

**BEFORE THE CANTERBURY REGIONAL COUNCIL
AT CHRISTCHURCH**

IN THE MATTER of the Resource Management Act
1991

SUBMITTER **COMMUNITY AND PUBLIC
HEALTH A DIVISION OF THE
CANTERBURY DISTRICT
HEALTH BOARD**

SUBJECT **HEARING GROUP 2 FOR THE
PROPOSED LAND AND
WATER REGIONAL PLAN**

SUBMITTER NO. 093

STATEMENT OF EVIDENCE OF STEWART FLETCHER

**STEWART FLETCHER PLANNING
SERVICES**
PLANNING CONSULTANT
CHRISTCHURCH

Contact: Stewart Fletcher

15 Squire Street,
St Albans,
CHRISTCHURCH 8031
Tel 03 385 7638
Email sfplanning@clear.net.nz

1. INTRODUCTION

Qualifications and experience

- 1.1 My name is Stewart William Fletcher. I live in St Albans, Christchurch. I am a qualified planner with approximately fifteen years experience in planning.
- 1.2 I hold the qualification of Bachelor of Resource Studies from Lincoln University and I am also a full member of the New Zealand Planning Institute.
- 1.3 I have extensive experience in planning including notified resource consents, policy hearings and the provision of expert evidence for the assistance of the Environment Court.
- 1.4 I have previously provided evidence on behalf of this same submitter as part of the Group 1 hearings.

Scope of evidence

- 1.5 This evidence relates to the submission of Community and Public Health, a Division of the Canterbury District Health Board (CDHB), on the Proposed Canterbury Land & Water Regional Plan (LWRP). The submission is number 093 and various comments and recommendations are made as part of the submission. This evidence only addresses those matters relevant to the Group 2 hearing process. These are submission recommendations 1, 14, 15, 21 and 25 - 30

2. BACKGROUND

- 2.1 The Community and Public Health Division of the CDHB provides public health services to those people living in the Canterbury, South Canterbury and West Coast regions. Under the New Zealand Public Health and Disability Act 2000, District Health Boards have an obligation (s23h) *to promote the reduction of adverse social and*

environmental effects on the health of people and communities.

Goals of the CDHB include:

- Improve the health and wellbeing of our region, especially for children and young adults
- Reduce health inequalities especially for those of relative socio-economic deprivation
- Improve Māori and Pacific health outcomes
- Prevent illness and hospitalisation
- Work in partnership to achieve lasting change

2.2 Areas that CDHB work within, and provide assistance with, include among other things:

- Drinking water
- Environmental Health Issues
- Health Information
- Recreational Water
- Waste Management
- Communicable Disease Control

2.3 The purpose of section 2A of the Health Act is *“to protect the health and safety of people and communities by promoting adequate supplies of safe and wholesome drinking water from all drinking-water supplies.”* District Health Boards and Medical Officers of Health are responsible to the Ministry of Health to maintain and improve the quality of community drinking water supplies throughout the district. Staff ensure water quality by undertaking the following actions:

- Administering the requirements of the Health (Drinking Water) Amendment Act 2007
- Assessing water suppliers compliance with the Drinking Water Standards for New Zealand
- Assessing water supplies and assigning a 'Public Health Grade'

- Assessing water supplier's public health risk management plans
- Assisting small water supplies via the Drinking Water Assistance Programme

2.4 Under the auspices of the Health Act 1956 and the New Zealand Public Health and Disability Act 2000, the CDHB has been actively involved providing comment on the Draft Land and Water Regional Plan (Version for First Schedule Consultation – June 2012) and the Draft Land and Water Regional Plan (May 2012) and continue to maintain an interest in the development of the LWRP including the submission now being considered.

2.5 The CDHB has submitted on the LWRP in relation to a number of matters considered important for the region. Several of the points raised are in support of provisions in the LWRP and a number of other points are minor recommended amendments. Ten of the recommendations from the submission are relevant to the Group 2 hearing process; these are recommendations 1, 14, 15, 21 and 25 - 30. The recommendations can be broken down into two groups being firstly the discharge of nutrients and secondly, Farm Environment Plans (FEP's). These are discussed as follows.

3. **NUTRIENT DISCHARGES**

3.1 Recommendations 14 and 15 of the CDHB submission are in relation to nutrient discharges and address Policies 4.30 and 4.31. In general terms the recommendations seek:

- Better consideration of the receiving environment;
- Where quality is known to be compromised, decisive action to reduce nitrogen should be prioritised; and
- A precautionary approach should be adopted for areas already over allocated for nutrients.

3.2 The relevant policies for nutrient discharges (Policies 4.28 – 4.38) have been considered in some detail in the section 42A Report

prepared by Council. This includes significant changes to the Policies including 4.30 and 4.31. In general terms the CDHD is supportive of the changes recommended and encourages their incorporation into the LWRP. Some minor amendments are still sought to address matters raised in the CDHB submission.

Nutrient Discharge Reduction

- 3.3 There is an overall theme through the group of nutrient discharge policies which seeks to encourage better land use practices and raising an awareness of nutrient discharges. In practice it is hoped that this will lead to an overall reduction in nutrient discharges. Policy 4.30, as recommended in the section 42A report includes reference to reducing nutrient discharges and it is suggested similar wording should be included in Policy 4.29. This would particularly assist in reducing nutrient discharges in areas already known to be compromised. Better reference to the reduction of nutrient discharges is considered to be a reflection of the intentions of relevant policies.

Reference to Groundwater

- 3.4 In considering the policies relating to nutrient discharges, it has been noted that there is no reference to groundwater. It is acknowledged that the policies include terms like “loss of nutrients to water” and “catchments of water bodies” and groundwater will fall within these terms. However, much of our drinking water comes from groundwater and it is therefore important that groundwater is specifically mentioned. “Out of sight” should not be allowed to mean “out of mind” where the community’s health may be affected.
- 3.5 The levels of nutrients in groundwater are increasing in the Canterbury region and this has been causing concerns for the CDHB. High nitrate levels in groundwater are difficult to reverse and present a real risk to infants who are bottle fed. Moreover, nitrates contamination is the earliest detectable groundwater pollution, and heralds further contamination by bacteria, viruses and protozoa.

Recently it has been recorded that nitrate nitrogen levels have been increasing in some community water supplies. Where a contaminant reaches 50% of the maximum allowable value under the Drinking Water Standards, it must be routinely monitored by the supplier. Recently the number of affected supplies in Canterbury has increased from two to seven reflecting the general increases in groundwater nitrate levels. It is worthwhile noting that this was one of the indicators being monitored under the Canterbury Water Management strategy. On this basis it is sought that specific acknowledgement of groundwater is included in the nutrient discharges policies, particularly in areas where aquifer recharge is dominated by land surface recharge.

- 3.6 In order to address these issues we seek that the revised Policy 4.29 is amended to include the following:

4.29 Prioritise improving the performance of higher nutrient risk activities and farming and other activities, including an overall reduction in nutrient discharges, in the catchments of water bodies that are more sensitive to increases in nutrients including groundwater recharge areas.

Increases in Nutrient Discharges

- 3.7 It is noted that Policy 4.32 of the section 42A report provides the potential for nutrient discharges to increase. This policy as written allows farms to increase discharges from their property as long as advanced mitigation practices are applied.
- 3.8 An increase in nutrient discharges could occur when a change of use is proposed and the new activity will result in higher nutrient discharges than existing even if best practice is met. An example of this is the conversion of a farm from sheep to dairy. A dairy farm may incorporate significant measures to control nutrient discharges and operate in the top 10% of nutrient discharge minimisation practices but it is likely that the discharges will be higher than a sheep farm. To provide for activities to increase nutrient discharges is divergent with

the intention provided both by this policy and others and is unlikely to lead to water quality outcomes being achieved. To address this it is suggested that Policy 4.32 is amended as follows:

4.32 In areas where regional water quality outcomes are not being met, as shown by a Red colouring on the Series A Planning Maps and in Lake Zones as shown on the Series A Planning Maps, a changed or new farming activity will be required to show that there is no net increase in nutrients discharged from the property and ~~or that advanced mitigation farming practices are applied such that the property operates in the top 10% of nutrient discharge minimisation practices when measured against practices in the relevant farming industry~~

Advanced Mitigation Measures

3.9 In reviewing other amendments to the LWRP it is noted that a definition is proposed to be included in relation to advanced mitigation measures. It is agreed that the definition is appropriate and ties in with other provisions of the Plan. The definition includes a list of techniques to minimise nutrient losses from a property. The section 42A report comments that over time other techniques may get added to the list.

3.10 In considering the different techniques available it is suggested that denitrifying bio reactive barriers could be added to the list. An extract of an ecological engineering journal provides information as to what a denitrifying bio reactive barrier is:

“Low-cost and simple technologies are needed to reduce watershed export of excess nitrogen to sensitive aquatic ecosystems. Denitrifying bioreactors are an approach where solid carbon substrates are added into the flow path of contaminated water. These carbon (C) substrates (often fragmented wood-products) act as a C and energy source to support denitrification; the conversion of nitrate (NO₃⁻) to nitrogen gases.”

- 3.11 A full copy of the article is available at the following address - <http://www.uri.edu/cels/nrs/whl/Publications/Journals/Schipper.pdf>.
- 3.12 The inclusion of denitrifying bio reactive barriers provides an option for addressing nutrient discharges to groundwater as options such as wetlands and riparian planting target surface water and are only really effective at mitigating particulates (e.g. sediment and phosphorous), not dissolved nitrate.
- 3.13 It is understood denitrifying bio reactive barriers are employed in the USA as a precursory treatment of nitrate-impacted groundwater for potable use. Such treatment can be expensive (as is any nitrate treatment) but the inclusion of this option in the list of advanced mitigation measures provides a modern option for treatment particularly in relation to groundwater.

Summary

- 3.14 On the basis of the above minor amendments it is considered the intention to reduce nutrient discharges, better consideration of groundwater and avoidance of an increase in nutrient discharges will be achieved.

4. FARM ENVIRONMENT PLANS

- 4.1 The CDHB submitted on various provisions in relation to FEP's including:
- Better consideration of groundwater including recharge zones;
 - Contingencies for the discovery of nutrient loading issues; and
 - Further information is provided as to how FEP are prepared and audited.
- 4.2 Again, the section 42A report recommends significant amendments and seeks to clarify various provisions in relation to the content and

process for Farm Environment Plans. The proposed changes generally address the concerns of the CDHB particularly in relation to audit procedures and the CDHB is supportive of the recommended amendments.

Groundwater

- 4.3 As per earlier evidence and for the same reasons, it is suggested that better reference to groundwater should be included in the provisions for FEP's. It is sought that the following amendment is made to the section titled "Part B – Farm Environment Plan Default Content" as detailed in the section 42A report.

5. *A description of how each of the following will, where relevant, be met.*
- (a) *Nutrient management: To maximise nutrient use efficiency while minimising nutrient losses to water including groundwater.*
-”

Groundwater Recharge Areas

- 4.4 In addition to the above the CDHB has explored whether groundwater recharge areas, which are more sensitive to the effects of nutrient discharges, should be specifically provided for. Currently the rules requiring the preparation of a FEP include Lake Zones and sites where a change to an existing farm activity is proposed.
- 4.5 The CDHB has given consideration as to whether FEP's should be mandatory within ground water recharge areas in much the same way as Lake Zones. It is recognised that this is a complicated issue as accurate mapping of such areas would be required and a concept would be introduced that has had little opportunity for analysis and community input.
- 4.6 In consideration of this matter it is noted that the section 42A report has proposed the inclusion of Rule 5.41 which specifies:

5.41 The use of land for an existing farming activity that is not permitted by Rule 5.39, where the property is partly or wholly in an area coloured Red on the Series A Planning Maps, is a permitted activity provided the following conditions are met:

- 1. If there is no high nutrient risk farming activity occurring on the property, information on the farming activity, in accordance with Schedule 7 Part D is provided to the Canterbury Regional Council.*
- 2. If there is high nutrient risk farming activity occurring on the property, then a farm environment plan is prepared and audited in accordance with Schedule 7 Parts A and C and the audit grade is "A-B" or better.*

4.7 The proposed rule would be a significant step towards addressing the issue of effects on groundwater recharge areas, particularly if reference to groundwater is inserted into the plan as sought. On this basis the CDHB wishes to strongly support the inclusion of recommended Rule 5.41.

Summary

4.8 Overall the CDHB is supportive of the inclusion of FEP's in the LWRP and it is considered the recommended amendments in the section 42A report, largely address the matters raised in the CDHB submission. The proposed amendments in the report are therefore supported, particularly Rule 5.41 and it is considered further enhancement of the rule should be made through the inclusion of better reference to groundwater as sought above.

5. CONCLUSION

5.1 The Canterbury District Health Board has an obligation under the Health and Disability Act 2000 to improve, promote, and protect the health of people and communities (section 22a) and to promote the reduction of adverse social and environmental effects on the health of people and communities (Section 23h). Specifically, the purpose of

part 2A of the Health Act 1956 is to protect the health and safety of people and communities by promoting adequate supplies of safe drinking water from all drinking-water supplies, and defines the responsibilities for suppliers (including local authorities) under the authority of the Medical Officer of Health as a designated officer of the Ministry of Health. The LWRP should complement these legal obligations.

- 5.2 CDHB is supportive of the LWRP. Submission points made are focused on specific aspects where amendments will assist in ensuring the Plan supports legal obligations.
- 5.3 Key recommendations are that better reference is included in the LWRP as to the reduction of nutrient discharges and better reference to groundwater is included in relevant provisions of the LWRP.

S Fletcher
April 2013