From:	Sue Ruston
To:	Plan Hearings
Cc:	samsb@xtra.co.nz; Platinumfarming; Merv Todd; David Winter; Mark Christensen; Grant Edmundson
Subject:	PC7 - Evidence for Next Generation Farmers Trust
Date:	Friday, 17 July 2020 5:48:12 pm
Attachments:	PC7 - NGFT - Evidence of Dan Encell.pdf PC7 - NGFT - Evidence of J Austin.pdf PC7 - NGFT - Evidence of R Nortje.pdf PC7 - NGFT - Expert Evidence Planning Susan Ruston.pdf PC7 - NGFT - Evidence of D and R Clark.pdf PC7 - NGFT - Evidence of Victoria Traynor.pdf PC7 - NGFT - Evidence of Sam Spencer-Bower for NGFT.pdf

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Good afternoon

I have been instructed by the Next Generation Farmers Trust to lodge, on their behalf, the attached evidence in accordance with Minute 1 to Proposed Plan Change 7 to the Canterbury Land and Water Regional Plan.

Your sincerely

Sue Ruston

IN THE MATTER OF	The Resource Management Act 1991
AND	
IN THE MATTER OF	Proposed Plan Change 7 to the Canterbury Land and Water Regional Plan

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STATEMENT OF PRIMARY EVIDENCE OF SUSAN CLARE RUSTON

FOR THE WAIMAKARIRI NEXT GENERATION FARMERS TRUST

17 JULY 2020

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1. INTRODUCTION

1.1. My full name is Susan Clare Ruston.

1.2. I am a planner and Director of Enspire Consulting Limited. Enspire is a consultancy that provides, amongst other services, planning, policy and resource management advice to a range of clients across New Zealand. My responsibilities include, amongst other matters, the preparation and processing of resource consent applications; reviewing and submitting on district, regional and national planning instruments; and the preparation and presentation of expert planning evidence.

1.3. I hold a Bachelor of Forestry Science Degree, with honours, from the University of Canterbury (1989); and an Executive Masters in Public Administration from Victoria University of Wellington (2011). I have also completed the following papers at Massey University: Law and Mediation, Introduction to Disputes Resolution, Planning Law, and Business Law. Further to this, I have completed the University of Waikato's Legal Method paper. I am a member of the Resource Management Law Association, the New Zealand Planning Institute, the Resolution Institute and the Institute of Directors.

1.4. I have over 25 years of experience in addressing resource management and planning issues on behalf of private sector companies, and central and local government. I have been in my role with Enspire for three and a half years. Prior to this role I was the Environmental Policy Manager for the South Island for Fonterra Co-operative Group Limited (during 2013 to 2016). Before my role with Fonterra Co-operative Group Limited, I held the positions of Manager Resource Management Reform; Manager Environmental Risk; and Manager Hazardous Substances and New Organisms Policy at the Ministry for the Environment (during the periods 2002 to 2005 and 2009 to 2012 respectively). During the earlier stages of my career I was an Environmental Consultant with Meritec Limited (1998 to 2001) and a Forestry Consultant with PF Olsen and Company Ltd (1994 to 1997). Each of these roles have predominantly addressed resource management, environmental risk management and planning matters.

1.5. I have, and continue to provide planning advice in relation to a number of resource management processes. A list of example processes that I have recently been, or am currently involved with, is attached as **Annexure 1** to this evidence.

2. CODE OF CONDUCT

2.1. I have read the Environment Court's Code of Conduct for Expert Witnesses, as contained in section 7 of the Environment Court's Practice Note 2014, and have complied with it in the preparation of this evidence. The data, information, facts and assumptions that I have considered in forming my opinions are set out in my evidence that follows. The reasons for the opinions expressed are also set out in the evidence that follows.

2.2. I confirm that the matters addressed in this brief of evidence are within my area of expertise, with the exception of where I confirm that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from my opinions expressed in this brief of evidence. I have specified where my opinion is based on limited or partial information and I have identified any assumptions I have made in forming my opinions.

3. SCOPE OF EVIDENCE

3.1. The Next Generation Farmers Trust (**NGFT**) made a number of submissions and further submissions on various parts of Proposed Plan Change 7 to the Canterbury Land and Water Regional Plan (**PC7**) that relate to the Waimakariri Sub-region. I have been asked by the NGFT to evaluate those parts of their submissions that relate to the staged reductions in nitrogen loss from farming activities within the Nitrate Priority Area, against the relevant provisions of the Resource Management Act 1991 (**the Act**) and higher order planning documents.

4. EXECUTIVE SUMMARY

4.1. The Waimakariri Sub-region is a highly modified environment, with a long history of farming and associated leaching of nitrates to groundwater. Canterbury Regional Council's monitoring indicates generally degraded surface water and groundwater, and high nitrate concentrations in shallow private water supply wells.

4.2. To address these issues, Canterbury Regional Council has identified water quality outcomes and limits for the Waimakariri Sub-region and methods to achieve these limits, including staged reductions in nitrogen loss from farming activities within a defined Nitrate Priority Area (amongst other methods).

4.3. With respect to the staged reductions in nitrogen loss, PC7 adopts 5 Nitrate Priority Sub-areas; 60 years' worth of differing stages of cumulative percentage reductions in nitrogen loss from the Baseline GMP Loss Rate for each Nitrate Priority Sub-area; and a 'floor', below which no further reductions are required, that lowers over time. The NGFT submissions seek to remove the 5 Nitrate Priority Sub-areas (while retaining the Nitrate Priority Area as a whole); remove the target reductions in nitrogen loss set for 2050 and beyond; and insert a policy to establish a partnership between Canterbury Regional Council and farmers in the Waimakariri Sub-region to design and implement a stronger water quality monitoring programme than has been available to date.

4.4. I have been asked by the NGFT to evaluate those parts of their submissions that relate to the staged reductions in nitrogen loss from farming activities within the Nitrate Priority Area, against the relevant provisions of the Act and higher order planning documents. Accordingly, this evidence considers which of the PC7 and NGFT nitrogen loss allocation methods better achieves the regulatory requirements, within the constraints of the set water quality limits.

4.5. In my opinion, both the PC7 and the NGFT approaches to reducing nitrogen losses in the Nitrogen Priority Area give effect to the National Policy Statement for Freshwater Management 2014, as amended in 2017 (**NPSFM**) and the

Canterbury Regional Policy Statement (**CRPS**) in so far as they both adopt targets for reductions in nitrogen loss, amongst a suite of other methods, to meet the water quality limits and outcomes. However, in my opinion, there are also limitations to the nitrogen loss allocation approach in PC7 and, to a lesser degree the NGFT's approach, and this appears to result from deviating from the recommendations of the Waimakariri Water Zone Committee's (**ZC**) Zone Implementation Programme Addendum (**ZIPA**).

4.6. In my opinion, the changes sought by the NGFT give better effect to the NPSFM and CRPS. The NGFT approach, when compared to PC7 provisions, results in less uncertainty and lowers the potential for unnecessary costs to the community by:

a) Removing specific Nitrate Priority Sub-areas that are not currently directly linked to the specific water quality limits in PC7, and have associated reductions set that are said to address not only the water quality limits set in PC7 but also the as yet undefined water quality limits for the Christchurch aquifers and the Waimakariri River mainstem; and

b) Retaining the set nitrogen loss reduction targets in PC7 for the next 30 years and removing the targets for 2050 and beyond; and at the same time improving water quality monitoring and allowing time for the water quality limits for the Christchurch aquifers and the Waimakariri River mainstem to be set. The improved water quality monitoring and the new limits for the Christchurch aquifers and the Waimakariri River mainstem would then inform any necessary future plan reviews and plan changes, and the setting of targets for 2050 and beyond.

4.7. Through my evaluation of the PC7 and NGFT's nitrogen loss reduction methods, I have identified areas where PC7 strays from the recommendations in the ZIPA, and while it is not clear from the Section 32 Evaluation Report for Plan Change 7 (**s32 report**) and the Section 42A Report: Plan Change 7 to the Canterbury Land and Water Regional Plan; and Plan Change 2 to the Waimakariri River Regional Plan (**s42A report**) that the differences were

intentional, in my opinion the ZIPA recommendations give better effect to the NPSFM than PC7. In this regard, I consider that PC7 would be advanced by:

a) Adopting the ZIPA's recommended fixed floor to reductions in nitrogen loss, and not a sinking floor, thereby avoiding unreasonable expectations on low nitrate loss farms[1]; and

b) Adopting the ZIPA's recommended ongoing and discrete 10 yearly 15% reductions in Table 8-9 (based on the nitrogen loss number, in kgN/ha/yr, established by the preceding 10 year reduction target)[2], thereby recognising that ongoing reductions in nitrogen losses will get harder for farms (both in terms of options and costs); and

c) Amending Policy 8.4.25 and the footnote to Table 8-9 to clearly state that once the water quality limits are achieved, no further reductions are required[3].

4.8. For completeness, if a) to c) were adopted in PC7, along with linking Nitrate Priority Sub-areas to specific water quality limits, I consider this approach would better meet the regulatory requirements (when compared to PC7 as it is today and the NGFT's relief) as it provides greater certainty to the community of the route to achieve the water quality limits, it removes the potential for reductions in nitrogen loss to be made unnecessarily, and it recognises that farmers need reasonable times to adjust their investments and practices to reach the necessary reductions in nitrogen loss.

4.9. I have provided a marked-up version of proposed amendments to PC7 with respect to these matters, in **Annexure 3** of this evidence.

[1] ZIPA, page 30 and recommendation 3.10 on page 33 of the ZIPA
[2] ZIPA, page 31 and recommendations 3.5, 3.6 and 3.8 on page 33
[3] ZIPA recommendation 3.8 on page 33

5. THE EXISTING ENVIRONMENT IN THE WAIMAKARIRI SUB-REGION

5.1. The Waimakariri Sub-region is a highly modified environment. The s32 report states that approximately 40% of the area is used for farming sheep, deer, beef, and horticulture; and approximately 16% of the area is used for dairy farming and dairy support activities. Approximately 12% of the area is used for small 'lifestyle blocks' and there is approximately 37,000 hectares of irrigated land.[4]

5.2. With the Waimakariri Sub-region's long history of farming, there has been associated leaching of nitrates to groundwater. The ZIPA describes the surface water quality and aquatic ecosystems as "*generally degraded due to sediment and high nitrate concentrations*", while also identifying that there are many areas that *"still support important ecological values, particularly the upper catchments of spring-fed streams*". The ZIPA describes groundwater quality as "*generally good and mostly meets the drinking water standards without treatment"* while also stating that there are exceptions where high nitrate concentrations are found in shallow private water supply wells and where groundwater provides a transport pathway for nitrate to spring-fed streams.[5] The s32 report refers to the increased concentrations of nitrate-N in groundwater resulting in the potential for 90 to 165 private wells across the Waimakariri sub-region exceeding New Zealand drinking-water standards; and also states that surface water quality and aquatic ecosystems are generally degraded due to sediment and high nitrate concentrations.[6]

6. REQUIRED POLICY RESPONSE

Relevant Planning Instruments

6.1. PC7 is a plan change to a regional plan that has been prepared under the Act. The Act creates a hierarchy of planning instruments and directs the manner in

[4] S32 report, page 278
[5] ZIPA, page 7
[6] s32 report, page 277

which the provisions within these instruments must be considered when preparing a plan change.

6.2. Section 2 of the s32 report sets out the planning instruments that must be considered when preparing PC7. With respect to the Waimakariri Sub-region, **Annexure 2** of this evidence lists the relevant instruments. I have read Section 2 of the s32 report and I agree that the relevant instruments are listed, and generally my interpretation of those instruments and their application to PC7 accords with the s32 report. Of particular relevance to my consideration of the PC7 provisions that set staged reductions in nitrogen loss within the Nitrate Priority Area are the NPSFM and the CRPS.

6.3. In addition, the Waimakariri Sub-region provisions of PC7 will form an integral part of the Canterbury Land and Water Regional Plan (**CLWRP**). Accordingly, the relationship between the region-wide provisions and the Waimakariri Sub-region provisions is, in my opinion, also relevant to considerations on the plan change.

6.4. I am aware that those parts of PC7 that relate to the Waimakariri Sub-region were developed to implement the ZIPA. While there is no requirement at law to give effect to the ZIPA, it has been developed through a sizable process of community discussion (which is consistent with Policy CA2 of the NPSFM in terms of setting objectives, limits, and targets through discussion with communities), and the s32 report states that Canterbury Regional Council is committed to delivering the recommendations made by the ZC.[7] Further to this, PC7 is referred to within the s32 report as "*a key pathway for implementing the recommendations*" of the ZIPA[8]. Notwithstanding this commitment, the ZIPA does not need to be adopted in any or all respects; rather Part 2 of the Act and the statutory planning instruments must prevail.

[7] s32, page 288
[8] s32 report, page 288

6.5. I also acknowledge the requirement (under s66(2)(c)(i) of the Act) for Canterbury Regional Council to have regard to the Canterbury Water Management Strategy (**CWMS**) when making plan changes.

NPSFM

6.6. In managing land and water resources in the OTOP Sub-region, Canterbury Regional Council must give effect to the NPSFM.[9] In brief, the NPSFM requires that Te Mana o te Wai be considered and recognised in the management of freshwater[10]; the integrated management of freshwater and the use and development of land is improved[11]; the life-supporting capacity of freshwater is safeguarded[12]; the overall quality of fresh water within a Freshwater Management Unit (**FMU**) is maintained or improved[13]; fresh water is suitable for primary contact more often[14]; the over allocation of freshwater is phased out[15]; and the significant values of wetlands and outstanding fresh water bodies are protected[16] (amongst other matters). At the same time, the NPSFM requires that communities are enabled to provide for their economic well-being[17] and that the efficiencies of allocation and use of water are maximised[18].

6.7. To achieve the objectives of the NPSFM, regional councils are required to identify FMUs and develop fresh water objectives for the FMUs; and to set water quality limits and specify targets and methods to meet the objectives. Policy CA2(f) of the NPSFM requires that councils must (when developing fresh water objectives, limits and targets) consider how the economic wellbeing of communities will be enabled, the implications for resource users and

[9] As required by s67(3) of the Act
[10] NPSFM, Object AA1 and Policy AA1
[11] NPSFM, Objective C1, Policy C1 and Policy C2
[12] NPSFM, Objective A1
[13] NPSFM, Objective A2
[14] NPSFM, Objective A3
[15] NPSFM, Objective B2
[16] NPSFM, Objective A2
[17] NPSFM, Objective A4
[18] NPSFM, Objective B3

communities, and the timeframes needed to meet the targets and objectives (amongst other matters). Further to this, the Preamble to the NPSFM states that "*Where changes in the way communities use fresh water are required, the pace of those changes should take into account impacts on economic well-being. Improvements in freshwater quality may take generations depending on the characteristics of each freshwater management uni*t."[19]

CRPS

6.8. Along with the NPSFM, PC7 must also give effect to the CRPS. In my opinion, the key objectives and policies in the CRPS that are relevant to allocating reductions in nitrogen loss include:

Objectives 7.2.1 "*The region's fresh water resources are sustainably managed to enable people and communities to provide for their economic and social well-being through abstracting and/or using water for irrigation, hydro-electricity generation and other economic activities, and for recreational and amenity values, and any economic and social activities associated with those values, providing:*

1. *the life-supporting capacity ecosystem processes, and indigenous species and their associated freshwater ecosystems and mauri of the fresh water is safe-guarded;*
2. *the natural character values of wetlands, lakes and rivers and their margins are preserved and these areas are protected from inappropriate subdivision, use and development and where appropriate restored or enhanced; and*
3. *any actual or reasonably foreseeable requirements for community and stockwater supplies and customary uses, are provided for."*

Policy 7.3.6(3) "*where water quality is below the minimum water quality standard set for that water body, to avoid any additional allocation of water for abstraction from that water body and any additional discharge of contaminants to that water body, where any further abstraction or discharges, either singularly or cumulatively, may further adversely affect the water quality in that water body:*

[19] NPSFM, page 5

a. *until the water quality standards for that water body are met; or*

b. *unless the activities are undertaken as part of an integrated solution to water management in the catchment in accordance with Policy 7.3.9, which provides for the redress of water quality within that water body within a specified timeframe.*"

Policy 7.3.7 "*To avoid, remedy or mitigate adverse effects of changes in land uses on the quality of fresh water (surface or ground) by:*

1. *identifying catchments where water quality may be adversely affected, either singularly or cumulatively, by increases in the application of nutrients to land or other changes in land use; and*

2. *controlling changes in land uses to ensure water quality standards are maintained or where water quality is already below the minimum standard for the water body, it is improved to the minimum standard within an appropriate timeframe.*"

6.9. Together these objectives and policies provide direction to constraining activities that adversely affect water quality, until water quality standards are met.

CWMS

6.10. As discussed previously, Canterbury Regional Council must (under s66(2)(c)(i) of the Act) have regard to the CWMS when making plan changes. I understand that the vision and principles in the CWMS have been incorporated into the CRPS. For completeness however, I note that the vision of the CWMS is "*To enable present and future generations to gain the greatest social, economic, recreational and cultural benefits from our water resources within an environmentally sustainable framework*." Amongst the primary principles of the CWMS is adoption of a regional approach to "*planning for natural water use*" that is guided by consideration of "*environment, customary use, community supplies and stock water*" as a first order of priority and "*irrigation, renewable electricity generation, recreation and amenity*" as the second order of priority. A further primary principle is that "*the exercise of kaitiakitanga by Ngai Tahu applies to all water and lakes, rivers, hapua, waterways and*

wetlands, and shall be carried out in accordance with tikanga Maori". The CWMS also sets six supporting principles that address values associated with natural character, indigenous biodiversity, access, quality drinking water, recreational and amenity opportunities, and community and commercial uses.

CLWRP

6.11. The CLWRP sets region-wide objectives, policies and rules, while the sub-region sections of the CLWRP contain policies and rules that are specific to the particular catchments covered by that section. The policies and rules in the sub-region sections implement the region-wide objectives in the Plan in the most appropriate way for the specific catchment or catchments covered by that section. In my opinion, key region-wide objectives in the CLWRP that relate to allocating targets for reductions in nitrogen loss include:

Objective 3.5	"*Land uses continue to develop and change in response to socio-economic and community demand*."
Objective 3.6	"*Water is recognised as essential to all life and is respected for its intrinsic values."*
Objective 3.11	*"Water is recognised as an enabler of the economic and social wellbeing of the region."*
Objective 3.12	"*When setting and managing within limits, regard is had to community outcomes for water quality and quantity*."
Objective 3.24	*"All activities operate at good environmental practice or better to optimise efficient resource use and protect the region's fresh water resources from quality and quantity degradation."*

7. WAIMAKARIRI SUB-REGION WATER QUALITY OUTCOMES, LIMITS AND TARGETS

7.1. Consistent with the requirements of the NPSFM, PC7 splits the Waimakariri Sub-region into two FMUs, being the Ashley River/Rakahuri FMU and the Northern Waimakariri Tributaries FMU. Freshwater outcomes are then identified for the FMUs by river type (Table 8a) and lake type (Table 8b). To achieve these outcomes, water quality limits and targets for specific rivers and lakes are set in Tables 8-5 and 8-6. Table 8-7 sets nitrate-nitrogen limits for

groundwater drinking water supplies and Table 8-8 sets water quality limits and targets for certain groundwater allocation zones. I understand that the NGFT supports the water quality limits and targets within PC7, and I have not been asked to consider these further in my planning assessment. Accordingly, for completeness, I have not assessed the appropriateness of the outcomes and limits against the requirements of the NPSFM.

8. PC7 AND NGFT FRAMEWORKS FOR REDUCING NITROGEN LOSSES FROM FARMS

8.1. To achieve the Waimakariri Sub-region's freshwater quality outcomes, limits and targets, PC7 establishes a framework for managing activities that have the potential to adversely affect freshwater quality. This framework recognises that the region-wide rules in the CLWRP are not sufficient to achieve the water quality outcomes that are specific to the Waimakariri Sub-region. PC7 therefore further restricts (relative to the region-wide rules in the CLWRP) the area of land used for farming activities as a permitted activity, the permitted area of land used for winter grazing, and the permitted increases in irrigated area. It adds a requirement for all farms (above 5 hectares) to implement a Management Plan (for permitted activities) or Farm Environment Plan (for consented activities), and it introduces progressive reductions in nitrogen losses within a defined Nitrate Priority Area, amongst other mechanisms.

8.2. With respect to reducing nitrogen losses in the Nitrate Priority Area, PC7 adopts the following mechanisms:

a) 5 Nitrate Priority Sub-areas (referred to as Sub-areas A to E in Table 8-9);

b) Cumulative percentage reductions in nitrogen loss from the Baseline GMP Loss Rate for each Nitrate Priority Sub-area for the next 60 years (that is up to 1 January 2080);

c) A formula for calculating a 'floor' to the reductions below which no further reductions are required;

d) Provisions for exceptions to achieving the Baseline GMP Loss Rate where the Baseline GMP Loss Rate has been lawfully exceeded and the Farm Environment Plan can show that the staged reductions in nitrogen loss can be achieved (amongst other criteria);

e) Provisions for extensions in timeframes to meet the staged reductions in nitrogen loss, with decisions on such extensions considering factors such as reductions in nitrogen losses already achieved on the farm, the capital and operational costs of achieving the nitrogen loss rate reductions and the benefit of spreading costs over time, and catchment progress towards achieving the water quality limits;

f) Provision for (as a discretionary activity) the use of an Equivalent Baseline GMP Loss Rate or Equivalent GMP Loss Rate where it can be shown that the farm portal is unable to generate such numbers or the number generated is shown to be erroneous.

8.3. The NGFT, in its submissions and further submissions, supported the adoption of targets for reductions in nitrogen loss in the Nitrate Priority Area as a method to achieve the water quality outcomes and limits, along with broader methods such as managed aquifer recharge (**MAR**) and targeted stream augmentation (**TSA**). At the same time, the NGFT sought the following amendments to PC7's framework for reducing nitrogen losses in the Nitrogen Priority Area:

a) *Remove the Nitrate Priority Sub-areas in Table 8-9 (that is Sub-areas A to E inclusive)*: The NGFT's submission expressed concerns that the Sub-areas will create a 'them and us' division amongst the farming community rather than encouraging the community as a whole to work together to achieve the water quality outcomes sought in the plan.

b) *Remove the targets in Table 8-9 for 1 January 2050 and beyond*: The NGFT's submission expressed concerns that the 2050 and beyond targets were being set at least 30 years in advance of when they are to be applied

and therefore they are not robust in terms of understanding their relationship to the environmental outcomes sought in PC7 and the associated economic and social implications for the Waimakariri community;

c) *Insert a new policy for improved monitoring*: The new provisions sought by the NGFT would commit Canterbury Regional Council to work with farmers, primary sector groups and other stakeholders in the design and implementation of a water quality monitoring programme for the Waimakariri Sub-region. The monitoring results would be used to inform future water quality outcomes and target setting.

9. EVALUATION

9.1. In my opinion, both the PC7 and the NGFT approaches to reducing nitrogen losses in the Nitrogen Priority Area give effect to the NPSFM and the CRPS in so far as they both adopt targets for reductions in nitrogen loss, amongst a suite of other methods, to meet the water quality limits and outcomes. However, in my opinion, there are also limitations to the nitrogen loss allocation approach in PC7 and, to a lesser degree the NGFT's approach, that narrow the extent to which the NPSFM and CRPS are given effect to. These limitations are discussed in the evaluation that follows.

9.2. The key planning question that I have identified is, how should the nitrogen loss load, that can be made available without compromising the freshwater limits and outcomes, be best allocated amongst land use activities (both current and potential future activities)? The Act, NPSFM, CRPS and CLWRP provide direction to the tests that must be applied when assessing the merits of such allocation mechanisms.

9.3. Section 5(2) of the Act defines sustainable management as "…*managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while…*". I

understand this to mean that after meeting the requirements of s5(2)(a) to (c) (through the setting of the water quality limits) a 'way' and 'rate' for achieving the limits must be set in a manner that enables the broad social, economic and cultural needs to be met. Further to this, s7(b) of the Act requires that particular regard be given to "*the efficient use and development of natural and physical resources*", and I understand this to include economic and allocative efficiencies (amongst other forms of efficiencies).

9.4. Further, while Objectives A1 to A3 of the NPSFM aim to safeguard and improve the quality of freshwater (and the limits set in PC7 are key to PC7 giving effect to these NPSFM objectives), Objective A4 requires that this be balanced by communities being enabled *"to provide for their economic well-being, including productive economic opportunities, in sustainably managing freshwater quality, within limits*".

9.5. Similarly, Objective 7.2.1 of the CRPS aims to ensure that fresh water is sustainably managed to "*enable people and communities to provide for their economic and social well-being*" provided (in brief) the life-supporting capacity of ecosystems and the mauri of fresh water is safe-guarded; natural character values of wetlands, lakes and rivers are preserved; and the foreseeable future needs of the community and stock water is provided for.

9.6. The CLWRP also provides some direction to the allocation of nitrate reductions through Objective 3.5 which states "*Land uses continue to develop and change in response to socio-economic and community demand*". I understand this to mean that any reductions required should not lock any land into a single and potentially low value use. Further to this, Objective 3.12 states that "*When setting and managing within limits, regard is had to community outcomes for water quality and quantity*" and I understand this to mean that community derived preferences (such as through the extensive consultation that has occurred through the development of the ZIPA) should be recognised and considered.

9.7. Based on the preceding directions, my evaluation of the PC7 and NGFT approaches to allocating reduction targets focuses on the relative effectiveness and efficiency of both allocation methods. That is which method, within the constraints of the agreed water quality outcomes and limits, achieves the most in terms of economic and social wellbeing.

Removing the nitrate priority sub areas

9.8. The NGFT has sought to have the five Nitrate Priority Sub-areas in Table 8-9 removed. While the Nitrate Priority Sub-areas are mapped in PC7, there is no direct reference in PC7 to which Nitrate Priority Sub-area contributes to which specific water quality limit (within Tables 8a, 8b, and 8-5 to 8-8). Without a clear linkage between the two, it is difficult to determine when further nitrogen loss reductions in a particular Nitrate Priority Sub-area are no longer needed and therefore do not need to be implemented. While I understand that the provisions in the plan, in combination, have been identified as a 'formula' for meeting the water quality limits, the formula relies on modelling and associated assumptions, and the reliability of the formula diminishes the further into the future that it applies. Accordingly, it is possible that the water quality limits will be met prior to the nitrogen loss reductions targets (as listed in Table 8-9) being completed. Should this occur, it would be economically and socially inefficient to require reductions in nitrogen loss beyond the point where the limits are met. As notified, PC7 does not explicitly state when further reductions cease to be required (other than with respect to a nitrogen loss 'floor' which I discuss later in this evidence) and consequently the risk in PC7 of further reductions being required beyond the point where the limits have been met is substantial given that the target reductions extend to beyond 2080.

9.9. Further to this, the s42A report states that "*the Nitrate Priority sub-areas are integral for meeting the water quality limits for each of the receptors (receiving waterbodies) both within the sub-region and outside the sub-region*

boundaries".[20] At the same time, the s32 report states that "*Downstream waterbodies, including Christchurch's aquifers and the Waimakariri River mainstem, are not included as "receptors" because they are outside the Waimakariri sub-region and therefore Part C does not set limits for these waterbodies. However, the need to manage risks to those waterbodies from farming land uses in the Waimakariri sub-region was an influencing factor in establishing the boundaries of the NPA, and the number of stages for the modelled source areas for those waterbodies"*.[21] This implies that the reductions in nitrogen loss required by Table 8-9 not only aim to achieve the water quality outcomes and limits in Tables 8a, 8b, and 8-5 to 8-8, but also to achieve water quality outcomes and limits for the Christchurch aquifers and the Waimakariri River mainstem that have not yet been set. This appears to confirm that there is no direct correlation between the nitrogen loss reductions in Table 8-9 and the outcomes in Tables 8a, 8b, and 8-5 to 8-8. I consider such a planning approach to be problematic in that it sets a method to achieve something that has not yet been defined (that is the limits for the Christchurch aquifers and the Waimakariri River mainstem). This creates considerable uncertainty in the appropriateness of the scale of reductions and their associated timeframes in Table 8-9.

9.10. The s42A report also states that "*Removing the sub-areas from PC7 and allowing the management of nitrogen losses on an aggregated basis (either by an irrigation scheme or a Farming Enterprise) could result in greater reductions occurring in a concentrated part of the NPA, and lesser reductions occurring in other areas, meaning that the necessary progress is not made*".[22] In my opinion, removal of the sub-areas does not necessarily lead to aggregated management of nitrogen. I understand that removal of the Nitrate Priority Sub-areas would result in a single set of reduction targets that all farms within the Nitrate Priority Area must meet.

[20] s42A report, paragraph 8.130
[21] s32 report, page 340
[22] s42A report, paragraph 8.130

9.11. Until 2050, PC7's percentage reductions in nitrogen loss are the same (albeit with a difference between dairy and other farm systems) for each of the Nitrate Priority Sub-areas. By 2050, I anticipate that the outcomes and limits that are specific to the Christchurch aquifers and the Waimakariri River mainstem will have been identified. In my opinion, separation of the Nitrate Priority Area into sub areas should only occur when the Sub-area nitrate loss reductions can be directly linked to the relevant water quality limit. This linkage then allows clear monitoring of the impact of the required reductions on the achievement of the related water quality limits, adjustments to reduction requirements (if necessary) through future plan changes, and the further application of reductions to cease when the area-specific limits are met.

9.12. The ZIPA recommends that the percentage reductions in nitrogen loss be repeated until either the water quality limits have been met, or the science shows that the limits can be met without the percentage reductions.[23] Paragraph 8.98 of the s42A report also refers to the nitrogen loss reductions occurring over time until the proposed water quality limits and targets (Tables 8-5, to 8-8) are met. This is not, however, reflected in Policy 8.4.25 or Table 8-9. This is possibly a consequence of the indirect relationship between the Nitrate Priority Sub-areas and the water quality outcomes and limits. By not specifically stating that the percentage reductions in nitrogen loss cease when water quality limits have been met, the reductions continue to be required. As previously stated, this is economically and socially inefficient (that is costs will likely be incurred beyond what is needed to meet the water quality outcomes).

9.13. Based on the preceding assessment I consider that the regulatory requirements would be better met by either:

a) directly linking the Nitrate Priority Sub-areas and their associated nitrate loss reductions to the specific water quality limits in PC7; or

[23] ZIPA, page 33

b) removing the Nitrate Priority Sub-areas and having a single set of percentage reductions in nitrogen loss that apply across the Nitrate Priority Area as a whole.

9.14. At the same time as adopting either a) or b) above, I consider that the regulatory requirements would also be better met by:

a) providing a clear statement that when the water quality limit is met further reductions in nitrogen loss in the corresponding Nitrate Priority Sub-area is no longer needed; and

a) adjusting, if necessary, the nitrogen loss reductions (through a plan change) to reflect water quality limits for Christchurch's aquifers and the Waimakariri River mainstem once they have been set.

Removing the targets for 2050 and beyond

9.15. With respect to the nitrogen loss reduction targets themselves, there are two distinct differences between the ZIPA and PC7. These relate to the adoption of cumulative percentage reductions and a 'sinking floor' to the reductions within PC7.

9.16. The ZIPA appears to recommend discrete percentage reductions to nitrogen loss[24] (that is a percentage reduction from the nitrogen loss, in kgN/ha/yr, achieved in the previous 10 year reduction stage), while PC7 adopts cumulative percentage reductions (that is increasing percentage reductions for each stage, and always calculated based on the Baseline GMP N Loss). The adoption of cumulative percentage reductions in PC7 is more onerous to farmers than adoption of discrete percentage reductions. Table 1 of this evidence illustrates this by using a hypothetical dairy farm with a Baseline GMP Loss Rate of 50 kgN/ha.yr.

[24] ZIPA, Figure 3.2 on page 31 and recommendation 3.5, 3.6 and 3.8 on page 33

Table 1 – Hypothetical Example of ZIPA Approach vs PC7 Approach

	Allowable N loss, kgN/ha/yr	Reduction in N loss over preceding 10 years, kgN/ha/yr
ZIPA approach to nitrogen loss reductions		
Farm Baseline GMP N loss	50	
15% reduction from Baseline GMP N loss by 2030	43	7
15% reduction from 2030 nitrogen loss number by 2040	36	7
15% reduction from 2040 nitrogen loss number by 2050	31	5
15% reduction from 2050 nitrogen loss number by 2060	26	5
15% reduction from 2060 nitrogen loss number by 2070	22	4
15% reduction from 2070 nitrogen loss number by 2080	19*	3
PC7 Table 8-9, Cumulative application of % reductions		
Farm Baseline GMP N loss	50	
15% reduction from Baseline GMP N loss by 2030	43	7
30% reduction from Baseline GMP N loss by 2040	35	8
45% reduction from Baseline GMP N loss by 2050	28	7
60% reduction from Baseline GMP N loss by 2060	20	8
75% reduction from Baseline GMP N loss by 2070	13*	7
90% reduction from Baseline GMP N loss by 2080	5*	8

* Both the ZIPA and PC7 provide for a 'floor' below which N loss is not required to be reduced to. This is discussed further in this evidence.

9.17. Through each stage of the nitrogen loss reduction programme, further reductions will likely become more challenging for farmers since the most cost-effective reductions will likely be adopted first. The ZIPA approach recognises this by adopting a fixed percentage reduction from the nitrogen loss number achieved in the preceding stage. In contrast PC7 does not reflect these challenges and instead adopts essentially a fixed amount of reduction that is required in each 10-year stage. Using the above table as a guide, the difference between the approaches is felt from approximately the 2040 target and beyond.

9.18. The ZIPA also recommended a floor below which no further nitrogen loss reductions are required (so as to "*avoid unreasonable impacts on low nitrate loss farming activities*")[25] and recommended that Canterbury Regional Council investigate a floor of 20 kgN/ha/yr.[26] In contrast, PC7 adopts a sinking floor.

9.19. The sinking floor is established through Policy 8.4.25 and Footnote 3 of Table 8-9, where these provisions require that the floor be 'back-calculated' on the following basis: *"The percentage reductions required by Table 8-9 are only to be applied … where the required reduction for each stage is greater than 3 kg nitrogen per hectare for dairy, and 1kg per hectare for all other farming activities*".[27]

9.20. The s32 report states "*The deviation from the 20kg N/ha/year "floor" recommended in the ZIPA is primarily to address implementation issues associated with including fixed, absolute nitrate thresholds in a plan when a key tool for measuring compliance with that limit (i.e. OVERSEER®) is subject to regular updates and subsequent version changes. OVERSEER® version changes may cause significant changes to the estimated losses from a farm, meaning that a 20 kgN/ha/year "floor" may no longer be fit for purpose*".[28] It is not clear to me what is meant by this statement since all calculations of nitrogen loss

[25] ZIPA, recommendation 3.10 and page 30
[26] ZIPA, page 30
[27] PC7, footnote 3 of Table 8-9
[28] s32, page 340

are made through the use of Overseer. If the concern is that future versions of Overseer may lead to the 20 kgN/ha/yr being set too high to allow the water quality outcomes to be achieved, the floor can be adjusted through future plan changes. The time to adjust the floor would, in my opinion, be when all farms are nearing the floor and the water quality outcomes had not been met.

9.21. By not explicitly setting the floor at 20 kgN/ha/yr, and instead introducing a 'back-calculation' to calculate the floor, the plan has (intentionally or otherwise) created a sinking floor. The sinking floor effect can be illustrated using the 2030 and 2040 targets within Table 8-9 as an example.

- For the 2030 percentage reductions, the floor is 20 kgN/ha/yr - that is 15% of 20 kgN/ha/yr is 3 kgN/ha/yr, and 5% of 20 kgN/ha/yr is 1 kgN/ha/yr; and

- For the 2040 percentage reductions, the floor is 10 kgN/ha/yr - that is 30% of 10 is 3 kgN/ha/yr, and 10% of 10 kgN/ha/yr is 1 kgN/ha/yr.

9.22. This means that at each stage (i.e. change in percentage reductions required) the floor is recalculated and lowers, and this occurs irrespective of any change in OVERSEER. In my opinion, this is inconsistent with the recommendations in the ZIPA and does not achieve the intent of 'protecting' the viability of low emitting farms. Further, in my opinion it is not consistent with Objective 3.5 of the CLWRP which aims to ensure that "*Land use continue to develop and change in response to socio-economic and community demand*". As previously stated, I understand this objective to mean that the allocation of reductions should not result in land being locked into a single, and potentially low value, use.

9.23. The s32 and s42A report do not comment on why PC7 differs from the recommendations of the ZIPA with respect to the cumulative versus discrete percentage reductions, the sinking floor, and the absence of a reference to the reductions ceasing when the outcomes are met. Accordingly, it is possible that

the effect of Policy 8.4.25 and Table 8-9 in PC7 was not intended by Canterbury Regional Council.

9.24. If the cumulative percentage reductions, the sinking floor, and the absence of a reference to the reductions ceasing when the outcomes are met, were to be retained, then I consider that the NGFT's proposal to remove the Nitrate Priority Sub-areas and the targets for 2050 and beyond better meets the regulatory requirements than PC7. I understand that the NGFT is not of the view that no further reductions will be necessary at 2050 and beyond, rather they are seeking that the reductions prior to 2050 remain in place until improved monitoring and understanding of fresh water bodies informs what reductions are likely to be required at 2050 and beyond. This avoids the potentially unnecessary adoption of percentage reductions of between 45% and 90%, and the impacts that these figures may have in the short to medium term on long term investment decisions in the Waimakariri Sub-region. It also recognises that the yet to be defined water quality limits for Christchurch aquifers and the Waimakariri River mainstem need to inform the reductions set in Table 8-9; and that the plan is required by the s79 of the Act to be reviewed at least every 10 years, meaning the merits (or otherwise) of the provisions of the plan will be reviewed, and there is opportunity for the provisions to be adjusted, at least twice before decisions on the 2050 targets are needed.

9.25. I consider the nitrogen loss reduction regime recommended by the ZIPA better meets the regulatory requirements when compared with both PC7 and the NGFT's relief sought. The ZIPA sets ongoing discrete 15% reductions in nitrogen loss over successive 10-year periods until the outcomes and limits are met, and adopts a fixed floor below which further on farm reductions are not required. Ongoing 15% reductions in nitrogen loss, per 10 year stage, will be challenging for famers to meet (as noted on page 305 of the s32 report), while being clear to farmers that ongoing reductions are needed until the limits and outcomes are met, or the farm becomes a low leacher (i.e. reaches the nitrogen loss floor). Once water quality limits are set for the Christchurch

aquifers and the Waimakariri River mainstem, these can be referenced in the clause that determines when the reductions cease (this would likely require an additional plan change). The ZIPA's recommendations signal what is ahead while providing farmers and rural businesses time to adjust, and avoids adoption of reductions of 45% to 90% (regardless of whether the outcomes have been reached) and the potentially unnecessary economic and social consequences in the Waimakariri Sub-region. It also encourages off farm solutions, such as MAR and TSA, as a means to achieve the limits and outcomes earlier.

New policy for collaborative water quality monitoring programme

9.26. The NGFT is seeking a commitment in PC7 that Canterbury Regional Council will work, in partnership, with farmers in the Waimakariri Sub-region to design and implement a stronger water quality monitoring programme than has been available to date. Such a programme would assist with monitoring progress towards the achievement of the fresh water limits and outcomes and the setting of future targets. This is consistent with Objective CB1 and Policy CB1 of the NPSFM and, in my opinion (and based on my experience), the involvement of farmers in this process is likely to lead to greater uptake of actions to reduce discharges in the area.

Amendments to provisions

9.27. **Annexure 3** to this evidence provides my recommended drafting solutions to the provisions of PC7 to remove the Nitrate Protection Sub-areas and the targets for 2050 and beyond, to adjust the floor to nitrogen loss reductions and to insert a policy addressing engagement with landowners in the setting and implementation of the fresh water quality monitoring plan.

9.28. For completeness, my recommended drafting solutions do not adjust the cumulative percentage reductions in Table 8-9 to become discrete percentage reductions, and do not address a provision to cease the reductions in nitrogen loss when the water quality limits are met. If the nitrogen loss reduction

targets for 2050 and beyond are removed, such further adjustments will, in my opinion, provide marginal benefit to the plan provisions.

10. CONCLUSION

10.1. I have been asked by the NGFT to evaluate those parts of their submissions that relate to the staged reductions in nitrogen loss from farming activities within the Nitrate Priority Area, against the relevant provisions of the Resource Management Act 1991 and relevant higher order planning documents. Accordingly, my evidence considers which of the PC7 and NGFT nitrogen loss allocation methods better achieves the regulatory requirements, within the constraints of the set water quality limits.

10.2. In my opinion, when compared to the PC7 method, the NGFT's proposal results in less uncertainty and lowers the potential for unnecessary costs to the community by, in combination:

a) Removing specific Nitrate Priority Sub-areas that are not currently directly linked to the specific water quality limits in PC7, and have associated reductions set that are said to address not only the water quality limits set in PC7 but also the as yet undefined water quality limits for the Christchurch aquifers and the Waimakariri River mainstem; and

b) Retaining the set nitrogen loss reduction targets in PC7 for the next 30 years and removing the targets for 2050 and beyond; and at the same time improving water quality monitoring and allowing time for the water quality limits for the Christchurch aquifers and the Waimakariri River mainstem to be set. The improved water quality monitoring and the new limits for the Christchurch aquifers and the Waimakariri River mainstem would then inform future plan changes and the setting of targets for 2050 and beyond.

10.3. Through my evaluation of the PC7 and NGFT's nitrogen loss reduction methods, I have identified areas where PC7 strays from the recommendations in the ZIPA. From the s32 and s42A reports, it is not clear to me whether the

differences were intentional or resulted as a consequence of the drafting of PC7. In my opinion PC7 would be better advanced in terms of achieving the regulatory requirements by:

a) Adopting the ZIPA's recommended fixed floor to reductions in nitrogen loss, and not a sinking floor, thereby avoiding unreasonable expectations on low nitrate loss farms; and

b) Adopting the ZIPA's recommended ongoing and discrete 10 yearly 15% reductions in Table 8-9 (based on the nitrogen loss number, in kgN/ha/yr, established by the preceding 10 year reduction target), thereby recognising that ongoing reductions in nitrogen losses will get harder for farms (both in terms of options and costs); and

c) Amending Policy 8.4.25 and the footnote to Table 8-9 to clearly state that once the water quality limits are achieved, no further reductions are required.

10.4. For completeness, if a) to c) of paragraph 10.3 above were adopted in PC7, along with linking Nitrate Priority Sub-areas to specific water quality limits, I consider this approach would better meet the regulatory requirements (when compared to PC7 as it is today and the NGFT's relief) as this approach provides greater certainty to the community of the route to achieve the water quality limits, it removes the potential for reductions in nitrogen loss to be made unnecessarily, and it recognises that farmers need reasonable times to adjust their investments and practices to reach the necessary reductions in nitrogen loss.

Susan Ruston

17th of July 2020

ANNEXURE 1: EXAMPLES OF RECENT PLANNING PROJECTS AND PROCESSES OF S RUSTON

Expert planning evidence to Hearings Commissioners deciding consent application for NPD site in Cromwell (for NPD).

Expert planning evidence to the Environment Court regarding appeals on the proposed Southland Water and Land Plan (for Ballance Agri-Nutrients, Ravensdown, HortNZ and Federated Farmers).

Expert planning evidence to Hearings Commissioners deciding consent applications for Fulton Hogan's Roydon Quarry (for Christchurch City Council).

Planning services to King Country Energy Limited when submitting on Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments.

Planning services to Amuri Irrigation Limited with respect to consent applications for water takes and discharges.

Planning services to Simons Pass Station Limited with respect to resource consent applications for water takes and discharges, discharges of contaminants and earthworks.

Planning services to Trustpower Limited with respect to an application to change existing consent conditions for the discharge of water; and an application to take water for dewatering testing related to land slippage.

Planning services to Graymont NZ with respect to applications for the take and use of water, and with respect to forestry related activities.

Planning services to Pioneer Energy Limited with respect to an application to change existing consent conditions related to damming and diversion of water.

Planning services to NZSki with respect to an application to change existing consent conditions related to the discharge of contaminants.

Planning services to Gawler Downs with respect to resource consent applications for activities related to development of production forestry blocks.

Planning services to Clutha District Council with respect to resource consent applications for the take of water and discharges of contaminants. This included advising on planning matters and drafting of consent application documents.

Planning services to Rangitata Diversion Race Management Limited regarding consenting matters.

Planning services to Bay of Plenty Regional Council with respect to processing of resource consent applications.

Planning services to Gisborne District Council with respect to processing of resource consent applications.

ANNEXURE 2: PLANNING INSTRUMENTS THAT MUST BE CONSIDERED

1. New Zealand Coastal Policy Statement 2010
2. National Policy Statement for Freshwater Management 2014
3. Resource Management (National Environment Standard for Sources of Human Drinking Water) Regulations 2007
4. Canterbury Regional Policy Statement 2013
5. Canterbury Water Management Strategy
6. Canterbury Land and Water Regional Plan
7. Iwi Management Plans
    a. Te Whakatau Kaupapa: Ngāi Tahu Resource Management Strategy for Canterbury Region (1990)
    b. Te Rununga o Ngai Tahu Freshwater Policy (1999)
    c. Mahaanui Iwi Management Plan 2013 (February 2013)
8. North Canterbury Fish and Game Management Plan (2001-2021)

ANNEXURE 3: RECOMMENDED DRAFTING SOLUTIONS

In the following drafting solutions, I have used the s42A Report Appendix E recommendations where the officers' recommended changes are shown in red; and my recommendations are shown in blue.

8.1A Waimakariri Sub-region Definitions

~~Nitrate Priority Sub-area~~ ~~means, within the Nitrate Priority Area, any area identified as Sub-areas A, B, C, D or E on the Planning Maps.~~

Nutrient Management

8.4.25 Nitrate-nitrogen limits for the Waimakariri Sub-region are achieved, and risks of degraded water quality in ~~potential future impacts on the nitrate-nitrogen concentrations of~~ waterbodies outside the Waimakariri Sub-region are managed by:

~~a. further restricting, relative to the region-wide rules, the area of land used for a farming activity as a permitted activity, and the area of winter grazing that may occur as a permitted activity; and~~

~~b.~~ requiring, within the Nitrate Priority Area, further reductions in nitrogen loss from farming activities (including farming activities managed by an irrigation scheme or principal water supplier) in accordance with Table 8-9, provided that no reductions in nitrogen loss are required below 20 kg of nitrogen per hectare per year ~~any further stage of reduction required is greater than 3 kg of nitrogen per hectare per year for dairy, or 1 kg of nitrogen per hectare per year for all other farming activities~~

Nutrient Management

8.5.23 Where any property or Farming Enterprise includes land within ~~more than one~~ the Nitrate Priority Area ~~Sub-area~~, the required reduction in nitrogen loss ~~for each sub-area~~ is applied only to that part of the property that is within the ~~sub-area the~~ Nitrate Priority Area.

Current Information Monitoring and Review

New Policy (to be inserted before notified Policy 8.4.35)

Canterbury Regional Council will develop and implement a monitoring programme, in partnership with landowners and businesses in the Waimakariri Sub-region, and with the Waimakariri District Council, to measure progress towards achievement of the fresh water limits and outcomes.

Table 8-9: Nitrate Priority Area Staged Reductions in Nitrogen Loss for Farming Activities, Farming Enterprises and Irrigation Schemes

~~Nitrate Priority Sub-area (see Planning Maps)~~	Farming Type	Cumulative percentage reductions in nitrogen loss and dates by which these are to be achieved					
		By 1 January 2030	By 1 January 2040	~~By 1 January 2050~~	~~By 1 January 2060~~	~~By 1 January 2070~~	~~By 1 January 2080~~
~~Sub-area A~~	Dairy	15%	30%				
	All other	5%	10%				
~~Sub-area B~~	~~Dairy~~	~~15%~~	~~30%~~	~~45%~~			
	~~All other~~	~~5%~~	~~10%~~	~~15%~~			
~~Sub-area C~~	~~Dairy~~	~~15%~~	~~30%~~	~~45%~~	~~60%~~		
	~~All other~~	~~5%~~	~~10%~~	~~15%~~	~~20%~~		
~~Sub-area D~~	~~Dairy~~	~~15%~~	~~30%~~	~~45%~~	~~60%~~	~~75%~~	
	~~All other~~	~~5%~~	~~10%~~	~~15%~~	~~20%~~	~~25%~~	
~~Sub-area E~~	~~Dairy~~	~~15%~~	~~30%~~	~~45%~~	~~60%~~	~~75%~~	~~90%~~
	~~All other~~	~~5%~~	~~10%~~	~~15%~~	~~20%~~	~~25%~~	~~30%~~

1. The starting point for applying each percentage reduction in nitrogen loss in Table 8-9 is generally the Baseline GMP Loss Rate except as otherwise provided for in Policy 8.4.26 for individual farming activities and farming enterprises, and in Policy 8.4.29 for irrigation schemes

2. For the purposes of applying the nitrogen reductions in Table 8-9, 'Dairy' farming does not include 'Dairy Support' activities. 'Dairy Support' is classified under 'All other' farming activities.

3 The percentage reductions required by Table 8-9 are only to be applied to farming activities that require resource consent for farming land use and where ~~the required reduction for each stage is greater than 3 kg nitrogen per hectare for dairy, and 1 kg per hectare for all other farming activities~~ the nitrogen loss is 20 kg of nitrogen per hectare per year or greater.