial Authorities' submission):
 - Objective 6-2, Policy 6-2,
 - Policy 6-3, Policy 6-4, Policy 6-5;
 - Policy 6-8 Point source discharges to water;
 - Policy 6-9 Point source discharges to land;
 - Policy 6-10 Options for discharges to surface water and land.

DISCUSSION

6. Objective 6-2 sets the direction for the management of surface water quality in the Region. It recognises that the life sustaining capacity of surface water bodies depends to a large extent on the quality of those waters and that the maintenance or enhancement of water quality may be required to support the values of the water body. Policy 6-2 states that the water quality standards in Schedule D are to be used for the management of surface water quality in the manner set out in Policies 6-3, 6-4 and 6-5.
7. The management framework provided by Objective 6-2, Policies 6-2 to 6-5, 6-8 and Schedule D is intended to provide for the values identified for each water management zone. The water quality standards in Schedule D, subject to the changes recommended by Kathryn McArthur in the section 42a report, are for the most part based on current understanding of the relationship between water quality and ecological function in New Zealand rivers and streams. However, that understanding is imperfect and the ecological response to water quality is variable and site specific due to other factors such as shade, hydraulic geometry, frequency for flushing flows, substrate type, duration of exposure, etc. It must be recognised that while the water quality standards provide an indication of the levels beyond which adverse effects may occur, a breach of a water quality standard is not an adverse effect in itself. In this regard it is important that the Plan does not rely exclusively on water quality standards and has sufficient flexibility to respond to site-specific conditions.
8. While there is good evidence that the values and standards in Schedule D are set at an appropriate level to achieve Objective 6-2, the practical implications for Territorial Authorities who have relied on rivers as the principal receiving environment for municipal wastewater discharges are considerable in terms of the scale of improvements required. A realistic timeframe is needed and in some case a series of incremental improvements towards the Objective may be needed.
9. Policy 6-4 requires, where existing water quality does not meet the relevant water quality standard, that a point source discharge could only be allowed if it were of higher water quality than the receiving water (i.e., if it “enhances water quality in order to meet the water quality standard...”). A possible consequence of this, and one that was seriously contemplated in a project I was involved with recently, is that it may encourage an existing discharger, when attempting to renew a discharge permit, to relocate to cleaner receiving waters (further upstream or in an adjacent tributary) which still have capacity to

receive contaminants without breaching the water quality standard. This will not necessarily achieve the best outcome in terms of ecological functioning.

10. In that case a better outcome might be achieved if the discharge continued to water that did not meet the standard, provided the quality of the discharge was improved, was consistent with best management practice, and provided the discharge had no more than a minor adverse effects on the aquatic ecology of the river. These effects would need to be appropriately assessed by site-specific investigations into water quality and aquatic ecology. This approach could achieve incremental improvements towards meeting the water quality standards while ensuring that adverse effects are minor. This type of approach is provided for in Policy 6-8, but apparently not by Policy 6-4.
11. In my opinion Policy 6-4(a) should be brought more in line with Policy 6-8, by the addition of the words “while having regard to the need to allow reasonable time to achieve any required improvements”.
12. The water quality standards in Schedule D include limits for the nutrients DRP and SIN at levels which would give effect to the periphyton biomass standards set for each sub-zone. However, in some cases the limits may be exceeded as a result of diffuse runoff and groundwater inflows from an agricultural catchment, leaving little or no additional capacity to receive point source discharges from municipal wastewater schemes. Point source dischargers may be unfairly penalised due the level of contamination caused by diffuse runoff from agricultural land. For smaller towns which have relied on simple oxidation pond systems this may present a huge challenge which cannot easily be overcome. For this reason provision of a reasonable time-frame to achieve improvements will be critical.
13. The Plan seeks to address diffuse discharges by better management of land-use, particularly riparian areas, but any water quality improvements achieved by this means are likely to occur over a period of many years and possibly decades.
14. In exceptional cases, for instance where wastewater from a small town is treated by oxidation pond and discharged to the lower reaches of a large river, the applicant may be able to demonstrate that the nutrient input has no adverse effect on the river, that the discharge is already consistent with best practice and that there is no justification for requiring a higher discharge quality. In such cases the Plan should provide the ability to allow the discharge, regardless of whether nutrient limits are exceeded.

15. Policies 6-3, 6-4 and 6-5 apply to waters which meet the relevant water quality standards, do not meet the standards, or where the water quality is unknown, respectively. The level of information required to test compliance with water quality is not stated. In my view, as a minimum, monthly sampling collected through a full 12 month period is required for those parameters which vary seasonally or in response to rainfall runoff. For samples normally collected in the summer low flow season such as periphyton and invertebrates, replicate samples should be collected at each location over at least 2 consecutive summers.
16. Policy 6-8, for the management of point source discharges into water, requires that regard be had to: the degree to which a point source discharge will affect the values identified in Schedule D; whether it will achieve compliance with water quality standards in Schedule D; consistency with best practice and the need to allow reasonable time to achieve improvements. As such it takes a balanced approach to point source discharges. However Policy 6-8 is also required to provide for the strategies set out in Policies 6-3 and 6-4 which are inconsistent with Policy 6-8 as they are focused solely on compliance with water quality standards, and not necessarily on adverse effects.
17. Policy 6-10, options for discharges to surface water and land, requires consideration be given to utilising alternative discharge options for the purpose of mitigating adverse effects. All of the options listed are worthy of consideration and may form part of a discharge regime where practicable and necessary. I would note in relation to 6-10(a) however, that discharging contaminants onto land is not always preferable to discharging contaminants to water. The limited availability of suitable land and the large areas of land required can make this a high risk and high cost option. For instance an estimated 1000 to 3000 hectares of land would be required for the all season discharge to land of Palmerston North's municipal wastewater.¹ I suggest the words "in preference" should be replaced by the words "as an alternative".

¹ PNCC Wastewater 2006 – Description and Assessment of Effects on the Environment (PNCC, May 2001).

CONCLUSION

18. In my opinion the Plan has a sound technical basis in water quality and aquatic ecology. Nevertheless, in order to deliver fair outcomes it will be important to avoid an undue reliance on water quality standards. It will also be important that the Plan retains sufficient flexibility to respond to site-specific conditions and to provide a reasonable time-frame to achieve improvements where required.

David Cameron
DATE: 19/10/09