BEFORE THE CANTERBURY REGIONAL COUNCIL:

UNDER	The Resource Management Act 1991
AND	
UNDER	The Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010
AND	
IN THE MATTER OF	Proposed Plan Change 5 to the partially operative Canterbury Land and Water Regional Plan

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STATEMENT OF EVIDENCE OF LYNDA MARION WEASTELL MURCHISON
on behalf of
JG & LM MURCHISON (ID 67179), JKW HOBAN & ORS (ID 67198)

26th July 2016

INTRODUCTION

1. My name is Lynda Marion Weastell Murchison.

2. I hold a Master of Arts degree in geography (First Class hons) from Canterbury University and certificates of proficiency in Natural Resource Law (LAWS 304) and Advanced Resource and Regional Planning (ERST 604) from Canterbury and Lincoln universities respectively. I also hold a National Certificate in Agriculture (Level 3) from the Open Polytechnic of New Zealand. I am a full member of the New Zealand Planning Institute and have completed hearing commissioner accreditation. I currently hold the Roper Scholarship from Canterbury University for study towards a PhD in science. My chosen field of study is traditional environmental knowledge among farmers in Canterbury and how this can be used to improve environmental management.

3. I have worked in the field of resource management for over 20 years, holding senior and managerial positions for Selwyn District Council, Canterbury Regional Council (Environment Canterbury), where I was Planning Manager Air and Rivers and then Principal Planning and Consents Adviser (2008-2012), and Te Rūnanga o Ngāi Tahu. I have also run my own consultancy. I currently lecture courses in environmental and resource management in the Geography Department at Canterbury University and undertake contract planning work. I have also worked as a sheep and beef farmer in partnership with my husband for 17 years.

4. I have worked extensively in drafting district and regional plans and plan changes, and processing resource consents. I drafted Chapter 7- Freshwater of the Canterbury Regional Policy Statement (CRPS) as notified; and led the drafting of four regional catchment plans and the early development of the Canterbury Land and Water Regional Plan (CLWRP). I led the processing of applications for amendments to the National Water Conservation orders for Te Waihora/Lake Ellesmere (2010) and the Rakaia River (2011), and the imposing of moratoria on water permit applications on the Hurunui and Waiau catchments under the Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010 (ECan Act). I appeared before this panel to give planning evidence on the proposed CLWRP on behalf of JG & LM Murchison.

5. I am currently the Provincial President of the North Canterbury Province of Federated Farmers of New Zealand Inc and a delegate on the National Council of Federated Farmers of New Zealand. I also chair the Regional Policy Committee of the Combined Canterbury Provinces of Federated Farmers. These are governance positions.

Code of Conduct for Expert Witnesses

6. While this is a local authority hearing, I confirm that I am familiar with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note (2011) and that I have complied with it in preparing this evidence. In particular I confirm that my evidence is within my area of

expertise and the opinions I have expressed are my own except where I have stated that I have relied on the evidence of other people. I have not omitted any facts known to me that may be material in influencing my evidence.

EXECUTIVE SUMMARY

7. In summary I support the general tenor of the provisions in Plan Change 5 (PC5) as adding value to the CLWRP. In particular I support:

   (i) The provisions for farming activities which do not involve substantial areas of irrigation or winter cattle grazing as permitted activities,.

   (ii) The provisions for managing other farming activities as a restricted discretionary activity, which enables the resource consent process to be used to facilitate assessments of estimated N losses.

   (iii) The greater emphasis on implementing good management practices (GMPs), because it is actions on the ground that will improve water quality outcomes.

8. I believe the efficacy of PC5 in implementing the objectives of the CLWRP could be enhanced through amendments to the way policies are written and to specific rules and definitions. These changes are based on:

   (i) Rewriting some policies as effects-based policies;

   (ii) Amending some of the conditions for permitted activities to better provide for all farming activities that have low N losses;

   (iii) Amending the provisions for restricted discretionary activities so the emphasis is on whether an activity is operating at GMP by 01 July 2020, rather than generating a Baseline GMP Loss Rate in the Farm Portal; and

   (iv) Amending some provisions to improve their clarity and certainty, or to ensure they relate to the Council's statutory functions under the Resource Management Act 1991 (RMA).

9. These amendments are discussed in my evidence. A copy of my suggested amendments to PC5 is included in an attachment.

SCOPE OF EVIDENCE

10. I wrote a submission on PC5 (JG & LM Murchison (67179)) and I am giving planning evidence in relation to that submission and submissions made by JKW Hoban and Others (67198). My evidence addresses the following matters:

(i) Our Farm Situation

(ii) General Comments on PC5

(iii) Provisions for Permitted Activities

- Farm Portal
- Rules for winter grazing & irrigation
- Farm Management Plans (Schedule 7A)
- Good Management Practices (GMPs)
- Other rules for permitted activities

(iv) Provisions for other activities

- Definitions N Baseline & Baseline GMP Loss Rate
- Use of Baseline GMP Loss Rate & Alternatives
- Prohibited Activity Status
- Farm Environment Plans (Schedule 7)
- Sediment/Phosphorous Risk Zones
- Green and Light Blue Zones
- Lake Sensitive Zones

(v) Recommended amendments to PC5.

12. In preparing my evidence I have considered:

(i) The partially operative CLWRP, PC5 and supporting information.

(ii) The relevant provisions of the RMA, in particular its purpose and principles (s5-8) and the provisions relating to preparing regional plans (s32, 63 and 65-68).

(iii) The National Policy Statement for Freshwater (2014) (NPSF) and the Canterbury Regional Policy Statement (CRPS), being matters which a regional plan must give effect to under the RMA (s67(3)).

(iv) Te Whakatau Kaupapa – Resource Management Strategy for Canterbury, Te Rūnanga o Ngāi Tahu Freshwater Policy, and the following iwi management plans: Te Pōhā o Tohu Raumati (2009), Mahaanui Iwi Management Plan (2013), Te Taumautu Rūnanga Iwi Management Plan, and Iwi Management Plan of Kati Huirapa-Arowhenua (1992), being

relevant iwi planning documents which the Council must take into account when preparing a plan or plan change (s66(2A)(a)).

(v) The Canterbury Water Management Strategy (CWMS), in particular the visions and principles being a matter which the Council must have particular regard to under the ECan Act 2010 (s63).

(vi) Relevant submissions and the S42A Report.

13. Given PC5 does not propose any amendments to the objectives of the CLWRP, I have focussed my planning assessment primarily on whether the provisions in PC5 are the most appropriate method to implement the objectives of the CLWRP. I have paid particular attention to:

(i) The functions of the regional council under s30 of the RMA because the purpose of a regional plan is to assist the council to carry out its functions to achieve the purpose of the RMA (s63);

(ii) The council's duties under s32 of the RMA;

(iii) Whether the provisions may render land incapable of reasonable use (s85); and

(iv) The relevant directions for regional plans under the NPSF and the CRPS.

OUR FARM SITUATION

14. My husband and I have two properties within the Canterbury Region which are affected by the CLWRP and PC5; one property at Lake Coleridge and one, where we reside, near the Weka Pass in Hurunui District. Both properties are dryland sheep & beef properties. Our Lake Coleridge property is zoned Green for water quality; the Weka Pass farm is zoned Red. I believe our farming activities are permitted activities on both properties under the current rules in the CLWRP and under PC5 as notified.

15. The Murchison Family has farmed at Lake Coleridge since 1878. We purchased the Hurunui farm – the Dry Weka in 2008 and a neighbouring block in 2011. When we bought the Dry Weka it was running an Angus cattle stud; a Polworth sheep stud and a 500 ewe breeding flock; and dairy support for 600 cows and 200 heifers. We purchased the farm because the soil types and geography make it an ideal property for finishing mid-micron hoggets and early spring lambs.

16. We currently farm the property as a mixed breeding and finishing farm. We have a breeding flock of Corriedale ewes and each autumn we buy in around 3000 Merino and half-bred hoggets and 40-50 Angus or Angus/Hereford steer calves from the high country. By early October all hoggets are gone. Our own lambs are finished and our cull ewes sold by early December. Over summer we carry only our core breeding ewe flock (about ¼ of our total stock units). Our calves may be sold in December or kept until April depending on summer feed.

17. While the above is our 'base recipe,' depending on the weather and associated plant growth we may buy in fewer Merino hoggets at the end of February. We will then buy in cross-bred lambs from Southland in April/May, and/or additional in-lamb ewes, once the rains come and feed grows. In 2014 we had an extremely wet March/April and our ryegrass out-competed our rape in our fodder crops reducing our dry matter yield. Consequently, we purchased 800 fewer hoggets than 'normal'. Last year we carried only about 100 hoggets and 400 breeding ewes through the drought until July, when we had sufficient feed to purchase over 2000 ewes with lambs at foot. This winter we have about 950 ewes, 1100 hoggets and still no rain.

18. By end of this year we will have purchased an additional ewe block. From that point the Dry Weka will be used solely as a finishing farm for hoggets, calves and our own lambs. If my trial plots are successful, a small area will also be used to grow saffron. The purpose of this information is reinforce the diversity of dryland farming depending on the season and the interests of the owner. In my view that diversity is an essential part of being able to make reasonable use of farm land.

19. We have undertaken a significant investment in soil management and pasture improvements on the Dry Weka over the last eight years. We use a biodynamic soils management programme through Abron. This approach focuses on both the chemical and biological health of the soil. Rather than applying fertiliser as a supplement for soil nutrients, the programme uses lime (Ca) and micronutrients to promote cation exchange and biological activity within the soil, making the soil's own nutrients more readily available for plant uptake. The programme involves rigorous soil examination and testing and paddock-specific fertilizer blends. It is a system we have use on our farms since 2002.

20. On Abron's recommendations we apply a small amount of nitrogenous fertiliser to our winter fodder crops after they have struck (usually in early March). Our advice is that this practice is important to encourage deep rooting, strong plants. In the one year we did not do this, we had a noticeable N deficit in our winter fodder crops and poor dry matter yields. Professor Derek Moot (a plant scientist at Lincoln University) advised me that applying a modest quantity of nitrogenous soil to fodder crops sown in early autumn, will not result in N leaching from the soil as the N is being applied during a period when soil moisture is below capacity, soil temperature is warm and plant growth is active. Yet I understand the practice of applying nitrogenous fertiliser to fodder crops on sheep and beef farms is not considered GMP in the N proxy in the Farm Portal.

21. We have replaced over 150 hectares of short rotational ryegrass with dry tolerant permanent pasture mixes and lucerne. We use rape and ryegrass mix as our winter fodder crop. This means we have to put more of the farm into fodder crop to get the same dry matter yield as a person sowing only the a single-species forage crop (such as kale or fodder beet), but it reduces our potential N and sediment/P footprint because our fodder paddocks are never bare. (In his

forage crop, but it reduces our potential N and sediment/P footprint as our fodder paddocks are never bare. (In his evidence Mr Dan Shand explains using this technique on his property.) This is a fairly common practice on sheep and beef farms, yet I understand from Ms Hyde that Overseer^{TM} does not recognize and allow for it in estimating N loss from fodder crops.

22. The examples I have just given of good management practices that are not recognized in Overseer^{TM} or the GMP proxies, are examples of why PC5 needs flexibility to use the 'base standard' GMPs and numbers where they work, but equally recognize and accommodate farm practices that have better environmental outcomes even if they can't be measured in Overseer^{TM} or are not in accordance with the Industry Agreed GMPs. These farmers should not have to adopt poorer practices with greater environmental effects just so they can comply.

23. For the last four years we have worked with Mr Leo Fietje from Environment Canterbury to get a N loss estimate in Overseer^{TM} for the Dry Weka. Given that potential variability in our farm stocking rates each year, we have modeled our 'basic recipe' described above. This is a workable approach if we only have to establish a single N loss estimate for our farm to show we are a low N loss farming activity. It is challenging and expensive if we have to do a N loss calculation every year.

24. My understanding from Mr Fietje is that we cannot get a true N loss estimate because of a 'bug' in Overseer^{TM} related to metabolisable energy (ME) requirements for lambs/hoggets. However our 'best guess' N loss estimate is either 6kg/ha/yr or 11kg/ha/yr depending on whether we use the rainfall records for our property or the rainfall records from the nearest NIWA gauge. Interestingly as we have been 'shopping' for our breeding block over the last few months, most of the properties we have looked at have Overseer^{TM} N loss estimates between 6kg/ha/yr and 12kg/ha/yr depending on average rainfall.

25. Given the Dry Weka had wintered 800 dairy cattle the year we purchased it, if we had continued this land use we would have a substantially greater N Baseline than what we have from the scenario I gave Mr Fietje. I am proud of the improvements we have made to soil health and pasture production on this farm; and glad that we may well have made a contribution to reducing N losses in a catchment which, due to the high natural P levels in the Waipara River, is sensitive to nutrient enrichment.

PC 5 - OVERALL APPROACH

26. I believe PC5 offers more appropriate methods by which to implement the objectives of the CLWRP in relation to the effects of farming activities on water quality than the current provisions in the CLWRP in the following ways:

(i) Replacing the requirement for every farming activity to undertake an Overseer™ assessment every year to establish a N loss calculation with a permitted activity land use rule improves certainty and reduces compliance costs for many farmers. However, I believe Rules 5.43A, 5.409A, 5.53A and 5.57A would better a more appropriate method with some amendments to the conditions, as discussed in my evidence.

(ii) Using the resource consent process to assess and manage the effects of N losses from farming activities which are not permitted activities is more appropriate than the current rules. Use of the resource consent process and Farm Environment Plans shifts the focus from achieving numbers in Overseer™ to achieving actions on the ground; it is the latter which will affect water quality. The consent process also provides an opportunity for the applicant and consent authority to assess proposed changes in land use and associated changes in nutrient losses more closely than in a regime where an activity is either permitted or prohibited.

(iii) In principle, I support the greater focus on GMPs in PC5. This change addresses an issue in the CLWRP whereby farming activities with higher N losses as a result of poor on-farm practices are advantaged when calculating N baselines. However I am concerned about the appropriateness of some of the 'industry agreed' GMPs. This issue can be addressed, as I discuss in my evidence.

PERMITTED ACTIVITIES

Farm Portal

27. Environment Canterbury has established an on-line Farm Portal system. It appears to have two functions:

(i) Every farm over 10ha must be registered in the Farm Portal and questions about use of irrigation water, winter grazing, and having a farm plan answered, to ascertain if the farm is likely to be a permitted activity.

(ii) To provide an N Loss estimate for the farming activity adjusted for GMP. This is done one of two ways: for permitted activities, famers answer some questions about the farm location and land use activity; for other farming activities farmers upload their Overseer™ files.

28. I do not agree that it is necessary or appropriate that registration in the Farm Portal should be a condition for a permitted activity in condition 1 of Rules 5.43A, 5.409A, 5.53A and 5.57A. These rules establish the conditions under which a farming activity is unlikely to have nutrient losses that warrant management through a resource consent and Farm Environment Plan. If an activity meets these conditions the environmental effects are the same irrespective of whether the farm is registered in the Farm Portal.

29. The purpose of a regional plan is to assist a council to carry out its functions to achieve the purpose of the Act (s63) and under s32 the council has to be satisfied the provisions are the most appropriate to implement the plan's objectives. Under s84 of the RMA a council is required to observe and enforce the observance of the plan. In my view the council should consider whether any rules in the CLWRP (including any conditions) are necessary to manage the effects of activities on water quality; and whether they are conditions it will enforce.

30. I am aware people are having technical difficulties with the Farm Portal. In my case the Portal freezes once I enter our livestock numbers and will not progress to the next step. I am not sure if that means I am registered.

31. I do not agree the Farm Portal operates in a way which is appropriate for regulatory authority gathering information on compliance with rules that have the force of regulations in statute. People answer a series of questions about their farming operation, which essentially gives the regulator the data to enable them to check compliance with the plan rules. However people entering the Portal are not advised of this situation nor told what the rules are for permitted activities before they answer the questions.

32. For farming activities that are not permitted activities, whether your activity is restricted discretionary or prohibited depends on whether your N loss calculation for the exceeds your N Baseline, and from 01 July 2020 your Baseline GMP Loss Rate. There is no issue with the first requirement; any person with the appropriate expertise can calculate their N Baseline and N Loss Calculation. However the Baseline GMP Loss Rate is generated within the Farm Portal. To the best of my knowledge, there is not the ability of an individual to establish their Baseline GMP Loss Rate without using the Portal.

33. There does not seem to be any way that an individual upon reading the plan can know if their farming activity will be restricted discretionary or prohibited after 01 July 2020, or what their Baseline GMP Loss Rate will be until they have submitted their data into the Portal. I believe this creates issues around certainty for people in knowing the status of their activity; and for the council in being able to assess in this process whether the activity status is appropriate. These issues can be addressed though the following steps:

(i) Not requiring registration in the Portal as a condition of a permitted activity;

(ii) Informing parties who do register in the Portal the rules for permitted activities before they answer any questions.

(iii) Establishing appropriate protocols for how personal farm information will be kept, who will have access to it, and whether it can be used by the Council or any other party as evidence of non-compliance with the plan.

(iv) Providing a down-loadable copy of the GMP proxies to enable people to be able to calculate a Baseline GMP Loss Rate for their farm before submitting their data into the Portal.

(v) Amending the way the planning regime uses the Baseline GMP Loss Rate numbers as discussed in paragraphs 83 to 85 of my evidence.

Catchment Accounting

34. I understand one of the reasons for requesting permitted activities to register in the Portal is to assist with catchment accounting as required under the NPSF Objective CC1 and Policy CC1(a). I do not believe that registration in the Portal is necessary or particularly effective for that purpose.

35. In his evidence Mr Hodgen (para 9.2 pp 7-8) describes his GMP number from the Farm Portal relative to his Overseer^{TM} baseline. I have not been able to generate a GMP number for the Dry Weka but from the questions asked in the Portal I suggest the GMP number given can only be a very rough estimate. For example: the questions on livestock do not distinguish between classes of stock. As described in paragraph 16 we run a combination of breeding ewes and hoggets. A ewe with lamb at foot is 1 stock unit (su); a hogget is 0.6su. If I count our ewes and hoggets as one sheep each (as the Portal asks) then we have 3800 sheep; if I count them by stock unit (as Overseer^{TM} requires) we have 2500. Similarly the Portal asks us for the amount of land we have in cultivation but not the soil types or cultivation methods. The soils we use for fodder crops make a significant difference to our N losses.

36. I do not believe using the Farm Portal to calculate N losses from permitted activities is likely to be more accurate than the information Environment Canterbury obtains from studying land use data and making approximations of likely N losses; which it presumably did when setting catchment load estimates in plan changes 1, 2 and 3 to the CLWRP. I also believe it can be no more accurate and possibly less so than the information already gathered by Statistics New Zealand in the annual agricultural statistics survey. If Environment Canterbury wants to secure land use information to help in catchment accounting, I believe such information gathering should be decoupled from the rules for managing effects of land uses on water quality.

Irrigation Rules

37. Irrigation per se does not necessarily result in significant increases in N losses from farming activities. Depending on the quantum of land irrigated and the reliability of supply, irrigation can enable higher stocking densities than dryland farming; and can support some farming activities that otherwise could not occur on lighter soils in Canterbury due to summer moisture limitations, eg dairying.

38. In her evidence Ms Hyde states (para 5.1, p.4) that in her experience the difference irrigation makes to estimated N loss numbers depends principally on how the irrigation is managed and the land use it supports, rather than the amount of land area irrigated.

39. From a planning perspective, I believe the area of land irrigated is relevant in that it is indicative of one of two types of irrigation in Canterbury;

(i) Irrigation of small areas in support of a dryland farming operation. This form of irrigation may reduce some of the risk in dryland farming by providing more certainty around the growth of pasture or fodder crops on the shoulder seasons (autumn and spring), or supporting diversification into small-scale high value crops such as horticulture or small seeds.

(ii) Irrigated farming, where irrigation is over a sufficient quantum of the farm and is of sufficient reliability that it enables stocking rates or land uses that are not possible on dryland.

40. In her evidence, Ms Hyde (para 5.2 p.4) suggests that irrigation of an area of no more than 10% of the farm is of the first irrigation type described above. Therefore I support the amendment suggested in the submissions of JKW Hoban and Others to Rules5.44A(2), 5.54A(2) and 5.57B(2) to allow irrigation of up to 50ha or 10% of the total land area of the farm, whichever is greater.

41. In Red zones, Rule 5.44A(3) places a further limitation on irrigation. If the farming property currently irrigates less than 50ha of land then there can be no increase of more than 10ha in irrigation as a permitted activity. I am unclear why PC5 assumes that existing irrigation of up to 50ha of a farm will not result in N losses that need to be managed through the resource consent process, but that new irrigation of more than 10ha will. Relying the evidence of Ms Hyde I would have thought newer irrigation systems using more modern methods are likely to leach less than older operations.

42. The prolonged two year drought in North Canterbury has demonstrated the enormous potential cost associated with dryland farming. While up to 50ha of irrigation will not avert the need to manage for dry summers and drought conditions, it could allow farmers to irrigate lucerne crops for hay or balage; finish lambs to greater weights before having to sell; or to have some income diversification into an arable or horticultural crop. It will not, on any farm, enable a conversion to dairy or year-round dairy support. Any potential increase in the opportunity to provide winter dairy support is managed through the conditions limiting winter cattle grazing.

43. Therefore I do not think the additional 10ha restriction in Red zones is implement the CRLWP objectives or give effect to the NPSF. I come to this conclusion not by accepting a trade-off between water quality and socio-economic well-being; but because I believe the potential adverse effects on water quality from N or sediment/P losses associated with this sort of activity are minor and will give effect to the NPSF, including Objectives A1 and A2. I support the requests in submissions by JKW Hoban and Others to allow up to 50ha of irrigation or 10% of the area of the property, whichever is the greater as a permitted activity.

Winter Grazing

44. Rule 5.44A(4) and Rules 5.54A(3) and 5.57B(3) limit the amount of winter grazing that can occur on a farm as a permitted activity to not more than 20ha. Many parties have made submissions on this rule recommending alternative thresholds. Some submitters have also suggested amendments to the definition of winter grazing. Winter grazing is defined in PC5 (p3-3) as:

"means the grazing of cattle within the period of 2 May to 30 September, where the cattle are contained for break-feeding of in-situ forage crops or supplementary feed that has been brought onto the property."

45. My understanding is that urine patches from cattle grazing at intensive stocking rates on lighter, free-draining soils in the winter can be a cause of higher N losses in farming activities. Unfortunately the definition of winter grazing in PC5 captures most forms of cattle grazing including extensive grazing as part of a sheep & beef operations where N loses are relatively low. This occurs because the definition does not refer to any stocking density; and because it refers to feeding any fodder crop or supplement.

46. I agree with the evidence of Mr Shand (paras 7-8, p2) that it is a normal part of any livestock farming in Canterbury to feed livestock supplementary feed (including hay and balage) in winter. It is also quite common to break-fence paddocks, even when they are not heavily stocked, to prevent cattle from trampling and spoiling feed or to keep them out of waterways.

47. The amendments to the definition suggested in the s42A Report recommends removing the feeding of supplements from the definition. This amendment partially addresses the issue but it does not deal with the issue where extensively grazed cattle may be contained behind a break-fence in a paddock of rape and grass to save the crop (or in North Canterbury's case ration the crop through winter drought), or to exclude them from access to waterways.

48. This issue can be addressed by amending the definition of winter grazing along the lines suggested in the submission of JG & LM Murchison and others; basically introducing the concept a minimum stocking rate for cattle grazing of 15su/ha which is 3 beef cattle or 2.5 dairy cows. In my mind this stocking rate would exclude extensively grazed where a break fence is used to contain them for whatever reason, but is sufficiently low that it will apply to any true break-feeding of cattle on forage crop in a winter situation.

49. The second issue is whether, with an amended definition of winter grazing, the 20ha threshold is appropriate. The likely N losses from intensive grazing of cattle in winter depend on what proportion of the farming operation is used for this activity. For example, on a 20ha property, if all 20ha is used for intensive winter grazing of cattle total N losses will be relatively high, whereas on an extensive property of several hundred hectares, substantially more land area could be put into intensive winter cattle grazing while overall N losses will be much lower.

50. JKW Hoban and Others have suggested using the greater of 30ha or 10% of the farm. The submission from JG & LM Murchison suggests managing the number of cattle grazed at more than 15su/ha (2.5 dairy cows/ha). This suggestion still runs into the same issue that on a large

property substantially more cows can be grazed at an intensive level and overall N loss remains low compared with a smaller property.

51. Ms Hyde suggests (para, 4.1-4.2 pp3-4) that farms which have no more than 10% of their total land area in intensive cattle grazing retain relatively low N loss estimates. Therefore in my view the amendment sought by JKW Hoban and Others to amend Rule 5.44A(4) and Rules 5.54A(3) and 5.57B(3) to allow the winter grazing of cattle on up to 10% of the total area of the property is appropriate. I do not have any evidence to indicate whether the proposed increase suggested in this submission from 20ha to the greater 30ha or 10% of the property makes any material difference to N losses.

Farm Management Plans

52. Rule 5.44A(5), 5.54A(4) and 5.57B require every farmer to prepare a Farm Management Plan that meets the requirements of Schedule 7A, to keep it, and provide it to Environment Canterbury on request. Under the current CLWRP, other than in the Lake Sensitive Zones, only those farmers with N loss estimates of more than 20kg/ha/yr are required to prepare a farm plan, being an audited Farm Environment Plan under Schedule 7.

53. I do not agree the requirement to prepare and keep a farm management plan as a condition of a permitted activity is the most appropriate method under PC5. Schedule 7A requires the recording of on-farm actions but it does not require them to be undertaken and there is no mechanism to ensure the actions identified are appropriate.

54. As discussed in paragraph 29 of my evidence a provision in a plan should be for the purpose of assisting the Council to carry out its functions to achieve the purpose of the Act (s63). It should be the most appropriate method to do that (s32) and the Council is required to enforce those rules (s84). I question whether enforcing this condition on every landholder with more than 10ha of land is an efficient and effective use of the Council's time and resources.

55. I agree with the evidence of Mr Hoban (para 3.8 p.4 and 3.11 & 3.15, p.5) that farmers are more likely to engage in industry-led farm planning initiatives that provide a benefit to all aspects of their farming operation including environmental factors. From the industry–led farm environment programmes I am familiar with, I believe industry-led programmes will deliver a better result than the Farm Management Plan in Schedule 7A.

56. As an aside, I believe the content requirements listed in Schedule 7A includes information that does not appear to relate to the Council's function of controlling effects of land uses on water quality; eg the requirement to identify areas of significant indigenous vegetation on the farm and neighboring properties that are identified in the District Plan (2(f)), p.6-9)

Good Management Practices

57. In my opinion a more appropriate method than either the Farm Portal or Farm Management Plan conditions for permitted activities would to promote good management practices to minimize potential losses of N or sediment/P to water. This method would implement CLWRP Objective 3.24 (p4-4): *"All activities operate at good environmental practice or better to optimize efficient resource use and protect the region's freshwater resources from quality and quantity degradation.*

58. I believe it is appropriate to rely on industry-led initiatives for permitted activities rather than making GMP a condition of a rule. As the evidence of Mr Hoban states (para, 3.13-3.14, p.6) many farmers already adopt industry led good management programmes. I also agree with Mr Ensor (para 7.2 p.6.) that these practices are most effective when they are farm-specific. The adoption of programmes for environmental or animal health management is increasingly a requirement for supply contracts across all farming sectors and each sector has a range of programmes they promote.

59. If the Hearings Panel does not agree with this view, another option is to replace Rule 5.44A(5), 5.54A(4) and 5.57B with a requirement for permitted activities to operate at GMP. The submission of JG & LM Murchison suggests this amendment.

60. I have some concern with some of the 'Industry Agreed GMPs' at least as they apply to sheep and beef farming. I share the view expressed by Mr Ensor (para 7.1 p.5) that some of these GMPs appear overly simplistic. However the relief sought in the submission provides for either the Industry Agreed GMPs or an industry recognized farm management programme.

Other Rules for Permitted Activities

61. Getting the conditions by which farming activities are permitted exact is not quite so important if the plan has another means by which farming activities which do not meet those conditions but have low N losses are able to enjoy some flexibility to increase their N losses to a certain level.

62. Plan Change 5 appears to assume that any farming activity which does not meet the conditions for a permitted activity will have a large N loss footprint. However, in North Canterbury there are vintners, horticultural operations, and extensive dryland sheep and beef properties which irrigate more than 50ha of water but which have low N baselines. Under rules 5.44B to 5.48A, 5.54B to 5.64AB, and 5.57C to 5.59A any activity which cannot meet the rule for a permitted activity is a restricted discretionary activity provided there is no increase in N loss above the N Baseline or the Baseline GMP Loss Rate from 01 July 2020.

63. In its decisions on the CLWRP and Plan Changes 1, 2 and 3, the Council has recognized the need to allow flexibility in N losses for farms with very low N loss estimates. Such flexibility is necessary to accommodate variations in rainfall, temperature, plant growth and production, as well as the need to have flexibility to change farm systems and land uses to respond to changes in market conditions, weather, disease, or personal choice. Famers who have very low N losses from their current land uses are severely restricted in their land use options if they cannot have any increase in their N losses. Consequently the Council created flexibility caps – levels up to which any increase in N losses is a permitted activity.

64. In my view retaining this sort of flexibility in the CLWRP is essential to avoid rendering some farm land incapable of reasonable use. It is also essential to achieve the purpose of the RMA, give effect to the CRPS (including Objective 7.2.1) and to implement the objectives of the CLWRP, especially Objectives 3.5 and 3.11).

65. Several submissions including those from FFNZ Inc (67199), JG & LM Murchison and JKW Hoban request new rules in PC5 and PC5B for activities which do not comply with the conditions for permitted activities to also be permitted if their N losses estimated in Overseer™ do not exceed a specified level. The submission by JG & LM Murchison and JKW Hoban and Others have suggested limits of 15kg/ha/yr in Red and Orange zones and 20kg/ha/yr in Blue and Green zones. (Sensitive Lake Zones are discussed later).

66. The proposed 15kg/ha/yr is larger than the current flexicap for Red Zones in the CLWRP. Since that plan was developed there has been modeling work done on the contribution which these flexicaps make to overall catchment N loads; including for the Red zones in Selwyn Waihora and Hinds. In both plan changes the 15kg/ha/yr flexicap was found to contribute only a very small proportion of total catchment N load.

67. Peter Brown (Aqualinc) has also undertaken a preliminary assessment of the contribution a flexicap that allows dryland farmers to intensify their land uses would make to the total N catchment load in the Hurunui. Mr Browne found that a 30% increase in farm use intensification in the Hurunui would make less contribution to N load than the savings made by requiring all existing irrigation activities to operate at 80% technical efficiency, His assessment is contained in Attachment One.

68. Relying on the N loss analysis done by Ms Hyde (Attachment One) shows that farming activities which meet the condition for permitted activities on PC5 are likely to have N losses of up to around 15kg/ha/yr depending on soil type and rainfall. Relying on this evidence in combination with the results of modeling work done for flexicaps referred to above, I think a flexicap of 15kg/ha/yr in Red Zones for activities which are not permitted but have low N losses would be comparable with the effects of permitted activities. If the Hearings Panel does not agree, I suggest even restoring the current CLWRP flexicap of 10ha/ha/yr may provide some relief for vintners and horticulturalist who are irrigating more than 50ha and have very low N losses.

69. People operating under this rule would have the cost to undertake an initial N loss estimate in Overseer™ but that cost is substantially less than the cost of the current provisions in PC5 which require those farmers to also prepare and have audited a farm environment plan; obtain resource consent for a restricted discretionary activity; and have no increase in their N Baseline.

Changing Versions of Overseer

70. I understand one of the reasons for introducing the land use rules in PC5 was to remove from the rules references to N loss numbers estimated using Overseer™, due to the frequency with which versions of Overseer™ and therefore the relative applicability of those numbers change. This issue is addressed if the flexicap numbers in the plan are tied to a specific version of Overseer™. The Council could download and make available that version of Overseer™ for that purpose. Given that the N loss numbers being considered are low, I do not believe using a

specified (and eventually outdated) version of Overseer^{TM} for that purpose is likely to result in any material effects on water quality.

71. An alternative suggested in the submission by JG and LM Murchison is to introduce a second land use rule whereby the applicant demonstrates the N losses from the farming activity are no greater than what could occur from a permitted activity on the farm. The submission suggests this could be written as a rule for a permitted activity or, if that is not appropriate, a controlled activity. The proposed rule requires some assessment by the applicant and consent authority around identifying appropriate permitted activity land uses for comparison. For that reason, the Hearings Panel may not agree such a rule meets the test for certainty as a permitted activity.

PROVISIONS FOR OTHER ACTIVITIES

Definition and Application of N Baseline

72. Any farming activity which does not comply with the conditions for a permitted activity is a restricted discretionary activity under Rules 5.44B to 5.48A, 5.54B to 5.64AB, and 5.57C to 5.59A. The conditions of these rules include there being no increase in N losses from the N Baseline and from 01 July 2020 no increase from the Baseline GMP Loss Rate. PC5 includes definitions for both N Baseline and Baseline GMP Loss Rate.

73. The difficulty with the definition of N Baseline is that it requires farmers to calculate their N losses in Overseer^{TM} over a 48 month period from 2009-2013. The average of those losses then becomes the maximum N loss (N Baseline) which cannot be exceeded in any year's N Loss Calculation. In any farming system there will be years when growing conditions are more favorable than others even in fully irrigated systems. The ability to maximise production during favourable growing years is important to balance the years when less favourable growing conditions prevail. I am not referring here to conversions; rather the reality that in a good year crops will yield more, lambing percentages and wool weights will be higher, milk yields greater. Using the average of N losses from four years to create a maximum N Baseline disregards this natural fluctuation.

74. In addition, there is no provision in the N Baseline definition to accommodate people who have changed land uses, gained resource consent for additional irrigation or undertaken development during the baseline period and not yet given full effect to these changes, except for dairy farm conversions.

75. The submission from JG & LM Murchison requests an amendment to the definition of N Baseline and to the rules to makes two key changes. Firstly, N Baseline is calculated using land use data which is representative of the farming activities on the farm; rather than the average N loss estimate from the last four years. Alternatively the N Baseline can be calculated using a land use which is authorized by any resource consent for the property which has not lapsed, not just consents for a dairy conversion. This means that if the farm has been in a development phase, there has been a land use change or production has been affected by drought or other circumstances, the farmer is not penalized by having a N Baseline which is less than their usual N loss or what is a reasonable use of the land.

76. Secondly the rules require an N Loss Calculation when there is a change in land use, not annually. The submission includes a definition of change in land use, which is tied to increases in irrigation or number of weaned cattle grazed on the property, or a change in dairy system. These are the primary factors which I understand may drive increases in N losses.

77. Defining N Baseline in the way suggested in the Murchison submission is possible under PC5 because N Baseline only applies to activities managed through the resource consent process, whereas under the CLWRP N Baseline applies to all farming activities, including permitted and prohibited activities. Therefore the definition must be clear calculated without discretion. The resource consent process provides an opportunity for an applicant to make a case to the consent authority about what is a reasonable N Baseline for that farming activity, with supporting documentation.

78. The amendments to the rules for when a N Loss Calculation is required requested in the Murchison submission address the issue of fluctuations in N Loss Calculations which are not the result of a change in land use as discussed in paragraph 75. The matters identified in the proposed definition of what constitutes a change in land use are those things which are well recognized as having the potential to make a significant difference to N losses. Policy 7.3.7 of the CRPS requires effects on water quality resulting from changes in land uses be addressed.

GMPs & Baseline GMP Loss Rate

79. The Baseline GMP Loss Rate in PC5 is obtained by registering the farming activity in the Farm Portal and uploading the relevant Overseer^{TM} files. The Portal then calculates a Baseline GMP Loss Rate for that farming activity. Other witnesses have provided evidence on the accuracy or appropriateness of the Baseline GMP Loss Rates that are being calculated in the Farm Portal to

date, and in some of the assumptions in the proxies that are used to generate the GMP Loss Rate numbers. From a planning perspective I have several concerns with this approach.

80. As discussed in paragraph 32, I have some concerns with the certainty of a process whereby people have to submit their data to a regulatory authority without knowing the standard (Baseline GMP Loss Rate) they have to comply with or how that standard is calculated.. To the best of my knowledge there is currently know ready way in which a person can calculate their Baseline GMP Loss Rate outside the Portal.

81. The definition of Nitrogen Loss Calculation in PC5 states that the most recent version of Overseer^{TM} shall be used. As there often appears to be no correlation between changes in N loss numbers in different versions of Overseer^{TM}, it is possible that a person may comply as a restricted discretionary activity one year only to find in a newer version of Overseer^{TM} they do not.

82. In my view the most up to date version of Overseer^{TM} should be used if the N Loss Calculation is used as an assessment tool to compare relative changes in N loss with a proposed change in land use. However if the N loss estimate is to be used as a means to determine compliance with a N loss number in a rule or a condition on a resource consent the N loss number in the rule or condition must be tied to a version of Overseer^{TM} to provide certainty for all parties.

Alternative Approach

83. In my view, the key component of PC5 is to get all farming activities adopting GMPs on farm by 01 July 2020. The Baseline GMP Loss Rate is simply a numeric representation of that. Given the activity is a restricted discretionary activity, there is scope for each applicant to show how they are adopting GMPs through their Farm Environment Plan. Even in the sub-regional sections where a percentage reduction in N loss above GMP is required for some activities, this can be achieved by providing estimates of N loss reductions in the resource consent application that are anticipated from adopting the management practices set out in the Farm Environment Plan. All the Farm Portal is doing is taking that information and trying to model it.

84. Where the Portal can give an accurate Baseline GMP Loss Rate it can be used as an assessment tool for potential changes in N loss, if that adds value. This approach would also

allow the Portal to be adjusted to improve its accuracy and application, without requiring a plan change. The Portal becomes a tool to aid the regulatory system; not the regulatory system.

85. I do not believe activities which cannot have an accurate Baseline GMP Loss Rate calculated in the Portal should have a harder resource consent pathway or more non-compliant status than activities which do. It is not the fault of the applicant that the regulator is using a tool which is not suited to their activity. Nor, in my view, should the onus be on the applicant to demonstrate why the Portal should not be used for their farming activity. In my view the planning authority has a duty under s32 of the RMA to be satisfied that the method chosen is the most appropriate.

Prohibited Activity Status

86. In Red, and Lake Sensitive zones farming activities whose N Loss Calculation exceeds their N Baseline or from 01 July 2020 their Baseline GMP Loss Rate are prohibited activities (Rules 5.48A and 5.51A) . In Orange, Green and Light Blue zones they are non-complying activities.

87. I agree that any increase in N Baselines resulting from conversion of land uses from low to high N losses to water in Sensitive Lake zones and Red zones. However I have concerns if the prohibited activity status for these activities in PC5 does not allow for:

(i) Natural fluctuations in N loss that can occur each year without any change in land use.

(ii) The short timeframe over which N Baseline is calculated and the N Baseline definition which makes no allowance for people who have changed land uses, developed land or otherwise increased their N losses partway through the baseline period, other than dairy conversions.

(iii) Issues with the appropriateness of Baseline GMP Loss Rates calculated in the Portal.

(iv) If a land use has very low N losses and has no land use options available to make reasonable use of the land.

88. I would suggest a non-complying activity status is more appropriate in these circumstances. I understand if the Council is hesitant to revert to non-complying status given the difficulties it experienced trying to maintain the groundwater allocation limits set in the Natural Resources Regional Plan (NRRP) in the past. In my view this situation was brought about not by the status of non-complying activity, but by the policy construct in the NRRP which explicitly referred to the allocation limits as ‘interim’ limits and suggested that if people could demonstrate groundwater was available above the limits it could be abstracted. To my mind this is not an appropriate

policy position for a non-complying activity; it is more appropriately implemented by a discretionary activity rule. At that time there was no higher order planning documents with direction around managing to allocation limits.

89. If the Hearings Panel does not agree with this view, I am more comfortable with prohibited activity status in Rules 5.48A and 5.51A if the definitions and rules for farming activities as permitted and restricted discretionary activities are amended along the lines suggested in my evidence as these amendments address the issues raised in paragraph 87.

Farm Environment Plans – Schedule 7

90. Farming activities which are restricted discretionary activities are required to have a Farm Environment Plan prepared in accordance with Schedule 7 by 01 January 2017. These Farm Environment Plans are audited. This rule is similar to that for restricted discretionary activities in the CLWP, except PC5 amends Schedule 7. I have the following concerns with these proposed amendments.

91. The introduction material for PC5 (p1-2) includes a list of sections of the CLWRP amended by PC5 under the heading *Information for the Reader*. A new Schedule 7A and 28 are listed for Part A but no mention is made about amendments to Schedule 7. The amendments to Part B state that new provisions are inserted into Schedule 7 *'(that are specific to the Upper and Lower Waitaki Sub-region)'.*

92. Any person reading the introduction to PC5 may not have realized amendments were proposed to Schedule 7 Part A. Shortly after notification of PC5 I was asked by a colleague if additional material could be included in Farm Environment Plans. My response was to suggest he look at scope because based on the introduction it did not appear that Schedule 7 was part of PC5 except in the Waitaki Catchment.

93. I agree there is no statutory requirement for a council to provide a list of amendments to a plan change. The onus is on the individual to read the plan change. But where a council chooses to provide such a list, I believe there is a duty of care to ensure the list is complete.

94. I question the value of the proposed amendments to Schedule 7 Part A of PC5. Several parties including Beef and Lamb NZ, Foundation for Arable Research; Dairy NZ and some irrigation

companies have prepared Farm Environment Plan templates that have been approved by Environment Canterbury as meeting the requirements of Schedule 7 of the CLWRP. As Mr Hoban outlines in his evidence (para 3.1, p.3) Beef and Lamb NZ's Land Environment Plan have had good uptake from farmers.

95. The requirements to have a Farm Environment Plan in the CLWRP do not have effect until 01 January 2017 so there can be no evidence yet to show Schedule 7 is not effective. There is a cost associated with changing Schedule 7; time and money spent preparing Farm Environment Plans that may no longer meet the statutory requirements. And a risk that if the Council keeps changing the rules, people will disengage. Therefore in my view changes to Schedule 7 are only really justified if they add real value to the current CLWRP provisions or deal with significant omissions.

96. On face value the changes proposed to Schedule 7 do not appear to improve it. Some of the amendments seem less clear in terms of meaning or purpose than the provisions in the CLWRP. I do not agree with the Section 42A Report that the inclusion of management area objectives and targets add value. The purpose of the Farm Environment Plan is to identify farming activities that may adversely affect water quality and to introduce appropriate mitigation measures. Schedule 7 Section 5 in the CLWRP does that. The additional nitrogen loss reporting requirements in Section 4B of Schedule 7 are not necessary, as the conditions on the rules for restricted discretionary activities will require this information to be submitted with the resource consent.

97. There is information required in the amended Schedule 7 which does not appear to relate to managing effects of farming activities on water quality and some information that does not appear to relate to the Council's functions under the RMA. For example: The Nutrient Management Objective (p6-5) '*To maximize nutrient use efficiency when minimizing nutrient loses to water.'* Efficiency is an adjective and needs to be measured against an outcome: supply-cost efficiency; energy efficiency; production efficiency etc. I am unsure which measure the Council means by 'maximizing efficient use of nutrients,' but it does not appear to be a function of the Council under the RMA. The Council's function is to manage land uses which affect water quality not how efficiently as a farmer I convert my nitrogen inputs into commodity products.

98. Target 1 for water-use management (excluding irrigation water) is *'Actual water use is efficient for the end use.'* However the rules in the plan which require the development of a Farm Environment Plan relate to managing effects of land uses on water quality. Similarly the location of flood protection or erosion control assets (2(h)), and public access routes or access routes used to rivers, streams and drains is not information relating to effects of N, sediment/P discharges on water quality; and are not matters that are the regional council's function under the RMA.

Sediment/Phosphorous Risk Zones

99. Plan Change 5 has included High Run-Off Risk Phosphorous Zones on the planning maps. These zones do not trigger any additional resource consent requirements but the information needs to be included in Farm Environment Plans under Schedule 7 and Farm Management Plans under Schedule 7A. The Farm Environment Plan must identify mitigation measures though there does not appear to be any farm actions required in Farm Management Plans.

100. The High Run-Off Phosphorous Risk Zones appear to have been identified using S map data. Consequently the accuracy of some of the zone boundaries needs to be 'ground-truthed. Mr Hodgen (para 8.1, p.7) has given evidence about how the High Run-Off Phosphorous Risk Zone on his farm appears to have included lower slopes and flats and excluded steeper slopes. I understand from Environment Canterbury staff that there is a similar issue with the accuracy of the mapping to identify the Sediment/Phosphorus Risk Areas in the Selwyn catchment under Plan Change 1.

101. Plan change 5 does not require any additional action in relation to permitted activities in these zones. Therefore it would seem that a more appropriate method would be to require the Farm Environment Plan to identify any likely sources of sediment/phosphorus run off risk on farm, and appropriate mitigation measures.

102. In relation to farms which are permitted activities under PC5, there are rules in the CLWRP to control earthworks and cultivation in proximity to waterways and earthworks on slopes above 15^{o}. In addition the Industry Agreed GMPs and industry-led GMP programmes include measures to minimise sediment loss to waterways and soil erosion. There is no advantage to any farmer to lose their soil.

103. More specific soil erosion or sediment loss issues that require catchment-specific solutions are most appropriately addressed through the sub-regional planning process, as was done in PC 6 for Wairewa.

Green and Light Blue Zones

104. My understanding is the Green Zones for water quality in the CLWRP are zones where water quality outcomes are being met. The Light Blue water quality zones in CLWRP are those zones where there is no water quality data available but are mostly coastal areas with short streams flowing directly to the sea. I understand there are no immediate plans for the Council to develop sub-regional plans for these zones.

105. Under proposed Rule 5.58A farming activities cannot increase N losses by more than a total of 5kg/ha/yr from their N baseline as a restricted discretionary activity. Any further increase is a non-complying activity under Rule 5.59A. However Policy 4.38AA also limits any increase in N losses to no more than 5kg/ha/yr. It would not be possible under s104(D) of the RMA for the consent authority to grant a resource consent for a non-complying activity to increase N loses by more than 5kg/ha/yr unless satisfied the effects on the environment are minor.

106. This to me is a great example of mixing up policies and methods. The policy position should be to maintain existing water quality. The Council may then be satisfied that a rule allowing no more than a 5kg/ha/y increase in N losses implements that policy. In my view it is not good plan drafting to write a policy preventing an environmental outcome (ie an increase in N loss of more than 5kg/ha/yr) and then use the resource consent process to bypass the policy on the basis that effects on the environment are minor. Rather I suggest the duty is on the council in writing its plan provisions to be satisfied that the policy position achieves the purpose of the Act and discharges other statutory duties.

107. I do not agree it is necessary or appropriate to impose a quantifiable limit on N losses within the policy for Blue and Green zones. Firstly, there is no water quality issue to justify this limit in these zones. Secondly this limit takes no account of the current N losses of the farming activity or the sensitivity of the receiving environment and therefore the potential impacts an increase in N losses will have on water quality. In my view a more appropriate policy would be one that requires the applicant to demonstrate that the proposed activity will not have an adverse effect on water quality in the receiving environment.

Sensitive Lake Zones

108. The CLWRP identifies Sensitive Lake Zones around smaller lakes principally in the high country. My understanding is that these areas are sensitive to nutrient enrichment that may occur with changes in land use. Under the CLWRP farming activities with an estimated N Baseline of less than 10kg/ha/yr are a controlled activity. Other farming activities are a restricted discretionary activity. In both cases a Farm Environment Plan prepared under Schedule 7 is required and there is no allowable increase in N loss from the N Baseline. Plan Change 5 amends the Sensitive Lake Zone rules so any farming activity is a restricted discretionary provided there is no increase in N loss above the N Baseline (Rules 5.50A). Any increase in N loss above the N Baseline or from 01 July 2020 the Baseline GMP Loss Rate is a prohibited activity under Rule 5.52A.

109. JG & LM Murchison and FFNZ Inc have asked for amendments to these provisions. The same issues which make it impossible for low N loss farmers in other zones to comply with a rule not allowing for any increase in their N baseline, no matter how low it is, also apply to farmers in the Sensitive Lake Zones.

110. FFNZ has asked for Sensitive Lake Zones to be treated like Red Zones. JG & LM Murchison suggest a series of land use rules for permitted activities similar to other zones but with tighter conditions around irrigation and winter cattle grazing. The submission also requests rules for controlled and restricted discretionary activities. A further submission by Meridian opposes this submission on the basis that these areas are vulnerable to nutrient enrichment and there should not be any intensification of farming; and while a letter from the Department of Conservation says it supports the Murchison submission for the same reasons; though I note in the further submission it is opposed.

111. For the same reasons as discussed in paragraphs 61 to 69 of my evidence, I believe the relief sought in either of these submissions for Sensitive Lake Zones is more appropriate than the rules in PC5. The land use rules suggested in the Murchison submission are very conservative.

AMENEMENTS TO PC5

112. The policies in PC5 are, in my view, methods-based policies; they describe the methods, in this case, the rules in the plan. They are not effects-based policies; that is polices outlining the effects of an activity that are and are not appropriate to implement the plan objectives. In my

opinion effects-based polices are always more helpful in a plan because they provide guidance to the consent authority in decision-making about whether an activity has the sort for effects that are appropriate. Therefore I usually recommend the use of effects-based policies in a RMA plan and particularly in PC5 as it is proposing a greater use of the resource consent process than the current rules for managing effects of farming activities on water quality in the CLWRP.

113. The submission by JKW Hoban and Others requests changes to the policy framework to reflect a series of values listed in the submission though no amended wording is provided. The Murchison submission includes amended policies that identify the water quality effects sought in each zone; and which match the amended rules suggested in the submission.

114. The S42A report has not discussed most of the amendments sought in these submissions. This is an observation only, there is no statutory duty on the Council to produce a s42A Report and no requirement as to what it can or should cover. At pp183-184 the s42A Report makes some general comments about the alternative plan provisions sought in the Murchison submission. The s42A Report dismisses these amendments as 'generally weakening the plan change' and 'removing some of the Council's key tools' including the requirement for Farm Environment Plans that are audited and registration in the Farm Portal.

115. I disagree with the s42A Report on both fact and the conclusion it draws about the impact of the proposed alternative plan provisions requested in the Murchison submission. I am concerned at the tenor behind the statement 'weakening of the plan' as though having the most stringent regulations possible is an indicator of success in environmental management. I suggest the measure of success is whether the plan provisions achieve the purpose of the Act.

116. I also suggest 'weakening the plan' is not the correct statutory test to be applying when assessing the merits of amendments requested in submissions. I have outlined the matters which I believe are the appropriate assessment matters in paragraphs 12 and 13 of my evidence. They include: whether the policies implement the objectives of the CRLWP (s67(1)(b) of the RMA); whether the methods are the most appropriate as required under s32(1)(b) the RMA; and other relevant statutory duties including the functions of the council (s30), the duty to not render incapable reasonable use of land (s85); and the duties to give effect to higher order planning documents and to achieve the purpose of the RMA. In my view these are the correct matters for assessing the merits of the provisions in a plan; with perhaps a bit analysis as to what constitutes good planning practice.

117. Turning to matters of fact, the Murchison submission does **not** request the removal of the requirement for restricted discretionary activities to have a Farm Environment Plan prepared and audited in accordance with Schedule 7. The submission only questions the merits of some of the changes proposed to the Farm Environment Plan requirements in Schedule 7. I have discussed this point at paragraphs 91 to 98 of my evidence.

118. Condition 1 of the amended rules for restricted discretionary activities in the Red, Orange and Lake Sensitive zones in the Murchison submission is a requirement to have a Farm Environment Plan under Schedule 7. For the Blue and Green zones in the amended rules in the Murchison submission this condition is replaced with a condition requiring the activity to comply with the Industry Agreed GMPs; but the first matter of discretion is whether a Farm Environment Plan is required. I think this distinction is appropriate as the effects of the proposed activity on water quality in a Green or Light Blue zone may not warrant a Farm Environment Plan; eg the vintners irrigating several hundreds of hectares of grapes in the Light Blue zones in North Canterbury but with N losses in single figures.

119. The definition of farming activity in the CLWRP captures a variety of rural land uses, not just pastoral farming and PC5 regulates a variety of these activities, not just dairy and dairy support. PC5 also regulates all water quality zones, not just those with water quality issues.

120. The Murchison submission removes the requirement to register in the Farm Portal as a condition for **permitted activities**. I have discussed the merits of a rule requiring permitted activities to register in the Farm Portal in paragraphs 28 to 31 of my evidence. Given that registration in the Farm Portal does not in any way alter the effects which a permitted activity has on water quality, I do not see how it can in any way weaken the plan position; nor remove a 'key tool for the Council in managing effects of farming activities on water quality.

121. The Murchison submission also suggests replacing this condition with a condition requiring all farming activities, including permitted activities, to operate to GMP. To my mind this is a far more effective tool for managing effects of farming activities on water quality than requiring permitted activities to register in the Farm Portal.

122. The rules in the Murchison submission do not require registration in the Farm Portal as a condition for restricted discretionary activities because it isn't needed. By applying for a resource consent those activities will automatically register with the Council.

123. I do not agree that the amendments suggested in the Murchison submission reduce the efficacy of PC5 in managing effects of farming activities on water quality. Rather I believe they improve it because the policies identify resource management outcomes rather than simply repeating what the rules do without any link as to how that implements the CRLWP objectives.

124. There are substantially fewer policies in the Murchison submission than PC5 as notified, but that is not necessarily an indicator of a reduced or weakened position. There is no repetition of the same policy as it applies to every water quality zone; and the policies which repeat the rules in each zone are replaced with one policy that describes the effects of activities on water quality which are and are not appropriate in each zone. This effects-based policy construct is more in keeping with the policies in the CLWRP.

125. The policy outcomes expressed in the Murchison submission clearly state that there is to be no further deterioration in water quality in Sensitive Lake zones, Red and Orange zones as a result of changes in land use, and that improvements in water quality will be made through GMP. The Council has already taken a policy position that improvements in water quality from requiring changes other than GMP from existing land uses will be implemented through the sub-regional planning process. However the new Policy 8 suggested in the Murchison submission explicitly states that is how those effects will be addressed. The policies in PC5 as notified are silent on this matter. Therefore I believe the policy requested in the Murchison submission better implements the CLWRP objectives and strategic policies.

126. The requested new policies 1 and 3 in the Murchison submission provide recognition of and direction towards the on-going partnership between farmers, mana whenua and the council that will be needed to address significant water quality issues long-term. I cannot agree that such policies weaken PC5 and remove key tools for the Council. I understand that the Council, through the CWMS, is committed to collaborative planning processes. My understanding is that PC5 is intended to guide the sub-regional planning processes as seen in PC5B for the Waitaki. These plans are developed through a community collaborative planning process via the CWMS Zone Committees.

127. The new Policy 4 in the Murchison submission rewrites Policy 4.11 as the effect which needs to be managed is the effect of granting resource consents with long term durations on the efficacy of setting catchment limits and other measures in regional plans to manage freshwater. Policy 4.11 as written does not address this issue. It is not the timeframe a consent is issued before the plan is reviewed that creates the issue; it is the duration for which the consent is issued. Resource consents of 35 years duration which are issued 10 years before a plan review may have a greater impact on the efficacy of any plan review, than resource consents of 10 years duration issued two years before a plan review. The amended policy also recognizes that not all long duration resource consents are an issue; rather those for activities which have high potential impacts and may unduly compromise the ability to address freshwater issues in the plan process.

128. The amended policies for Green and Light Blue Zones are to ensure changes in land uses do not adversely affect existing water quality. Again this is an appropriate policy to implement the objectives of the CLWRP as these zones do not have water quality outcomes that are not being met. I would suggest this policy is more focused on avoiding water quality issues in these zones than the current Policy 4.38AA in PC5 which allows an increase in 5kgN/ha/yr. whether it has an effect on water quality or not.

129. The key change to the rules suggested in the Murchison and Hoban submissions are to recognize and provide for farming activities which do not meet the conditions for permitted activities but have low N losses to have the same flexibility in land use and N loss management as permitted activities. As outlined in paragraphs 61 to 69 of my evidence, this outcome has been recognized by the Council as essential to achieving the purpose of the Act in its decisions on the CLWRP and Plan Changes 1,2 and 3 to that plan. All the evidence gathered to date indicates that allowing this flexibility has very little if any impact on overall water quality but is vital to enable people to make reasonable use of their land. This matter is not discussed in the S42A Report. The new Policy 2 requested in the Murchison submission articulates this position and in my view implements the objectives of the CLWRP, including objectives 3.5 an 3.11.

130. I believe there are some policies in PC5 as notified which should be retained or which drive rules that should be retained. In Attachment Two I have shown the changes I suggest to PC5 as a result of my assessment of PC5 as notified and the Murchison and Hoban submissions. The scope for these amendments is derived from the content of PC5 as notified and the relief requested in the Murchison or Hoban submissions.

IN CONCLUSION:

131. Mr Hodgen made a suggestion to me in reply to the comments in the s42A Report that these submissions are weakening the plan change (pp183-184). It is a great summary of a 'farmers' perspective so I thought I would quote his suggested response to me:

"*'You could argue though that we are improving the outcomes as the way the plan is currently written we can't afford to comply so our choices are farm illegally or go broke. I know which one I will choose*."

132. I agree with Mr Hodgen that the amendments sought in these submissions are about getting the provisions in PC5 closer to a point where they will work on-farm and achieve the desire environmental outcomes. As noted in paragraph 26 PC5 has good 'bones.' However the assumption that any farming activity that does not comply with the permitted activity conditions will have a substantial N Baseline, coupled with the heavy technical reliance on Baseline GMP Loss Rates calculated through the Farm Portal have the potential to create perverse outcomes.

133. In addition, the focus on method-based policies means PC5 does not have a clear path from the objectives in the CLWP to the rules, or a good effects-based policy framework to guide decisions on resource consents, including consents for non-complying activities in Orange, Light Blue and Green zones.

134. I believe the amendments requested in the Murchison and Hoban submissions, subject to any changes suggested in my evidence, better implement the objectives of the CLWRP and discharge the councils duties under s30, 32 and 85 of the RMA.

Lynda Weastell Murchison

26th July 2016

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Memorandum

To:	Ben Ensor	**Of:**	Hurunui, Waiau and Jed Nutrient Working Group
From:	Peter Brown	**Date:**	10 March2015
Subject:	**Hurunui River nutrient modelling: impact of dryland intensification**		

1 Overview

I have modelled what the effect of dryland farming being made a "permitted activity" would have on the nitrogen load at SH1, and whether or not the reductions being proposed by irrigators would off-set these increases. I have modelled out to 2020. Changes beyond 2020 can be considered as part of the 2018 sub-regional process.

Results indicate that the headroom being offered by irrigators would offset the intensification of dryland farming systems. The proviso is that there is no large scale shift from sheep and beef to dairy support.

The reason that a seemingly small (5%) reduction by irrigators can off-set a larger percentage increase by dryland farmers, is because irrigators contribute most of the nitrogen load to the river. Therefore even a modest reduction from these irrigated areas would create significant headroom for dryland farmers, who contribute only 15-30% of the total instream nitrogen load in the river at SH1.

A 5% reduction by irrigators should be achievable if all irrigators can achieve 80% efficiency. This conclusion is supported by measured nutrient loads from the Amuri Basin, an area dominated by irrigation.

The nitrogen headroom being offered by irrigators should offset the intensification of dryland farming systems, so there would be no net increase in nitrogen load in the Hurunui River at SH1

2 Modelling approach

The approach I used was to analysis the 800 (odd) water quality measurements Environment Canterbury took in the Hurunui River mainstem and tributaries between 2005 and 2013. From these measurements I was able to estimate how much nitrogen was coming from different parts of the catchment. I then split each catchment into four broad land use classes to determine how much nitrogen (on average) came from each of these classes. The land use classes were:

- Dryland (slope<15°) [Tractor country]
- Dryland hill-country (slope>15°) [Strongly rolling to steep]
- Irrigated
- Forest/non-agri. & scrub

Further details of the method are available from my NTP hearing evidence[1].

3 Assumptions

I modelled three scenarios: very high development, high development, and moderate development. These scenarios were developed by the small working group that met on 19 February. The moderate development scenario was considered by the group to be the most likely outcome. The 30% increase in dryland nitrogen load shown in the tables below was based on the work by Rebecca Hyde and James Hoban from December 2014. This 30% increase allows for existing systems to intensify, but assumes that the proportion of dryland land use remains broadly the same (i.e. predominately sheep and beef). I have not considered the impact of large scale shifts in land use from sheep and beef to dairy support, or large scale clearing of forests. I have also not considered any new irrigation as a result of HWP or NTP. My analysis was solely focused on whether the nitrogen headroom being offered by irrigators is sufficient to allow for dryland intensification.

Table 1: Very high development scenario

Land use class	2020 change in N loss relative to 2008
Dryland (slope<15°) [Tractor country]	70% of area increase by 30%
Dryland hill-country (slope>15°) [Strongly rolling to steep]	50% of area increase by 30%
Irrigated	All irrigators collectively decrease by 5%
Forest/non-agri. & scrub (excl. Balmoral Forest)	5% increase (e.g. some clearing of scrub/matagouri)
Balmoral Forest	No change modelled (i.e. assumed fully forested)

Table 2: High development scenario

Land use class	2020 change in N loss relative to 2008
Dryland (slope<15°) [Tractor country]	50% of area increase by 30%
Dryland hill-country (slope>15°) [Strongly rolling to steep]	50% of area increase by 30%
Irrigated	All irrigators collectively decrease by 5%
Forest/non-agri. & scrub (excl. Balmoral Forest)	2% increase
Balmoral Forest	No change modelled (i.e. assumed fully forested)

[1] http://ecan.govt.nz/publications/Consent%20Notifications/ntfe-sub-ev-amuri-irrigation-brown.pdf

Table 3: Moderate development scenario (i.e. most likely outcome)

Land use class	2020 change in N loss relative to 2008
Dryland (slope<15°) [Tractor country]	25% of area increase by 30%
Dryland hill-country (slope>15°) [Strongly rolling to steep]	10% of area increase by 30%
Irrigated	All irrigators collectively decrease by 5%
Forest/non-agri. & scrub (excl. Balmoral Forest)	2% increase
Balmoral Forest	No change modelled (i.e. assumed fully forested)

4 Results

Detailed results are provided below. Results are approximate and preliminary. Loads cannot be exactly predicted because of the statistical variability, but can be bounded between a minimum and maximum value. Attenuation factors (the proportion of nitrogen that is removed between the root zone and the Hurunui mainstem) are my 'gut estimate', based on the data I have reviewed and my experience in other similar catchments elsewhere in New Zealand. Attenuation factors could be refined with further analysis.

Table 4: Baseline (measured load from Apr 2005-Jun 2013)

Land class		Load (t-N/y)		% of total		Load (kg-N/ha/y)		Area (km^2)	Attenu. factor	Root-zone load (kg-N/ha/y)	
No.	Description	Bound 1	Bound 2	Bound 1	Bound 2	Bound 1	Bound 2			Bound 1	Bound 2
1	Irrigated	498	610	65%	79%	26	32	190	1.9	50	61
2	Dryland (slope <15°)	109	78	14%	10%	4.7	2.2	290	3.0	14.1	6.5
3	Dryland hill-country (slope>15°)	116	51	15%	7%	1.9	0.8	623	4.0	7.4	3.3
4	Forest, non-agriculture, scrub (excl. Balmoral)	40	27	5%	3%	0.3	0.2	1329	4.0	1.2	0.8
5	NTP Balmoral	7	4	1%	1%	0.8	0.5	86	1.3	1.1	0.6
	Total for 3, 4 & 5	163	82	21%	11%			2038			
	Total	**770**	**770**	**100%**	**100%**						
	Total average	**770**									

Table 5: Very high development scenario

Land class		Load (t-N/y)		% of total		Load (kg-N/ha/y)		Area (km^2)	Attenu. factor	Root-zone load (kg-N/ha/y)	
No.	Description	Bound 1	Bound 2	Bound 1	Bound 2	Bound 1	Bound 2			Bound 1	Bound 2
1	Irrigated	473	580	60%	76%	25	31	190	1.9	47	58
2	Dryland (slope <15°)	132	94	17%	12%	5.7	2.6	290	3.0	17.1	7.8
3	Dryland hill-country (slope>15°)	133	59	17%	8%	2.1	0.9	623	4.0	8.6	3.8
4	Forest, non-agriculture, scrub (excl. Balmoral)	40	27	5%	3%	0.3	0.2	1329	4.0	1.2	0.8
5	NTP Balmoral	7	4	1%	1%	0.8	0.5	86	1.3	1.1	0.6
	Total for 3, 4 & 5	180	89	23%	12%			2038			
	Total	**785**	**763**	**100%**	**100%**						
	Total average	**774**									

Table 6: High development scenario

Land class		Load (t-N/y)		% of total		Load (kg-N/ha/y)		Area (km^2)	Attenu. factor	Root-zone load (kg-N/ha/y)	
No.	Description	Bound 1	Bound 2	Bound 1	Bound 2	Bound 1	Bound 2			Bound 1	Bound 2
1	Irrigated	473	580	61%	76%	25	31	190	1.9	47	58
2	Dryland (slope <15°)	125	90	16%	12%	5.4	2.5	290	3.0	16.2	7.4
3	Dryland hill-country (slope>15°)	133	59	17%	8%	2.1	0.9	623	4.0	8.6	3.8
4	Forest, non-agriculture, scrub (excl. Balmoral)	40	27	5%	4%	0.3	0.2	1329	4.0	1.2	0.8
5	NTP Balmoral	7	4	1%	1%	0.8	0.5	86	1.3	1.1	0.6
	Total for 3, 4 & 5	180	89	23%	12%			2038			
	Total	**779**	**758**	**100%**	**100%**						
	Total average	**769**									

Table 7: Moderate development scenario

Land class		Load (t-N/y)		% of total		Load (kg-N/ha/y)		Area (km^2)	Attenu. factor	Root-zone load (kg-N/ha/y)	
No.	Description	Bound 1	Bound 2	Bound 1	Bound 2	Bound 1	Bound 2			Bound 1	Bound 2
1	Irrigated	473	580	63%	78%	25	31	190	1.9	47	58
2	Dryland (slope <15°)	117	84	15%	11%	5.1	2.3	290	3.0	15.2	6.9
3	Dryland hill-country (slope>15°)	119	53	16%	7%	1.9	0.8	623	4.0	7.7	3.4
4	Forest, non-agriculture, scrub (excl. Balmoral)	40	27	5%	4%	0.3	0.2	1329	4.0	1.2	0.8
5	NTP Balmoral	7	4	1%	1%	0.8	0.5	86	1.3	1.1	0.6
	Total for 3, 4 & 5	166	83	22%	11%			2038			
	Total	**757**	**746**	**100%**	**100%**						
	Total average	**752**									

Plan Change 5 to the Canterbury Land and Water Regional Plan

Any recommended changes to the wording of PC5 as a result of the relief sought in the submissions of JG & LM Murchison & JKW Hoban and Others and supported in this evidence are shown with the **~~strikethrough~~ of deleted text from PC 5 shaded in blue** and insertion of **red** text.

Table of contents

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Part 1

(How to Read this Document)

Introduction

Part 1 of this document (*How to read this document*) is included for information purposes only and does not form part of Plan Change 5 to the Canterbury Land and Water Regional Plan.

Part 1 contains the following sections:

Information for the Reader

This section of the document describes the structure of the Plan Change, sets out the parts of the Canterbury Land and Water Regional Plan proposed to be amended as part of Plan Change 5, and includes general information to be noted when reading Plan Change 5.

Legal effect of rules in Plan Change 5

This section of the document lists the rules in Plan Change 5 that have legal effect at the date of notification of the plan change, and the rules that have legal effect from the date the plan change is made operative.

How amendments to the Plan are shown

This section of the document describes:

- how deletions, insertions and amendments proposed as part of Plan Change 5 are indicated in the document; and
- how amendments made as a result of other plan changes are shown in the document.

Relationship between Plan Change 5 and other Plan Changes

This section of the document describes other Plan Changes to the Canterbury Land and Water Regional Plan that have been notified, or which have had decisions issued.

Information for the Reader

Plan Change 5 is structured in two parts.

Part A of Plan Change 5 sets out proposed changes to the region-wide provisions of the Canterbury Land and Water Regional Plan. Part A of Plan Change 5 proposes to:

- Amend, insert or delete provisions in Sections 2, 4, 5 and 16 of Volume 1 of the Canterbury Land and Water Regional Plan; and
- Insert new Schedules 7A and 28; and
- Amend the Canterbury Land and Water Regional Plan Canterbury and Christchurch Map Series (Volume 2 - The Planning Maps) to introduce the High Runoff Risk Phosphorus Zone.

Part B of Plan Change 5 sets out proposed changes to the Canterbury Land and Water Regional Plan that apply to the Waitaki sub-region. Part B of Plan Change 5 proposes to:

- Amend, insert and delete provisions in Section 15 of the Plan; and
- Insert new provisions into Schedule 7 (that are specific to the Upper and Lower Waitaki Sub-region)
- Insert new Schedule 26 (Aquaculture Environment Plan).
- Insert new Schedule 27 (On-Land Nitrogen Load Conversion)
- Amend the Canterbury Land and Water Regional Plan Canterbury Map Series (Volume 2 - The Planning Maps) - to replace the existing Nutrient Allocation Zones in the Waitaki Sub-region with new Nutrient Allocation Zones that apply to the Upper and Lower Waitaki catchments.

In reading this plan change, the following should be noted:

- Any reference to 'the Plan' in this document is a reference to the Canterbury Land and Water Regional Plan.
- To view the Plan in its entirety please visit www.ecan.govt.nz/lwrp.
- Headings and section numbers in Part A of Plan Change 5 use the same numbering format as used in the Canterbury Land and Water Regional Plan. For example, all objectives are contained in Section 3 and are prefixed by the number '3', all policies are contained in Section 4 and prefixed with the number '4'.
- Rules that have immediate legal effect at the date of notification of Plan Change 5 are are shown in green font.
- Consequential renumbering of provisions in the Plan may be required in response to decisions made on matters raised in any submission. Any such amendment would occur at the time that decisions are made under Clause 10 of Schedule 1 to the RMA (1991), or when the plan change is made operative under Clause 20 of Schedule 1 to the RMA (1991).
- Where text has been included for the purposes of context, this is shown without underline or strikethrough font. This text does not form part of Plan Change 5.

Legal Effect of Rules in Plan Change 5

Plan Change 5 contains rules that have legal effect immediately upon notification of the plan change, and rules that have delayed legal effect. Further information is provided below:

Part A of Plan Change 5 (Region-wide Provisions)

- The rules in Part A of Plan Change 5 do not have legal effect at notification of this plan change. All rules in Part A of Plan Change 5 have legal effect only when they are made operative, in accordance with Clause 20 of Schedule 1 to the Resource Management Act (1991).

Part B of Plan Change 5 (Waitaki Provisions)

- The following rules have immediate legal effect at notification of Plan Change 5:
    - Rules 15B.5.3, 15B.5.4 and 15B.5.5 (Aquaculture)
    - Rules 15B.5.13A, 15B.5.13B, 15B.5.18A,15B.5.18B and 15B.5.18C (Use of land for a farming activity in the Ahuriri Zone, Upper Waitaki Hill Zone, Haldon Zone or Mid Catchment Zone).

- All other rules have legal effect only when they are made operative in accordance with Clause 20 of Schedule 1 of the Resource Management Act 1991.

How amendments to the Plan are shown

Amendments proposed as part of Plan Change 5 are shown as follows:

- Proposed insertions are <u>underlined;</u>
- Proposed deletions in ~~strikethrough~~;
- Instructions are shown in italics and contained in box.

Example Instructions

Amendments to the Plan made as a result of other plan changes

Amendments to the Plan as a result of other plan changes (ie Plan Change 1, Plan Change 2, Plan Change 3, Plan Change 4, and Plan Change 6) do not form part of Part of Plan Change 5. No submission may be lodged on Plan Change 5 which seeks to amend provisions that are the subject of a separate plan change.

To assist the reader and for the purposes of context, amendments to the Plan made as a result of Plan Change 1, Plan Change 2, Plan Change 3, Plan Change 4 or Plan Change 6 are shown in this document. These amendments are indicated with grey shading and are accompanied by a footnote that identifies the plan change associated with the amendment.

Relationship between Plan Change 5 and other Plan Changes

At the time of notification of Plan Change 5, five other plan changes to the Canterbury Land and Water Regional Plan have been publicly notified, decisions issued, or made operative.

With the exception of Plan Change 4, all of these plan changes have been developed to introduce catchment specific solutions into sections 6 to 15 of the Plan (the sub-region sections of the Plan). These plan changes introduce provisions that achieve achieve the objectives of the Plan in the most appropriate manner for that catchment. A brief outline of these Plan Changes is provided below:

Plan Change 1 (formerly Variation 1)

Plan Change 1 amends section 9 (Christchurch West-Melton sub-region) and section 11 (Selwyn Te-Waihora sub-region) of the Plan. The Council's decisions on Plan Change 1 were notified on 9 May 2015 and the plan change became operative on 1 February 2016.

Proposed Plan Change 2 (formerly Variation 2)

Proposed Plan Change 2 amends section 13 (Ashburton sub-region) of the Plan to introduce a catchment-specific solution for the Hinds catchment. The Council's decisions on Plan Change 2 will be publicly notified on 13 February 2016.

Proposed Plan Change 3 (formerly Variation 3)

Proposed Plan Change 3 amends section 15 (Waitaki and South Coastal Canterbury) of the Plan to introduce a catchment-specific solution for the South Coastal Canterbury Streams catchment. The plan change was notified on 24 April 2016 and a public hearing commenced on 3 November 2015. At the time of notification of Plan Change 5, no decision has been issued on Plan Change 3.

Proposed Plan Change 4

Proposed Plan Change 4 (the 'Omnibus' Plan Change) amends sections 2, 3, 4, 5, 6, 7 and 16 to address implementation issues that have been identified since the notification of the original decisions on the Canterbury Land and Water Regional Plan, and introduces new provisions to ensure the sustainable management of region's land and water resources. Proposed Plan Change 4 was notified on 12 September 2015 and a hearing is scheduled to commence in February 2016.

Proposed Plan Change 6

Proposed Plan Change 6 amends section 10 (Banks Peninsula sub-region) of the Plan to introduce a catchment-specific solution for the Wairewa catchment. The plan change was notified on 6 October 2015 and a public hearing is scheduled to commence on 19 April 2016.

Part A

(Region-wide Amendments)

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Section 2 - How the Plan Works & Definitions

Definitions, Translations and Abbreviations

Definitions

The words used in this Plan have their ordinary meaning as set out in the Oxford English Dictionary (Second Edition or Oxford English Dictionary Online), except where the words are defined in either the RMA, the RPS 2013, or this Plan. The definitions in italics below are from the RMA and are reproduced here for information purposes.

Word	Definition
Accredited Farm Consultant	means a person that holds a Certificate of Completion in Advanced Sustainable Nutrient Management in New Zealand Agriculture from Massey University: a. has been certified by the New Zealand Institute for Primary Industry Management as meeting the criteria for a 'Certified Dairy Farm System Consultant'; or b. holds any other qualification, that has been approved by the Chief Executive of Environment Canterbury, as being an equivalent standard with respect to the knowledge and competencies required.
Audit	means an assessment of the performance of a farming activity against the objectives and targets of a Farm Environment Plan, and includes identifying any ~~non-compliance with the Farm Environment Plan, details of any action to remedy instances of non-compliance~~ remedial actions to be carried out to achieve the objectives and targets of the Farm Environment Plan, and an overall grading based on the assessment of the property.
Baseline GMP Loss Rate	means ~~the average nitrogen loss rate below the root zone, as estimated by the Farm Portal, for the farming activity carried out during the nitrogen baseline period, if operated at good management practice; and where a Baseline GMP loss rate cannot be generated by the Farm Portal it means the nitrogen baseline. Baseline GMP Loss Rate~~ ***the nitrogen baseline for a farming activity which has been adjusted to take account of any applicable Good Management Practices.'***
Change of Land Use	***means: Any increase in the amount of land irrigated or consented to be irrigated on a property; or any increase in the number of cattle 'winter grazed' on a property; or any change to a dairy system;*** ***From that occurring as at 01 February 2016 or authorized by a resource consent which has not lapsed.***

Word	Definition
Farm Portal	means the nutrient management database accessed at www.farmportal.ecan.govt.nz and that is used to derive a Baseline GMP Loss Rate and Good Management Practice Loss Rate, in accordance with Schedule 28.
Certified Farm Environment Plan Auditor	means a person that either (a) is approved by the Chief Executive of Environment Canterbury as meeting the following criteria and is registered on the Environment Canterbury website as a Certified Farm Environment Plan Auditor or (b) is a member of an International Standards Organisation accredited audit programme that has been approved by the Chief Executive of Environment Canterbury as including audit criteria equivalent to that set out in Part C of Schedule 7; and ~~who can provide evidence of at least 5 years' professional experience in the management of pastoral, horticulture or arable farm systems and holds either:~~ ~~1. a Certificate of Completion in Advanced Sustainable Nutrient Management in New Zealand Agriculture from Massey University; or~~ ~~2. a Certificate of Completion in Sustainable Nutrient Management in New Zealand Agriculture from Massey University; or~~ ~~3. Such other qualification that has been approved by the Chief Executive of the Canterbury Regional Council as containing adequate instruction and assessment on agricultural sciences and nutrient management.~~ 1. has at least 5 years' professional experience in the management of pastoral, horticulture or arable farm systems; and (a) holds a Certificate of Completion in Advanced Sustainable Nutrient Management in New Zealand Agriculture from Massey University; or (b) holds a Certificate of Completion in Sustainable Nutrient Management in New Zealand Agriculture from Massey University; or (c) holds a tertiary qualification in agricultural science or demonstrates an equivalent level of knowledge and experience; and 2. is a current member of a Professional Institute that requires members to subscribe to a Code of Ethics and has a procedure in place for dealing with complaints made against members; and 3. demonstrates, to Environment Canterbury, proficiency in the auditing of Farm Environment Plans against the matters set out in Part C of Schedule 7.
Good Management Practices	means the practices described in the document entitled *Industry-agreed Good Management Practices relating to water quality"* - dated 18 September 2015.
~~Good Management Practice Loss Rate~~	~~means the average nitrogen loss rate below the root zone, as estimated by the Farm Portal, for the farming activity carried out over the most recent four year period, if operated at good management practice.~~

Word	Definition
Management Plan	means, in relation to a farming activity, a plan prepared in accordance with Schedule 7A of this Plan.
Nitrogen baseline	means : a. the discharge of nitrogen below the root zone, as modelled with OVERSEER®, (where the required data is inputted into the model in accordance with OVERSEER® Best Practice Data Input Standards), or an equivalent model approved by the Chief Executive of Environment Canterbury, ~~averaged over a 48 month consecutive period in the years of the period of 01 July 2009 – 30 June 2013~~ inclusive~~, and expressed in kg per hectare per annum, except in relation to Rules 5.46 and 5.62, where it is expressed as a total kg per annum from the identified area of land; and~~ ~~b. in the case where a building consent and effluent discharge consent have been granted for a new or upgraded dairy milking shed in the period 01 July~~ 01 January ~~2009 – 30 June~~ 31 December ~~2013, the calculation under (a) will be on the basis that the dairy farming activity is operational; and~~ ***using land use data which is representative of the farming activities which take place on the farm but excluding any destocking or reduction in area under cultivation as a result of adverse climatic events such as drought or flooding or using the land use is authorized by resource consent for the property which has not lapsed.*** ~~c.~~ if OVERSEER® is updated, the most recent version is to be used to recalculate the nitrogen baseline using the same input data ~~for the same period~~ as used in (a) above~~. 01 July 2009 – 30 June 2013~~.
Nitrogen loss calculation	means the discharge of nitrogen below the root zone, as modelled with OVERSEER®, (where the required data is inputted into the model in accordance with OVERSEER® Best Practice Data Input Standards), or an equivalent model approved by the Chief Executive of Environment Canterbury, averaged over the most recent four year ~~01 July to 30 June~~ period and expressed in kg per hectare per annum. If OVERSEER® is updated, the most recent version is to be used.
Phosphorus Risk Zone	means the area shown as the 'High Runoff Risk Phosphorus Zone' on the Planning Maps.
Principal water supplier	a publicly or privately owned supplier ~~that is the sole abstractor~~ of water which is subsequently conveyed and distributed to constituent irrigation schemes , community and/or stockwater schemes, hydro-electricity generators and/or other users of the water.
Recognized farm management programme	***means an industry recognised programme for farm management that includes steps to identify and manage potential effects of farming activities on water quality.***

Word	Definition
Winter Grazing	means the grazing of ***weaned*** cattle within the period of 1 May to 30 September, where the cattle are contained for break-feeding of in-situ forage crops ~~**or supplementary feed that has been brought onto the property.**~~ ***at a stocking rate of more than 15su/ha, as part of normal farming activities. It does not include the containment of cattle during adverse climatic events such as drought, flood or snow.'***

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Section 4 - Policies

Index to Policies

PC4 - Amendment proposed as part of Plan Change 4

Policies

Sub-region Section Development

…

4.11 ~~Acknowledging the pivotal role of good management practices in the sustainable management of the Region's water bodies, good management practice will be codified and introduced into this Plan by way of a plan change on or before 30 October 2016.~~ **~~The setting and attainment of catchment specific water quality and quantity outcomes and limits is enabled through limiting the duration of any resource consent granted~~** ***~~Limiting the duration for which resource consents may be~~ are granted*** under the region-wide rules *for activities which have high potential impacts on water quality in a catchment and a long duration consent may unduly compromise the ability to address water quality issues through catchment planning processes.* **~~in this Plan to a period not exceeding five years past the expected notification date (as set out in the Council's Progressive Implementation Programme) of any plan change~~** that will introduce water quality or water quantity provisions into Sections 6 – 15 of this Plan.

Activity and Resource Policies

…

Hazardous substances & hazardous activities

4.24 The discharge of a hazardous substance to water, or onto or into land where it may enter water, to control a plant or animal pest or other unwanted organism only occurs:

(a) if the substance is registered under the Hazardous Substances and New Organisms Act 1996 for use against the target organism;

(b) if adverse effects on non-target organisms, Ngāi Tahu cultural values, or the use and consumption of water by humans or livestock are avoided as far as practicable; and

(c) where good ~~management~~ practices are used to minimise the risk of accidental discharge to water.

…

Nutrient Management

4.34 **~~The loss of nutrients from any farming activity to water is minimised by:~~**

~~(a) raising awareness of the nutrient losses by requiring monitoring and record keeping of modelled nutrient loss;~~

~~(b) farming activities that have nutrient losses operating at good practice or better; and~~

~~(c) requiring the provision of information on modelled nutrient loss from farming activities to enable better decision-making.~~

…

4.36

~~Sustainable farming practices are promoted in all areas by:~~ Water quality outcomes are met by:

(a) ***Farmers, mana whenua, ~~and~~ the Council and the community work in partnership to ensure all farming activities are operating at GMP or better.***

~~enabling very small farming operations or farms with minimal nutrient discharges to be undertaken without requiring the record keeping of modelled nutrient loss;~~ ~~all farming activities minimising nutrient losses through the implementation of good practice;~~

(b) ~~recognising that there may be limited increases in the loss of nutrients from farming activities in areas where regional water quality outcomes are at risk of not being met, that are shown by an Orange colouring on the Series A Planning Maps, provided that regional water quality outcomes will still be met;~~ ~~and all permitted farming activities on properties greater than 10 hectares preparing and implementing a Management Plan in accordance with Schedule 7A;~~

(b) ***Enabling flexibility in farming activities and land use change*** *provided. ~~without unnecessarily restricting flexibility in farming~~* farming activities with the potential for more significant nutrient losses, ***manage*** ~~managing~~ their nitrogen loss in accordance with the Good Management Practices and Farm Environment Plans ***to maintain water quality in the receiving environment.*** ~~Loss Rates and being subject to a resource consent process;~~ and

(c) encouraging industry and irrigation scheme-based initiatives to improve land and water use practices for farming activities, reduce nutrient loss and nutrient discharges, and facilitate land use consenting, including irrigation scheme-wide initiatives, reporting and auditing of their constituent farms; and

(d) ***Continual improvement in the knowledge of the state of water bodies within the region and the cause(s) of any deterioration in water quality by the***

Council in partnership with the community implementing a comprehensive water quality monitoring and investigations programme using data from scientific investigations and local knowledge.

4.37 ~~*activities or changes in land use.*~~

~~Prevent any increase in the loss of nutrients from farming activities in areas where region-wide water quality outcomes are not being met, that are shown by a Red colouring on the Series A Planning Maps and in Lake Zones as shown on the Series A Planning Maps.~~ ~~**Freshwater quality is improved within the Lake Zone and Red Nutrient Allocation Zone by:**~~

~~(a) avoiding the granting of any resource consent that will allow the nitrogen losses from a farming activity to exceed the Baseline GMP Loss Rate, except where Policy 4.38A applies; and;~~

~~(b) including on any resource consent granted for the use of land for a farming activity, conditions that:~~

~~(i) limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and~~

~~(ii) require farming activities to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and~~

~~(c) requiring a Farm Environment Plan as part of any application for resource consent to use land for a farming activity, and requiring that Farm Environment Plan to:~~

~~(i) describe the specific on-farm actions that will be undertaken (and the timeframe within which these actions will be undertaken) to implement the Good Management Practices; and~~

~~(ii) provide an explanation of how these on-farm actions will ensure progress towards the attainment of the management objectives and targets in Schedule 7 of this plan.~~

Sensitive Lake Zones

In Sensitive Lake Zones, there is no deterioration on water quality as a result of the discharge of contaminants or from nitrogen or phosphorous/sediment losses from land uses in the catchment.

4.38 ~~Require the adoption of the best practicable options to minimise the loss of nutrients from farming activities in areas where region-wide water quality outcomes are at risk of not being met, that are shown by an Orange colouring on the Series A Planning Map~~ Freshwater quality is maintained within the ***Red and Orange Nutrient Allocation Zones through:***

(i) No further deterioration of water quality as a result of changes in land use; and

(ii) Improvements in water quality result from reductions in nitrogen or phosphorous/sediment losses as land uses operate at GMP or better.

~~Orange Nutrient Allocation Zone by:~~

~~(a) restricting nitrogen losses from farming activities to the lesser of the Baseline GMP Loss Rate or the Good Management Practice Loss Rate, except where Policy 4.38A applies; and~~

~~(b) including on any resource consent granted for the use of land for a farming activity, conditions that:~~

~~(i) limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and~~

~~(ii) require farming activities to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and~~

~~c requiring a Farm Environment Plan as part of any application for resource consent to use land for a farming activity, and requiring that Farm Environment Plan to:~~

~~(i) describe the specific on-farm actions that will be undertaken (and the timeframe within which these actions will be undertaken) to implement the Good Management Practices; and~~

~~(ii) provide an explanation of how these on-farm actions will ensure progress towards the attainment of the management objectives and targets in Schedule 7 of this plan.~~

4.38AA Freshwater quality is maintained within the Green and Light Blue Nutrient Allocation Zones by ensuring ***changes in land uses do not adversely affect existing water quality.***

(a) ~~restricting increases in nitrogen loss from farming activities to no more than a total of 5kg/ha/yr above the Baseline GMP Loss Rate; and~~

~~(b) including on any resource consent granted for the use of land for a farming activity, conditions that:~~

~~(i) limit the nitrogen loss calculation for the farming activity to a rate not exceeding a total of 5kg/ha/yr above the Baseline GMP Loss Rate; and~~

~~(i) require farming activities to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than 5kg/ha/yr above the Baseline GMP Loss Rate; and~~

~~(c) not granting any resource consent to exceed the Baseline GMP Loss Rate unless the application for resource consent demonstrates that water quality will be maintained; and~~

~~(d) requiring a Farm Environment Plan as part of any application for resource consent to use land for a farming activity, and requiring that Farm Environment Plan to:~~

~~(i) describe the specific on-farm actions that will be undertaken (and the timeframe within which these actions will be undertaken), to implement the Good Management Practices; and~~

~~(i) provide an explanation of how these on-farm actions will ensure progress towards the attainment of the management objectives and targets in Schedule 7 of this Plan.~~

4.38 In Nutrient Allocation Zones where reductions in nitrogen losses from land uses are required beyond GMPs to achieve water quality outcomes, these reductions will be identified as part of the catchment planning and limit setting process in sections 6 to 15 of this plan; and will be based on the principles of:

(i) Requiring those land uses which contribute ~~have~~ the greatest losses making the most reductions, allowing for the effects of soil type and rainfall on nitrogen losses; and

(ii) Ensuring the pathways and timeframes for ~~nitrogen~~ reductions in nitrogen losses are reasonable, considering any investment required in new infrastructure or any requirements to change land use.

~~4.38AB When considering any application for resource consent for the use of land for a farming activity, the consent authority must not disregard any adverse effect of the proposed activity on water quality on the basis that this Plan permits an activity with that effect.~~

~~4.38A Within the Red, Orange, Green or Light Blue Nutrient Allocation Zones, only consider the granting of an application for resource consent to exceed the nitrogen baseline where:~~

~~(a) the nitrogen baseline has been lawfully exceeded prior to 13 February 2016 and the application contains evidence that the exceedance was lawful; and~~

~~(b) the nitrogen loss calculation remains below the lesser of the Good Management Practice Loss Rate or the nitrogen loss calculation that occurred in the four years prior to 13 February 2016.~~

4.38B Effects **of land uses** on water quality arising from intensification or changes to a farming activity, are monitored ~~**through requiring property owners to submit information regarding the type and intensity of their farming activity to the Farm Portal;**~~ and the accuracy **of estimated nutrient losses from various activities and tools used to estimate such losses including the** ~~**any information submitted to the**~~ Farm Portal ~~**is**~~ **are** periodically reviewed by Environment Canterbury as part of its monitoring programme.

4.38C ~~**Where a policy or a condition in a rule requires compliance with a Baseline GMP Loss rate, compliance with that loss rate shall not be required prior to 30 June 2020.**~~

~~**4.38D Where a policy or rule requires a farming activity to be managed in accordance with the Good Management Practice Loss Rate, compliance with that loss rate shall not be required prior to:**~~

~~**(a) 1 July 2016 for any land where part of the property is located within the Lake Zone;**~~

~~**(b) 1 January 2017 for any land where part of the property is located within the Orange Nutrient Allocation Zone;**~~

~~(c) 1 July 2017 for any land where part of the property is located within the Red Nutrient Allocation Zone;~~

~~(d) 1 January 2018 for any land where part of the property is located within the Green or Light Blue Nutrient Allocation Zone.~~

4.38E Manage the loss of phosphorus to water from land used for farming activities by:

(a) identifying on Farm Environment Plans areas ~~he Planning Maps High Runoff Risk Phosphorus Zones~~ where the risk of phosphorus loss to surface water from overland flow is elevated; and

(b) ~~requiring any application for resource consent for a farming activity that is located within a Phosphorus Risk Zone to identify within the Farm Environment Plan the critical areas for phosphorus loss; and~~

(c) requiring Farm Environment Plans to set out the actions that will be implemented to minimise phosphorus and sediment loss.

4.39 Irrespective of the nutrient allocation status of a catchment as shown on the Series A Planning Maps, to allow the following discharges, provided the design and management of the discharge treatment system minimises the discharge of nutrients that may enter water:

(a) wastewater discharge from a marae;

(b) community wastewater treatment schemes;

(c) wastewater discharge from a hospital, a school or other education institution; or

(d) on-site domestic wastewater discharges.

4.40 Farm Environment Plans are used as a primary means of identifying and delivering good environmental practice across a range of farm activities, including nutrient loss management, efficient and effective use of water for irrigation, riparian management, stock movements across waterways, offal and farm rubbish pits, the storage and application of effluent and fertiliser use.

4.41 Applications for resource consents for farming activities will be accompanied by a Farm Environment Plan that has been prepared in accordance with Schedule 7 ~~and the conditions of any resource consent granted will specify:~~

~~(a) procedures and criteria for the timely review and updating of the Farm Environment Plan; and~~

~~(b) a requirement to meaningfully implement the Farm Environment Plan; and~~

~~(c) monitoring and information provision; and~~

~~(d) requirements for the independent auditing of the Farm Environment Plan and the remedying of compliance issues raised in the audit; and~~

~~(e) the timing of any subsequent audits.~~

4.41A The contribution that the preparation of accurate nutrient budgets and Farm Environment Plans make to the attainment of the water quality outcomes is recognised by:

(a) requiring the preparation of nutrient budgets in accordance with the Overseer Best Practice Input Standards; and

(b) applying to any nutrient budget that forms part of an application for resource consent a level of scrutiny that is proportional to the qualifications, experience and performance of the person who prepared the budget; and

(c) providing a controlled activity consent pathway for resource consent applications that have been prepared or reviewed by an Accredited Farm Consultant.

4.41B Attainment of the water quality outcomes for the region are enhanced through the implementation of good management practice and by:

(a) the use of an audit grade as the measure of a farming activity's overall performance relative to the objectives, targets and actions in the Farm Environment Plan, and the Good Management Practices and Good Management Practice Loss Rates; and

(b) the use of audit grades as the basis for determining compliance and the frequency of any future audits; and

(c) requiring the completion of corrective actions to address non-compliances identified in the Farm Environment Plan audit; and

(d) the use of a Certified Farm Environment Plan Auditor to assess a farming activity's performance; and

(e) requiring the nitrogen loss calculation to be prepared using annual input data in circumstances where:

(f) the results of the most recent audit indicate there is a low level of confidence that the objectives in the Farm Environment Plan are being met; or

(i) the area of irrigated land has increased, as compared with the area of land that was irrigated at the time of the most recent audit; or

(ii) the area of land used for winter grazing has increased, as compared with the area of land that was used for winter grazing at the time of the most recent audit.

4.41C ~~**Maintain water quality in Orange, Green and Light Blue Nutrient Allocation Zones, and improve water quality in Red Nutrient Allocation Zones and Lake Zones by requiring:**~~

~~(a) any application for resource consent for the discharge of nutrients submitted by an irrigation scheme or principal water supplier to describe the methods that will be used to implement the good management practices on any land that will be supplied with water from the scheme or principal water supplier; and~~

~~(a) discharge permits granted to irrigation schemes or principal water suppliers to be subject to conditions that restrict the total nitrogen loss to a limit not exceeding:~~

~~(i) the Baseline GMP Loss Rate for any land within the Red, Lake or Orange Nutrient Allocation Zones; and~~

~~(ii) a total of 5kg/ha/yr above the Baseline GMP loss rate for any land within the Green or Light Blue Allocation Zones.~~

4.41D Applications by irrigation schemes or principal water suppliers for a resource consent for the use of land for a farming activity or the discharge of nutrients are to be accompanied by an Environmental Management Strategy that describes:

(a) how water quality shall be maintained or improved in the catchment;

(aa) how the nutrient load for which resource consent is sought has been calculated, and the rationale for that nutrient load applied; and

(b) how nutrients from all land subject to any permit granted to the scheme or principal water supplier will be accounted for; and

(c) how properties joining or leaving the irrigation scheme or principal water supplier area are to be managed, including the method to be used to calculate the nutrient load that will be allocated to any property leaving the scheme; and

(d) the proposed monitoring and reporting regime to the CRC, including, but not limited to, a description of the:

(i) audit systems that will be used to assess individual on-farm compliance with the content of any Farm Environment Plan; and

(ii) methods used to address non-compliances identified in individual on-farm audits; and

(iii) proposed data to be collected and the frequency of any proposed reporting to the CRC.

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Section 5 - Region-wide Rules

Index to Rules

PC4 - Amendments proposed as part of Plan Change 4

Region-wide Rules

Nutrient Management

Notes:

1. *The Nutrient Management Rules set out a different set of rules for each of the five Nutrient Allocation Zones that are shown on the series A Planning Maps (Lake, Red, Orange, Green and Light Blue). Overlaying the rules for each Nutrient Allocation Zone are alternative rules that may apply if nutrient management is being undertaken by an irrigation scheme or principal water supplier.*

2. *Nutrient Management Rules 5.41A, 5.42A, 5.43A, 5.44A. 5.44B, 5.45A, 5.46A, 5.47A, 5.48A, 5.49A, 5.50A, 5.51A, 5.52A, 5.53A, 5.54A, 5.54B, 5.55A, 5.56AA, 5.56B, 5.57A, 5.57B, 5.57C, 5.58A, 5.58B, 5.59A, have legal effect only at the point at which the rules are made operative in accordance with Clause 20 of Schedule 1 of the RMA. At that point Rules 5.41, 5.42, 5.43, 5.44, 5.45, 5.46, 5.47, 5.48, 5.49, 5.50, 5.51, 5.52, 5.53, 5.54, 5.55, 5.56, 5.56A, 5.57, 5.58, 5.59 cease to have legal effect.*

Replace Rule 5.41 with Rule 5.41A, and Rule 5.42 with Rule 5.42A as follows:

All Nutrient Allocation Zones

~~**5.41**~~ ~~**Notwithstanding any of Rules 5.43 to 5.59, the use of land for a farming activity is a permitted activity, provided one of the following conditions is met:**~~

~~1.~~ ~~the property is less than 5 hectares in area; or~~

2. ~~The nitrogen loss calculation for the property does not exceed 10 kg per hectare per annum and the property is not in a Lake Zone.~~

5.41A **Despite Rules 5.43A to 5.59A, the use of land for a farming activity where either:**

a. **the nitrogen loss from the farming activity is being managed under a resource consent that is held by an irrigation scheme or principal water supplier and the permit contains conditions which limit:**

(i) **the maximum rate at which nitrogen may be leached from the subject land (as measured in kg/ha/yr); or**

(ii) **the concentration of nitrogen in the drainage water leached from the subject land (as measured in ppm or g/m^3); or**

b. **the land is subject to a water permit that authorises the use of water for irrigation and:**

(i) **the permit was granted prior to 18 January 2014; and**

(ii) **the permit is subject to conditions that specify the maximum rate of nitrogen that may be leached from the land; and**

(iii) **the water permit is subject to conditions which requires the preparation and implementation of a plan to mitigate the effects of the loss of nutrients to water**

is a permitted activity.

~~5.42~~ ~~Where any property includes land in more than one Nutrient Allocation Zone, as shown on the Planning Maps, the rules for each Nutrient Allocation Zone apply respectively only to the part of the property within that Zone.~~

5.42A Where any property includes land in more than one Nutrient Allocation Zone, as shown on the Planning Maps:

a. the rules for each Nutrient Allocation Zone apply respectively only to the part of the property within that Zone; and

a. where the conditions of Rules 5.43A to 5.59A specify a date by which a resource consent application is to be lodged, and the property is located in more than one Nutrient Allocation Zone, compliance with the earliest date is required.

*Replace Rules 5.43, 5.44, 5.45, 5.46 5.47 and 5.48 with Rules 5.43A, 5.44A, **5.44B**, 5.45A, 5.46A, 5.47A and 5.48A*

Rule 5.43A ~~***Red***~~ *Nutrient Allocation Zones –* ***Permitted Activities***

1. Within the Red, Orange, Green or Blue Nutrient Allocation Zones, any farming activity is a permitted activity if it complies with all of the following conditions:

(i) The farming activity is undertaken in accordance with an industry recognized farm management programme or in accordance with the Industry-Agreed Good Management Practices Relating to Water Quality – September 2015; and

(ii) The area of the property irrigated or authorized to be irrigated by any water permit is less than 50 hectares or 10% of the area of the property, whichever is greater; and

(iii) The area of the property used for winter grazing within the period 1 May to 1 September does nto exceed a total area of 20 hectares or 10% of the total area of the property, whichever is greater.

2. Any farming activity which does not comply with conditions (2) or (3) is a permitted activity if it meets all of the following conditions:

(i) The farming activity is undertaken in accordance with an industry recognized farm management programme or in accordance with the Industry-Agreed Good Management Practices Relating to Water Quality – September 2015; and

(ii) The estimated nitrogen losses from the farming activity as modeled in Overseer™ do not exceed:

15kg/ha/yr in a Red Zone; or

20kg/ha/yr in an Orange, Green or Blue zone, as measured in Overseer™ version 6.1.3.

Or as an alternative:

(ii) The estimated nitrogen losses from the farming activity as modeled in Overseer™ do not exceed the estimated nitrogen losses for any farming activity on the property that could be undertaken as a permitted activity under Rule 1 above.

Or if the Hearings Panel refers as an alternative to as a second preferred relief to Rule 2 above:

Rule 5.44A & 5.44B All Nutrient Management Zones - Controlled Activities

Rule 5.44A **Any farming activity which is not a permitted activity is a controlled activity if it complies with the following conditions:**

(i) **The farming activity is undertaken in accordance with an industry recognized farm management programme or in accordance with the Industry-Agreed Good Management Practices Relating to Water Quality – September 2015; and**

(ii) **The estimated nitrogen losses from the farming activity as modelled in Overseer™ do not exceed the estimated nitrogen losses as modelled in Overseer™ for any farming activity on the property that could be undertaken as a permitted activity.**

2. **Any application made under this rule shall not be notified or require the written approval of affected parties.**

3. **The consent authority shall reserve its control over the following matters:**

(i) **The maximum nitrogen loss allowed for the farming activity.**

~~**5.43** **The use of land for a farming activity is a permitted activity, provided the following conditions are met:**~~

~~1. The nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone is greater than 10 kg per hectare per annum but does not exceed 20 kg per hectare per annum; and~~

~~2. The nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone does not increase above the nitrogen baseline.~~

~~5.43A Within the Red Nutrient Allocation Zone, the use of land for a farming activity on a property 10 hectares or less in area is a permitted activity.~~

~~**5.44** **Until the 1 January 2017, the use of land for a farming activity is a permitted activity, provided the following conditions are met:**~~

~~1. The nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone is greater than 20 kg per hectare per annum; and~~

~~2. The nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone does not increase above the nitrogen baseline.~~

5.44A ~~Within the Red Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area is a permitted activity provided the following conditions are met:~~

~~1. The property is registered in the Farm Portal by 1 July 2017 and information about the farming activity and the property is reviewed and updated by the property owner or their agent, every 24 months thereafter; and~~

~~2. The area of the property authorised to be irrigated with water is less than 50 hectares; and~~

~~3. For any property where, as at 13 February 2016, the area of land authorised to be irrigated with water is less than 50 hectares, any increase in the area of irrigated land is limited to 10 hectares above that which was irrigated at 13 February 2016; and~~

~~4. The area of the property used for winter grazing within the period 1 May to 1 September does not exceed a total area of 20 hectares; and~~

~~5. A Management Plan in accordance with Schedule 7A has been prepared and is implemented within 12 months of the rule being made operative, and is supplied to the Canterbury Regional Council on request.~~

5.44B ~~Within the Red Nutrient Allocation Zone, t~~**The use of land for a farming activity** ~~on a property greater than 10 hectares in area~~ **that does not comply with one or more of the conditions of Rule** ~~5.442A or~~ **5.43A or 5.44A [**if applicable**] is a controlled activity provided the following conditions are met:**

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and

2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 2020 the Baseline GMP Loss Rate; and

3. **Any change of land use does not result in any increase in the lesser of the Baseline GMP Loss Rate for the property under the current farming activity and the estimated Baseline GMP Loss Rate for the property as a result of the land use change; and**

4. The Farm Environment Plan and nutrient budget submitted with the application for resource consent has been prepared or reviewed by an Accredited Farm Consultant.

The CRC reserves control over the following matters:

1. The commencement date for the first audit of the Farm Environment Plan; and

2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and

3. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and

4. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and

5. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and

6. Methods to avoid or mitigate adverse effects of the activity on surface and groundwater quality and sources of drinking water; and

7. Methods to address any non-compliance identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and

8. Reporting of estimated nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and

9. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.

~~**5.45**~~ ~~**From the 1 January 2017, the use of land for a farming activity is a restricted discretionary activity, provided the following conditions are met:**~~

~~1. The nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone is greater than 20 kg per hectare per annum; and~~

~~2. The nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone does not increase above the nitrogen baseline; and~~

~~3. A Farm Environment Plan has been prepared in accordance with Schedule 7 Part A.~~

~~***The exercise of discretion is restricted to the following matters:***~~

~~1. The quality of, compliance with and auditing of the Farm Environment Plan; and~~

~~2. The proposed management practices to avoid or minimise the discharge of nitrogen, phosphorus, sediment and microbiological contaminants to water from the use of land; and~~

~~3. The potential benefits of the activity to the applicant, the community and the environment; and~~

~~4. The potential effects of the land use on surface and groundwater quality and sources of drinking water.~~

5.45A ~~Within the Red Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with condition 2 or 3 of Rule 5.44B is a restricted discretionary activity provided the following conditions are met:~~

~~1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and~~

~~2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 2020 does not exceed the Baseline GMP Loss Rate; unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was lawful.~~

~~*The exercise of discretion is restricted to the following matters:*~~

~~1. The content of, compliance with, and auditing of the Farm Environment Plan; and~~

~~2. The content, quality and accuracy of the OVERSEER® budget provided with the application for resource consent; and~~

~~3. The actual or potential adverse effects of the activity on surface and groundwater quality and sources of drinking water; and~~

~~4. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and~~

~~5. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and~~

~~6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and~~

~~7. Methods to address any non-compliances identified as a result of a Farm Environment Plan audit; including the timing of subsequent audits; and~~

~~8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and~~

~~9. The consistency of the proposal with Policy 4.38A; and~~

~~10. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.~~

Rule 5.45A Red & Orange Nutrient Allocation Zones – Restricted Discretionary Activities

1. Within the Red or Orange Nutrient Allocation Zones, any farming activity which is not a permitted or controlled activity under Rules 5.43A or 5.44A or 5.44B is a restricted discretionary activity if it complies with all of the following conditions:

(i) A Farm Environment Plan has been prepared for the property in accordance with Schedule 7; and

(ii) Until 30 June 2020 the nitrogen loss calculation for the property or that part of the property contained within a Red or Orange Nutrient Allocation Zone does not exceed the nitrogen baseline and from 01 July 2020 the Baseline GMP Loss Rate; and

(iii) Any change of land use does not result in any increase in the lesser of the Baseline GMP Loss Rate for the property under the current farming activity and the estimated Baseline GMP Loss Rate for the property as a result of the land use change.

2. Any application made under this rule shall not be notified and shall not require the written approval of affected parties.

3. The consent authority shall restrict its discretion to all of the following matters:

(a) The need for auditing of the Farm Environment Plan and the commencement date and frequency of any such audits;

(b) The content, quality and accuracy of the estimated Nitrogen Baseline and Baseline GMP Loss Rates submitted with the application;

(c) The adequacy of any mitigation measures in the Farm Environment Plan to mitigate effects of nitrogen or phosphorous/sediment loss and for ensuring Baseline GMP Loss Rates will be achieved;

(d) Where applicable, methods to prevent any exceedance of the relevant nutrient load limits set out for that catchment in sections 6 to 15 of the Plan; and

(e) With any change of land use, the ability of the applicant to make any further reductions in nitrogen losses above Baseline GMP Loss Rates if required under the provisions in sections 6 to 15 of the plan.

Rule 5.46A Green & Light Blue Nutrient Allocation Zones – Restricted Discretionary Activities

1. Within the Green or Blue Nutrient Allocation Zones, any farming activity which is not a permitted or controlled activity under Rules 5.43A to 5.44B is a restricted discretionary activity if it complies with all of the following conditions:

(i) The farming activity is undertaken in accordance with an industry recognized farm management programme or in accordance with the Industry-Agreed Good Management Practices Relating to Water Quality – September 2015;

(ii) Until 30 June 2020 the nitrogen loss calculation for the property or that part of the property contained within a Green or Blue Nutrient Allocation Zone does not exceed the nitrogen baseline and from 01 July 2020 the Baseline GMP Loss Rate.

(iii) Any change of land use complies with the Baseline GMP Loss Rate for the new land use.

2. Any application made under this rule shall not be notified and shall not require the written approval of affected parties.

3. The consent authority shall restrict its discretion to all of the following matters:

(a) The need for a Farm Environment Plan prepared in accordance with Schedule 7, and the need for auditing of any such Farm Environment Plan, including the commencement date and frequency of audits;

(b) The effects of any change of land use on water quality within the receiving environment and the adequacy of any mitigation measures in the Farm Environment Plan to address any potential adverse effects of the land uses on water quality, and for ensuring Baseline GMP Loss Rates will be achieved;

(c) Where applicable, methods to prevent any exceedance of the relevant nutrient load limits set out for that catchment in sections 6 to 15 of the Plan; and

(d) Where applicable the ability of the applicant to make any further reductions in nitrogen losses above Baseline GMP Loss Rates if required in the catchment under the provisions in sections 6 to 15 of the plan.

~~**5.46 The use of land for a farming activity as part of a farming enterprise is a discretionary activity, provided the following conditions are met:**~~

~~1. A Farm Environment Plan has been prepared in accordance with Schedule 7 Part A; and~~

~~2. The nitrogen loss calculation for the farming enterprise does not increase above the nitrogen baseline; and~~

~~3. The properties comprising the farming enterprise are in the same surface water catchment and Nutrient Allocation Zone, as shown on the Planning Maps.~~

5.4~~6~~7A Within the Red, Orange, Green or Light Blue Nutrient Allocation Zones, the use of land for a farming activity as part of a farming enterprise is a discretionary activity, provided the following conditions are met:

1. A Farm Environment Plan has been prepared for the farming enterprise in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and

2. Until 30 June 2020 the nitrogen loss calculation for the farming enterprise does not exceed the nitrogen baseline and, from 1 July 2020 the Good Management Practice Loss Rate; and

3. The properties comprising the farming enterprise are in the same surface water catchment and Nutrient Allocation Zone, as shown on the Planning Maps.

~~**5.47 The use of land for a farming activity that does not comply with condition 3 of Rule 5.45 or condition 1 or 3 of Rule 5.46 is a non-complying activity.**~~

–

5.47A ~~Within the Red Nutrient Allocation Zone, t~~The use of land for a farming activity ~~on a property greater than 10 hectares in area~~ that does not comply with condition 1 of Rules 5.44B, or condition 1 of Rule 5.45A, 5.46A or 5.47A , or the use of land for a farming activity as part of a farming enterprise that does not comply with conditions 1 or 3 of Rule 5.4~~6~~7A, is a non-complying activity.

~~**5.48 The use of land for a farming activity that does not comply with condition 2 of Rule 5.43 or condition 2 of Rule 5.44 or condition 2 of Rule 5.45 or condition 2 of Rule 5.46 is a prohibited activity.**~~

Rule 5.48A – Red, Orange, Green and Light Blue Zones – Non-Complying Activities

Any activity that does not comply with conditions (ii) or (iii) of Rules 5.45A or 5.46A shall be a non-complying activity.

Or as an alternative:

Rule 5.46A – Orange, Green and Light Blue Zones – Non-Complying & Prohibited Activities

1. Any activity in an Orange Nutrient Allocation Zone that does not comply with conditions (ii) or (iii) of Rule 5.45A or any activity in a Green or light blue Nutrient Allocation Zone which does not comply with conditions (ii) or (iii) of Rule 5.46A shall be a non-complying activity.

2. Any activity which does not comply with conditions (ii) or (iii) of Rule 5.43A in a Red Nutrient Allocation Zone shall be a prohibited activity.

Replace Rules 5.49, 5.50, 5.51 and 5.52 with Rules 5.49A, 5.50A, 5.51A and 5.52A

Rule 5.49A Sensitive *Lake Zones* ***– Permitted Activities***

~~**5.49 The use of land for a farming activity is a controlled activity, provided the following conditions are met:**~~

~~1. The nitrogen loss calculation for the part of the property within the Lake Zone does not exceed 10 kg per hectare per annum; and~~

~~2. The nitrogen loss calculation for the part of the property within the Lake Zone does not increase above the nitrogen baseline; and~~

~~3. A Farm Environment Plan has been prepared in accordance with Schedule 7 Part A.~~

~~***The CRC reserves control over the following matters:***~~

~~1. The quality of, compliance with and auditing of the Farm Environment Plan; and~~

~~2. The proposed management practices to avoid or minimise the discharge of nitrogen, phosphorus, sediment and microbiological contaminants to water from the use of land.~~

5.49A ~~**Within the Lake Zone, the use of land for a farming activity on a property 10 hectares or less in area is a permitted activity**~~**.**

Within the Sensitive Lake Zones, any farming activity is a permitted activity if it complies with all of the following conditions:

(i) The farming activity is undertaken in accordance with an industry recognized farm management program me or in accordance with the Industry-Agreed Good Management Practices Relating to Water Quality – September 2015; and

(ii) Any land on the property that is within the Sensitive Lake Zone is not irrigated; and

(iii) Any land on the property that is within the Sensitive Lake Zone is not used for winter grazing by cattle.

~~**5.50 The use of land for a farming activity is a restricted discretionary activity, provided the following conditions are met:**~~

~~1. The nitrogen loss calculation for the part of the property within the Lake Zone is greater than 10 kg per hectare per annum; and~~

~~2. The nitrogen loss calculation for the part of the property within the Lake Zone does not increase above the nitrogen baseline; and~~

~~3. A Farm Environment Plan has been prepared in accordance with Schedule 7 Part A.~~

~~***The exercise of discretion is restricted to the following matters:***~~

~~1. The quality of, compliance with and auditing of the Farm Environment Plan; and~~

~~2. The proposed management practices to avoid or minimise the discharge of nitrogen, phosphorus, sediment and microbiological contaminants to water from the use of land; and~~

~~3. The potential benefits of the activity to the applicant, the community and the environment; and~~

~~4. The potential effects of the land use on surface and groundwater quality and sources of drinking water~~

5.50A *Sensitive Lake Zones – Controlled Activities*

1. Any farming activity which is not a permitted activity is a controlled activity if it complies with the following conditions:

(i) **A Farm Environment Plan is prepared for the area of the property contained within the Sensitive Lake Zone in accordance with Schedule 7; and**

(ii) **The estimated nitrogen losses from the farming activity as modeled in Overseer™ do not exceed 10kg/ha/yr measreud in Overseer version 6.1.3**

Or as an alternative:

(ii) The estimated nitrogen losses from the farming activity as modeled in Overseer™ do not exceed the estimated nitrogen losses for any farming activity on the property that could be undertaken as a permitted activity;

2. Any application made under this rule shall not be notified or require the written approval of affected parties.

3. The consent authority shall reserve its control over the following matters:

(i) **The maximum nitrogen loss allowed for the farming activity;**

(ii) **The need for auditing of the Farm Environment Plan and the commencement date and frequency of any such audits; and**

(iii) **The adequacy of any mitigation measures in the Farm Environment Plan to mitigate effects phosphorous/sediment loss and for ensuring estimated Baseline Nitrogen Loss Rates will be adhered to.**

~~**Within the Lake Zone, the use of land for a farming activity on a property greater than 10 hectares in area is a restricted discretionary activity provided the following conditions are met:**~~

~~1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and~~

~~2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Lake Zone does not exceed the nitrogen baseline, and from 1 July 2020 the Baseline GMP Loss Rate.~~

~~***The exercise of discretion is restricted to the following matters:***~~

~~1. The content of, compliance with, and auditing of the Farm Environment Plan; and~~

~~2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and~~

~~3. The actual or potential adverse effects of the activity on surface and groundwater quality and sources of drinking water; and~~

~~4. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and~~

~~5. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and~~

~~6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and~~

~~7. Methods to address any non-compliance identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and~~

~~8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and~~

~~9. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.~~

~~**5.51 The use of land for a farming activity that does not comply with condition 3 of Rule 5.49 or condition 3 of Rule 5.50 is a non-complying activity.**~~

Rule 5.51A Sensitive *Lake Zones* ***– Restricted Discretionary Activities***

1. Within the Sensitive Lake Zone, any farming activity which is not a permitted or controlled activity is a restricted discretionary activity if it complies with all of the following conditions:

(i) A Farm Environment Plan has been prepared for the property in accordance with Schedule 7; and

(ii) Until 30 June 2020 the nitrogen loss calculation for that part of the property contained within the Sensitive Lake Zone does not exceed the nitrogen baseline and from 01 July 2020 the Baseline GMP Loss Rate; and

(iii) Any change of land use does not result in any increase in the lesser of the Baseline GMP Loss Rate for the property under the current farming activity and the estimated Baseline GMP Loss Rate for the property as a result of the land use change.

2. Any application made under this rule shall not be notified and shall not require the written approval of affected parties.

3. The consent authority shall restrict its discretion to all of the following matters:

(a) The effects of the land use on water quality in the receiving environment;

(b) The need for auditing of the Farm Environment Plan and the commencement date and frequency of any such audits;

(c) The content, quality and accuracy of the estimated Nitrogen Baseline and Baseline GMP Loss Rates submitted with the application;

(d) The adequacy of any mitigation measures in the Farm Environment Plan to mitigate effects of nitrogen or phosphorous/sediment loss and for ensuring Baseline GMP Loss Rates will be achieved;

(e) Where applicable, methods to prevent any exceedance of the relevant nutrient load limits set out for that catchment in sections 6 to 15 of the Plan; and

(f) **With any proposed change in land use, the ability of the applicant to make any further nitrogen reductions if required in the catchment under the provisions in sections 6 to 15 of the plan.**

Rule 5.52A Sensitive Lake Zones – Non-Complying Activities

Within the Sensitive Lake Zone, the use of land for a farming activity ~~on a property greater than 10 hectares~~ that does not comply with condition ~~1~~ (i) or (ii) of Rule 5.50A or condition (i) or (ii) of Rule 5.51A is non-complying activity.

~~**5.52 The use of land for a farming activity that does not comply with condition 2 of Rule 5.49 or condition 2 of Rule 5.50 is a prohibited activity.**~~

Or in the alternative:

Within the Sensitive Lake Zone, the use of land for a farming activity ~~on a property greater than 10 hectares~~ that does not comply with condition (i) of Rule 5.50A or condition (i) of Rule 5.51A is non-complying activity.

Within the Lake Zone, the use of land for a farming activity ~~on a property greater than 10 hectares~~ that does not comply with condition ~~2~~ (ii) of Rule 5.50A or condition (ii) of Rule 5.51A is a prohibited activity.

Replace Rules 5.53 and 5.54 with Rules 5.53A and 5.54A.
Insert new Rule 5.54B.
Replace Rule 5.55 with 5.55A; Replace Rule 5.56 with Rule 5.56AA; and Replace Rule 5.56A with 5.56AB

Orange Nutrient Allocation Zones

~~5.53~~ **~~The use of land for a farming activity is a permitted activity, provided the following conditions are met:~~**

1. ~~The nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not exceed 20 kg per hectare per annum and information is recorded in accordance with Schedule 7 Part D, and supplied to the Canterbury Regional Council upon request; or~~

2. ~~The nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone exceeds 20 kg per hectare per annum and:~~

1. ~~information is recorded in accordance with Schedule 7 Part D, and supplied to the Canterbury Regional Council upon request; and~~

2. ~~the property is less than 50 hectares in area; and~~

3. ~~The nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not increase above the nitrogen baseline.~~

~~5.53A~~ **~~Within the Orange Nutrient Allocation Zone, the use of land for a farming activity on a property 10 hectares or less in area is a permitted activity.~~**

~~5.54~~ **~~Until 1 January 2016, the use of land for a farming activity that does not comply with Rule 5.53 is a permitted activity, provided the following condition is met:~~**

1. ~~The nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not increase above the nitrogen baseline by more than 5 kg per hectare per annum~~

5.54A **~~Within the Orange Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area is a permitted activity provided the following conditions are met:~~**

1. ~~The property is registered in the Farm Portal by 1 January 2017 and information about the farming activity and the property is reviewed and updated by the property owner or their agent, every 24 months thereafter; and~~

2. ~~The area of the property irrigated with water is less than 50 hectares; and~~

3. ~~The area of the property used for winter grazing is less than 20 hectares; and~~

4. ~~A Management Plan in accordance with Schedule 7A has been prepared and is implemented within 12 months of the rule being made operative and is supplied to the Canterbury Regional Council on request.~~

~~5.54B~~ **~~Within the Orange Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with one or more of the conditions of Rule 5.54A is a controlled activity provided the following conditions are met:~~**

1. ~~A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and~~

2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 2020 the Baseline GMP Loss Rate; and

3. The Farm Environment Plan and nutrient budget submitted with the application for resource consent has been prepared or reviewed by an Accredited Farm Consultant.

The CRC reserves control over the following matters:

1. The commencement date for the first audit of the Farm Environment Plan; and

2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and

3. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and

4. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and

5. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and

6. Methods to avoid or mitigate adverse effects of the activity on surface and groundwater quality and sources of drinking water; and

7. Methods to address any non-compliance identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits;

8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and

9. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.

5.55 From 1 January 2016, the use of land for a farming activity that does not comply with Rule 5.53 is a restricted discretionary activity, provided the following conditions are met:

1. The nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not increase above the nitrogen baseline by more than 5 kg per hectare per annum; and

2. A Farm Environment Plan has been prepared in accordance with Schedule 7 Part A.

The exercise of discretion is restricted to the following matters:

1. The quality of, compliance with and auditing of the Farm Environment Plan; and

2. The proposed management practices to avoid or minimise the discharge of nitrogen, phosphorus, sediment and microbiological contaminants to water from the use of land; and

3. The potential benefits of the activity to the applicant, the community and the environment; and

4. The potential effects of the land use on surface and groundwater quality and sources of drinking water.

Note: The use of the phrase "5kg per hectare per annum" in Rules 5.54 and 5.55 is a reference to the units in which the nitrogen baseline is measured. As such, Rules 5.54 and 5.55 only allow a total increase of up to 5 kg per hectare per annum above the nitrogen baseline, as calculated for the 2009-2013 period. Rules 5.54 and 5.55 do not permit a compounding increase of 5 kg per hectare per annum above the nitrogen baseline.

5.55A **Within the Orange Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area, that does not comply with condition 2 or 3 of Rule 5.54B, is a restricted discretionary activity provided the following conditions are met:**

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and

2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 2020 the Baseline GMP Loss Rate, unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was lawful.

The exercise of discretion is restricted to the following matters:

1. The content of, compliance with, and auditing of the Farm Environment Plan; and

2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and

3. The actual or potential adverse effects of the proposal on surface and groundwater quality and sources of drinking water; and

4. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and

5. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and

6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and

7. Methods to address any non-compliances that are identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and

8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and

9. The consistency of the proposal with Policy 4.38A; and

10. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.

5.56 **The use of land for a farming activity that does not comply with Rule 5.54 or condition 1 of Rule 5.55 is a discretionary activity.**

5.56AA ~~**Within the Orange Nutrient Allocation Zone, the use of land for a farming activity as part of a farming enterprise is a discretionary activity, provided the following conditions are met:**~~

~~1. A Farm Environment Plan has been prepared for the farming enterprise in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and~~

~~2. Until 30 June 2020, the nitrogen loss calculation for the farming enterprise does not exceed the nitrogen baseline, and from 1 July 2020 the Baseline GMP Loss Rate; and~~

~~3. The properties comprising the farming enterprise are in the same surface water catchment and Nutrient Allocation Zone, as shown on the Planning Maps.~~

~~**5.56A The use of land for a farming activity that does not comply with condition 2 of Rule 5.55 is a non-complying activity.**~~

5.56AB ~~**Within the Orange Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with condition 1 of Rule 5.54B, or one or more of the conditions of Rule 5.55A, or the use of land for a farming activity as part of a farming enterprise that does not comply with one or more of the conditions of Rule 5.56AA is a non-complying activity.**~~

Replace Rule 5.57 with Rule 5.57A;
Insert new Rules 5.57B and 5.57C.
Replace Rule 5.58 with Rule 5.58A.
Insert new Rule 5.58B.
Replace Rule 5.59 with 5.59A.

~~*Green and Light Blue Nutrient Allocation Zones*~~

~~**5.57 The use of land for a farming activity is a permitted activity, provided the following conditions are met:**~~

~~1. The nitrogen loss calculation for the part of the property within either the Green or Light Blue Nutrient Allocation Zone does not exceed 20 kg per hectare per annum and information is recorded in accordance with Schedule 7 Part D, and supplied to the Canterbury Regional Council upon request; or~~

~~2. The nitrogen loss calculation for the part of the property within either the Green or Light Blue Nutrient Allocation Zone is greater than 20 kg per hectare per annum and:~~

~~(a) information is recorded in accordance with Schedule 7 Part D, and supplied to the Canterbury Regional Council upon request; and~~

~~(b) the property is less than 50 hectares in area; or~~

~~(c) The nitrogen loss calculation for the part of the property within either the Green or Light Blue Nutrient Allocation Zone does not increase above the nitrogen baseline by more than 5 kg per hectare per annum.~~

5.57A ~~**Within the Green or Light Blue Nutrient Allocation Zone the use of land for a farming activity on a property 10 hectares or less is a permitted activity.**~~

5.57B **Within the Green or Light Blue Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area is a permitted activity provided the following conditions are met:**

1. The property is registered in the Farm Portal by 1 January 2018 and information about the farming activity and the property is reviewed and updated by the property owner or their agent every 24 months thereafter; and

2. The area of the property irrigated with water is less than 50 hectares; and

3. The area of the property used for winter grazing is less than 20 hectares; and

4. A Management Plan in accordance with Schedule 7A has been prepared and is implemented within 12 months of the rule being made operative and is supplied to the Canterbury Regional Council on request.

5.57C **Within the Green or Light Blue Nutrient Allocation Zone the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with one or more of the conditions of Rule 5.57B is a controlled activity provided the following conditions are met:**

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and

2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Green or Light Blue Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 2020 the Baseline GMP Loss Rate; and

3. The Farm Environment Plan and nutrient budget submitted with the application for resource consent has been prepared or reviewed by an Accredited Farm Consultant.

The CRC reserves control over the following matters:

1. The commencement date for the first audit of the Farm Environment Plan; and

2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and

3. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and

4. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and

5. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and

6. Methods to avoid or mitigate adverse effects of the activity on surface and groundwater quality and sources of drinking water; and

7. Methods to address any non-compliance identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and

8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and

9. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.

5.58 **The use of land for a farming activity that does not comply with Rule 5.57 is a restricted discretionary activity, provided the following condition is met:**

1. A Farm Environment Plan has been prepared in accordance with Schedule 7 Part A.

The exercise of discretion is restricted to the following matters:

1. The quality of, compliance with and auditing of the Farm Environment Plan; and

2. The proposed management practices to avoid or minimise the discharge of nitrogen, phosphorus, sediment and microbiological contaminants to water from the use of land; and

3. The potential benefits of the activity to the applicant, the community and the environment; and

4. The potential effects of the land use on surface and groundwater quality and sources of drinking water.

5.58A **Within the Green or Light Blue Nutrient Allocation Zone the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with condition 2 or 3 of Rule 5.57C is a restricted discretionary activity provided the following conditions are met:**

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and

2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Green or Light Blue Nutrient Allocation Zone does not exceed a total of 5kg/ha/yr above the nitrogen baseline, and from 1 July 2020 a total of 5kg/ha/yr above the Baseline GMP Loss Rate; unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was lawful.

The exercise of discretion is restricted to the following matters:

1. The content of, compliance with, and auditing of the Farm Environment Plan; and

2. The content quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and

3. The actual or potential adverse effects of the proposal on surface and groundwater quality and sources of drinking water; and

4. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and

5. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding a total of 5kg/ha/yr above the Baseline GMP Loss Rate; and

6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than a loss rate equivalent to a total of 5kg/ha/yr above the Baseline GMP Loss Rate; and

7. Methods to address any non-compliances that are identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and

8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and

9. The consistency of the proposal with Policy 4.38A; and

10. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.

5.58B Within the Green or Light Blue Nutrient Allocation Zone the use of land for a farming activity as part of a farming enterprise is a discretionary activity, provided the following conditions are met:

1. A Farm Environment Plan has been prepared in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and

2. Until 30 June 2020, the nitrogen loss calculation for the farming enterprise does not exceed the nitrogen baseline, and from 1 July 2020 the Baseline GMP Loss Rate; and

3. The properties comprising the farming enterprise are in the same surface water catchment and Nutrient Allocation Zone, as shown on the Planning Maps.

5.59 The use of land for a farming activity that does not comply with Rule 5.58 is a non-complying activity.

5.59A Within the Green or Light Blue Nutrient Allocation Zone the use of land for a farming activity on a property greater than 10 hectares in area, that does not comply with condition 1 of Rule 5.57C, or one or more of the conditions of Rule 5.58A, or the use of land for a farming activity as part of a farming enterprise that does not comply with one or more of the conditions of Rule 5.58B, is a non-complying activity.

Section 16 Schedules

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Schedule 2	Fish Screen Standards and Guidelines
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~~Schedule 7A~~	~~Management Plan for Farming Activities~~
Schedule 8	Region-wide Water Quality Limits
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Schedule 25	Water Supply Strategy [5]
Schedule 26	Aquaculture Environment Plan
Schedule 27	Nitrogen Load Conversion Method
Schedule 28	Good Management Practice Modelling Rules

1 - Proposed change is a consequential amendment as a result of provisions introduced through Plan Change 1
2 - Proposed change is a consequential amendment as a result of provisions introduced through Plan Change 2
3 - Proposed change is a consequential amendment as a result of provisions introduced through Plan Change 3
4 - Proposed change is a consequential amendment as a result of provisions introduced through Plan Change 6
5 - Proposed change is a consequential amendment as a result of provisions introduced through Plan Change 4

Schedule 7 Farm Environment Plan

Amend Schedule 7 as follows:

~~**Definitions**~~

~~In Schedule 7 the following definitions apply:~~

~~**Management Area –** means the list of topics as set out below:~~

~~(a) Nutrient management~~

~~(b) Irrigation management~~

~~(c) Soil management~~

~~(d) Collected animal effluent management~~

~~(e) Waterbody management – riparian areas, drains, rivers, lakes, wetlands~~

~~(f) Point sources – offal pits, farm rubbish pits, silage pits~~

~~(g) Water use management (excluding water associated with irrigation) – stock water and wash-down water~~

~~**Management Objective –** means the overarching outcome sought in relation to each Management Area~~

~~**Target –** means a measureable, auditable statement that contributes to achievement of the Management Objective~~

Part A – Farm Environment Plans

A Farm Environment Plan can be based on either of:

1. The material set out in Part B below; OR

2. Industry prepared Farm Environment Plan templates and guidance material that:

   (a) includes the following minimum components:

      (i) the matters set out in 1, 2, ~~and~~ 3, 4B and 5 of Part B below;

      (ii) contains a methodology that will enable development of a plan that will identify actual and potential environmental effects and risks specific to the property, addresses those effects and risks and has a high likelihood of appropriately avoiding, remedying or mitigating those effects;

      (iii) performance measures that are capable of being audited as set out in Part C below; and

      (iv) matters or requirements set out in Part B of Schedule 7 that have been added as a result of a sub-region planning process.

(b) Has been approved as meeting the criteria in (a) and being acceptable to the Canterbury Regional Council by the Chief Executive of the Canterbury Regional Council.

Part B – Farm Environment Plan Default Content

The plan requirements will apply to:

~~1.~~ (a). a plan prepared for an individual property or farm enterprise; or

2. (b). a plan prepared for an individual property which is part of a collective of properties, including an irrigation scheme, principal water supplier, or an Industry Certification Scheme

The plan shall contain as a minimum:

1. Property or farm enterprise details

(a) Physical address

(b) Description of the ownership and name of a contact person

(c) Legal description of the land and farm identifier

2. A map(s) or aerial photograph at a scale that clearly shows:

(a) The boundaries of the property or land areas comprising the farm enterprise.

(b) The boundaries of the main land management units on the property or within the farm enterprise.

(c) The location of permanent or intermittent rivers, streams, lakes, drains, ponds or wetlands.

(d) The location of riparian vegetation and fences adjacent to water bodies.

(e) The location on all waterways where stock access or crossing occurs.

(f) The location of any areas within or adjoining the property that are identified in a District Plan as "significant indigenous biodiversity".

(g) The location of any critical source areas for phosphorus or sediment loss for any part of the property ~~within the Phosphorus Risk Zone~~.

(h) ~~The location of flood protection or erosion control assets, including flood protection vegetation.~~

~~(i) Public access routes or access routes used to maintain the rivers, streams, or drains~~.

3. A list of all Canterbury Regional Council resource consents held for the property or farm enterprise.

4A. An assessment of the adverse environmental effects and risks associated with the farming activities and how the identified effects and risks will be managed, including irrigation, application of nutrients, effluent application, stock exclusion from waterways, offal pits and farm rubbish pits.

4B (a) a nutrient budget which shows the nitrogen baseline and nitrogen loss calculation for the property or farming enterprise; and

(b) a report ~~from the Farm Portal~~ which shows the Baseline GMP Loss Rate and Good Management Practice Loss Rates for any property or farming enterprise, at the dates specified below:

(i) From 1 July 2016 for any property within the Lake Zone;

(ii) From 1 January 2017 for any property or farming enterprise within the Orange Nutrient Allocation Zone;

(iii) From 1 July 2017 for any property or farming enterprise within the Red Nutrient Allocation Zone;

(iv) From 1 January 2018 for any property or farming enterprise within the Green or Light Blue Nutrient Allocation Zone.

This report can use a Baseline GMP Loss Rate generated from within the Farm Portal where appropriate.

5. **A description of how each of the following objectives will be met where relevant, including any targets, actions and dates to achieve the objectives:** ~~A description of how each of the following objectives and targets for each Management Area will, where relevant, be met and the specific actions that will be undertaken to implement the Good Management Practices:~~

(a) **Nutrient management: To maximise nutrient use efficiency while minimising nutrient losses to water.**

(b) Irrigation management: To operate irrigation systems efficiently and ensuring that the actual use of water is monitored and is efficient.

(c) Soils management: To maintain or improve the physical and biological condition of soils in order to minimise the movement of sediment, phosphorus and other contaminants to waterways.

(d) Collected animal effluent management: To manage the risks associated with the operation of effluent systems to ensure effluent systems are compliant 365 days of the year

(e) Livestock management: To manage wetlands and water bodies so that stock are excluded as far as practicable from water, to avoid damage to the bed and margins of a waterbody, and to avoid the direct input of nutrients, sediment, and microbial pathogens.

(f) Offal pits: To manage the numbers and locations of pits to minimise risks to health and water quality. A description of how each of the following objectives and targets for each Management Area will, where relevant, be met and the specific actions that will be undertaken to implement the Good Management Practices.

~~Management Area: Nutrient Management~~

~~Objective: To maximise nutrient use efficiency while minimising nutrient losses to water.~~

~~Targets:~~

~~(1) Nitrogen losses from farming activities are at or below Good Management Practice Loss Rates for the property.~~

~~(2) Phosphorus and sediment losses from farming activities are minimised~~

~~(3) The amount and rate of fertiliser applied does not exceed the agronomic requirements of the crop.~~

~~Management Area: Irrigation Management~~

~~Objective: To operate irrigation systems efficiently ensuring that the actual use of water is monitored and is efficient.~~

~~Targets~~

~~(1) New irrigation infrastructure is designed, installed and operated in accordance with industry best practice standards.~~

~~(2) Existing irrigation systems are calibrated, maintained and operated to apply irrigation water at the optimal efficiency.~~

~~(3) All applications of irrigation water are justified on the basis of soil moisture data and climatic information.~~

~~(4) The timing and rate of application of water is managed so as to not exceed crop requirements or the available water holding capacity of the soil.~~

~~(5) Staff are trained in the operation, maintenance and use of irrigation systems.~~

~~Management Area: Soils Management~~

~~Objective: To maintain or improve the physical and biological condition of soils in order to minimise the movement of sediment, phosphorus and other contaminants to waterways.~~

~~Targets:~~

~~(1) Farming activities are managed so as to not exacerbate erosion.~~

~~(2) Farming practices are implemented that optimise infiltration of water into the soil profile and minimise run-off of water, sediment loss and erosion.~~

~~Management Area: Collected Animal Effluent Management~~

~~Objective: To manage the risks associated with the operation of effluent systems to ensure effluent systems are compliant 365 days of the year.~~

~~Targets:~~

~~(1) Effluent storage facilities and effluent discharges comply with regional council rules or any granted resource consent.~~

~~(2) The timing and rate of application of effluent and solid animal waste to land is managed so as to minimise the risk of contamination of groundwater or surface water bodies.~~

~~(3) Sufficient and suitable storage is available to store effluent and any wastewater when soil conditions are unsuitable for application.~~

~~(4) Staff are trained in the operation, maintenance and use of effluent storage and application systems.~~

~~Management Area: Waterbody Management (wetlands, riparian areas, drains, rivers, lakes)~~

~~Objective: To manage wetlands, riparian areas and surface waterbodies to avoid damage to the bed and margins of a water body, and to avoid the direct input of nutrients, sediment, and microbial pathogens.~~

~~Targets:~~

~~(1) Stock are excluded from waterbodies in accordance with regional council rules or any granted resource consent.~~

~~(2) Vegetated riparian margins are maintained to minimise nutrient, sediment and microbial pathogen losses to waterbodies.~~

~~(3) Farm tracks, gateways, water troughs, self-feeding areas, stock camps wallows and other sources of sediment, nutrient and microbial loss are located so as to minimise the risks to surface water quality.~~

~~Management Area: Point Sources (offal pits, farm rubbish pits, silage pits)~~

~~Objective: To manage the number and location of pits to minimise risks to health and water quality.~~

~~Target:~~

~~(1) All on-farm silage, offal pit and rubbish dump discharges are managed to avoid direct discharges of contaminants to groundwater or surface water.~~

~~Management Area: Water-use Management (excluding irrigation water)~~

~~Objective: To use water efficiently ensuring that actual use of water is monitored and efficient.~~

~~Target:~~

~~(1) Actual water use is efficient for the end use.~~

The plan shall include for each objective and target in section 5 above:

(a) detail commensurate with the scale of the environmental effects and risks;

(b) ~~defined measurable targets that clearly set a pathway and timeframe for achievement and set out defined and auditable "pass/fail" criteria~~ a description of the actions and Good Management Practices (and a timeframe within which those actions will be completed) that will be implemented to achieve the objectives and targets.

(c) ~~the~~ records required to be kept for measuring performance and achievement of the targets and objectives.

6. Nutrient budgets, prepared by a suitably qualified person using the Overseer nutrient budget model, or equivalent model approved by the Chief Executive of Environment Canterbury, for each of the identified land management units and the overall farm or farm enterprise.

7. Selwyn Te Waihora – Additional Requirements

Within the Selwyn Te Waihora sub-region the following additional requirements for farm environment plans apply:

1. Include a map(s) or aerial photograph at a scale that clearly shows the location of any known mahinga kai, wāhi tapu or wāhi taonga within any property or farming enterprise located in the Cultural Landscape/Values Management Area.

2. Include a description of how the following objective will be met:

Nutrient management: To maximise nutrient use efficiency while minimising nutrient losses to water by:

(a) minimising the loss of phosphorus and sediment within the Phosphorus Sediment Risk Area as shown in the planning maps; and

(b) achieving good management practice in respect of nutrient losses; and

(c) managing the discharge from drains within the Lake area of the Cultural Landscape/Values Management Area; and

(d) further reducing the nitrogen loss calculation from 2022 where a property or farming enterprise's nitrogen loss calculation is greater than 15 kg of nitrogen per hectare per annum.[PC1]

Part C – Farm Environment Plan Audit Requirements

The Farm Environment Plan must be audited by a Certified Farm Environment Plan Auditor who is independent of the farm being audited (i.e. is not a professional adviser for the property) and has not been involved in the preparation of the Farm Environment Plan.

The farming activity occurring on the property will be audited against the following minimum criteria:

1. An assessment of the performance of the farming activity against the objectives, targets, Good Management Practices and timeframes specified in the Farm Environment Plan;

2. An assessment of the robustness of the nutrient budget/s;

3. An assessment of the efficiency of water use (if irrigated).

The Environment Canterbury Certified Farm Environment Plan Auditor Manual sets out the standards and methods to be used by a Certified Farm Environment Plan Auditor to demonstrate proficiency and competency in the auditing of Farm Environment Plans.

Part D – Farming Information

Whenever one of Rules 5.41-5.58 requires information to be submitted, the following is to be provided:

1. The OVERSEER™, or equivalent model approved by the Chief Executive of Environment Canterbury, input and output files for the property; or other data required as part of an equivalent model approved by the Chief Executive of Environment Canterbury.

~~2. Information detailing:~~

~~(a) The site area to which the farming activity relates;~~

~~(b) Monthly stocking rates (numbers, types and classes) including breakdown by stock class;~~

~~(c) Annual yield of arable or horticultural produce;~~

~~(d) A description of the farm management practices used on each block including:~~

~~(i) Ground cover – pasture, crops, fodder crops, non-grazed areas (including forestry, riparian and tree areas) and any crop rotation;~~

~~(ii) Stock management – lambing/calving/fawning dates and percentages, any purchases and sales and associated dates, types and age of stock;~~

~~(iii) Fertiliser application – types and quantities per hectare for each identified block, taking into account any crop rotation;~~

~~(iv) Quantities of introduced or exported feed;~~

~~(e) Farm animal effluent, pig farm effluent, feed pad and stand-off pad effluent management including:~~

~~(i) Area of land used for effluent application;~~

~~(ii) Annual nitrogen loading rate and nitrogen load rate per application;~~

~~(iii) Instantaneous application rate;~~

~~(f) Irrigation areas, rates, monthly volumes and system type.~~

~~The information is to be collated for the period 1 July to 30 June in the following year and be provided annually, no later than 31 of October.~~

PC1 - Amendments made as part of Plan Change 1.

Schedule 7A Management Plan for Farming Activities

The Management Plan shall contain as a minimum:

1. Property details

    (a) Physical address

    (b) Description of the ownership and name of a contact person

    (c) Legal description of the land and farm identifier

2. A map(s) or aerial photograph at a scale that clearly shows:

    (a) The boundaries of the property.

    (b) The boundaries of the main land management units on the property.

    (c) The location of permanent or intermittent rivers, streams, lakes, drains, ponds or wetlands.

    (d) The location of riparian vegetation and fences adjacent to water bodies.

    (e) The location on all waterways where stock access or crossing occurs.

    (f) The location of any areas within or adjoining the property that are identified in a District Plan as "significant indigenous biodiversity".

    (g) The location of any critical source areas for phosphorus loss for any part of the property within the High Runoff Risk Phosphorus Zone.

3. A description of:

    (a) the on-farm actions that have been undertaken in the previous 01 July to 30 June period to implement the Good Practices described in the table below; and

    (b) the on-farm actions that will be undertaken over the next 01 July to 30 June period to implement the Good Practices described below.

Good Practice	On-farm actions undertaken to implement good practice in the previous 12 months	On-farm actions to be undertaken in the next 12 months
Irrigation systems, effluent application systems, fertigation systems and fertiliser or organic manure systems are calibrated by a suitably qualified person at least once every 12 months		

Good Practice	On-farm actions undertaken to implement good practice in the previous 12 months	On-farm actions to be undertaken in the next 12 months
Water, effluent and fertiliser is applied at a rate that does not exceed the water holding capacity of the soil or the agronomic requirements of the crop.		
Vegetated buffer strips of at least 5 metres in width are maintained between areas of winter grazing and any river, lake, drain or wetland.		
Silage pits, refuse pits and offal pits are sited, designed and managed to avoid the discharge of leachate into surface waterbodies		
Effluent storage systems comply with the regional council rules or the conditions of any resource consent granted.		
Fertiliser is stored a minimum of 20 metres from surface waterbodies		

4. A copy of this plan shall be retained by the landowner and updated at least once every 12 months as necessary, and provided to the Canterbury Regional Council on request.