Waikato Regional Council Policy Series 2019/07

Section 42A Report

Proposed Waikato Regional Plan Change 1 – Waikato and Waipā River Catchments

Block 2

Parts C1-C6: Policies, Rules and Schedules (most)

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Waikato
REGIONAL COUNCIL
Te Kaunihera ā Rohe o Waikato

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1 Introduction

1. Following notification on 22 October 2016, 1023 submissions were received on Proposed Plan Change 1 (PC1). These submissions raise a range of issues and make many requests for changes to PC1. There were an additional 61 submissions received on Variation 1 to Plan Change 1 (Var1), bringing the total number of submissions to 1084.

2. This report is prepared under section 42A of the Resource Management Act 1991 (RMA), and is known as the "Section 42A Report". It is used by the Hearing Panel to assist them with the requests in the submissions and the implications of accepting or rejecting submission points. The analysis in it is the opinion of the Officers[1], and it is not binding on any party – the Hearing Panel will make recommendations, and the Council will make the ultimate decisions on changes to PC1 as a result of submissions. For the avoidance of doubt, while this report is not the "evidence" of an individual, the report has been prepared in a manner consistent with the Code of Conduct for Expert Witnesses.

3. The hearing process and reporting has been broken into three steps – broadly the overall outcomes, core of polices and rules, and more technical components. This second part of the reporting has been prepared before the first part has completed a hearing process or had a preliminary decision issued. Therefore, the recommendations are subject to update and adjustment, depending on the 'overall outcomes' decided in the first hearing block.

4. While many of these submissions have common themes, all of the provisions of PC1 are subject to one or more submissions. Due to the large number of submissions, submitters with common submission points have often been grouped together in the discussion of individual provisions. For example, there are over 1000 submission points on some topics, with dozens of variations of relief sought. This means that individual submitters are often not identified and the reporting on submitters is often generalised e.g. 'a large number of submissions were received on Policy….' and only a single submitter or submission point is shown. This has been done as a means of confirming that there is scope within the submissions to make the requested change, rather than identifying or prioritising particular submitters. A full list of the submissions that are addressed in each section of the report is attached as Appendix B.

5. There are further submissions on many submission points. Many of the further submissions are substantial, some are several hundred pages in length. The majority of further submissions are from original submitters (68 of 70 received). For most of the further submission points, the change being supported or opposed is also addressed in the submitter's original submission.

6. As a generalisation, several of the agriculture and horticulture submitters (such as Horticulture New Zealand (HortNZ), Beef + Lamb New Zealand Limited (Beef and Lamb) and Farmers 4 Positive Change (F4PC)) supported each other through further submissions, as well as garnering other further submitter support from the agriculture community. Further submissions in opposition to many points of these original submitters consistently came from The Royal Forest and Bird Protection Society of New Zealand (Forest and Bird) and the Waikato River Authority (WRA).

7. Overall, given the issues subject to further submissions are discussed in relation to the original submission point, only in exceptional cases are further submission points noted in the body of this report.

[1] Throughout this Report the term "Officers" is used to represent the team of authors of this report. The lead author, and person ultimately responsible for the opinions in this report is Matthew McCallum-Clark. Full details of the qualifications and experience of the team is included in Appendix A.

1.1 Report format

8. This Report is 'topic-based', in that it responds to the submissions grouped by topic, rather than by the order of the provisions in PC1. The broad structure of this report is as follows, recognising that Parts A and B were released on 14 January 2019, and Parts C7-10 will not be released until a future date, is:

Part A – Introduction and context

- Introduction, structure and abbreviations
- Brief summary of PC1 and its development
- Variation 1 process
- Legal and statutory framework
- NPS-FM and its 2017 update, other NPSs and NESs, MfE work programmes
- Waikato River Vision and Strategy, Joint Management Agreements
- Collaborative development process
- Waikato Freshwater Strategy
- Water quality and ecosystem health

Part B - Outcomes

B1. Overall direction and whole plan submissions
B2. Values and uses
B3. Science and Economics
B4. Objectives
B5. Water quality targets and limits, FMUs, priority areas and sub-catchments

Part C – Topics

C1. Diffuse discharge management
- Overseer
- Policies 1 and 2 and the overall rule framework
- Farm Environment Plans and Policy 2 (part)
- Reductions (75th percentile)
- Land use change
- Other relevant policies and definitions

C2. Cultivation, slope and setbacks
C3. Certified Industry Schemes
C4. Stock exclusion
C5. Māori Treaty Settlement Land
C6. Urban/point source discharges
C7. Commercial vegetable production
C8. Alternative approaches – including sub-catchment planning
C9. Farm Environment Plans
C10. Miscellaneous (forestry, wetlands and lakes, other miscellaneous, consequential changes)

9. Recommendations are made where appropriate, and these are either to retain provisions without amendment, or to add to or amend the provisions with the amendment shown by way of strikeout and underlining. In limited circumstances the Section 42A Reporting Officers (Officers) consider that an amendment may be appropriate, but consider it would be beneficial to hear further evidence before making a final recommendation, and this is made clear within the report. All recommended changes have a footnoted reference with a submission point and submitter name that provides the scope for the recommended change.

1.2 Take note for this section of the Report

10. A key difference in this part of the report from the Block 1 hearing report, covering topics A and B above, is the setting out of the recommendations in a 'tracked changes' version of PC1, rather than in the text of this report. This saves repetition and the difficulty of recommendations on different parts of a rule or policy being separated in this report. Therefore, this report needs to be read alongside that tracked changes version, and is attached as Appendix C to this Report.

11. The analysis and recommendations of this section of the report are conditional on the outcomes of the Block 1 hearing process, and especially the expert witness caucusing and decisions on Table 3.11-1. The Officers, at the time of writing this report do not know the outcomes of the hearing on the overall direction and objectives. Therefore, the recommendations here are provisional, and subject to change in the final recommendations of the Officers, to be published at the end of the hearing process.

12. At the beginning of each section of this report there is a brief summary of that section and the key recommendations (around half a page of text). That is a good start-point to get an overview of the section.

1.3 Abbreviations

13. Abbreviations used in the text of this Report are:

BOPRC	Bay of Plenty Regional Council
BPO	Best Practicable Option
CFEP	Certified Farm Environment Planner
CFNA	Certified Farm Nutrient Advisor
CNMA	Certified Nutrient Management Adviser
CSG	Collaborative Stakeholder Group
CVP	Commercial Vegetable Production
E.coli	Escherichia coli
FEP	Farm Environment Plan
FMU	Freshwater Management Unit
GFP	Good Farming Practice
GMP	Good Management Practice
HRWO	Healthy Rivers Wai Ora
N	Nitrogen
NES	National Environmental Standard
NPS-FM	National Policy Statement for Freshwater Management
NRP	Nitrogen Reference Point
Officers	Section 42A Reporting Officers (see Appendix A)
Overseer	OVERSEER® Nutrient budgets
P	Phosphorus
PC1	Proposed Plan Change 1
PCE	Parliamentary Commissioner for the Environment
RMA	Resource Management Act 1991
RSI&I	Regionally Significant Infrastructure and Industry
WRPS	Waikato Regional Policy Statement
TLG	Technical Leaders Group
TN	Total Nitrogen
TP	Total Phosphorus
Var1	Variation 1 to Plan Change 1

Vision and Strategy	Vision and Strategy for the Waikato River/Te Ture Whaimana o Te Awa o Waikato
WRA	Waikato River Authority
WRC	Waikato Regional Council
WRP	Waikato Regional Plan

14. Abbreviations of submitter names used in the text of this Report are:

Ata Rangi	Ata Rangi 2015 Limited Partnership
Ballance	Ballance Agri-Nutrients Limited
BOPRC	Bay of Plenty Regional Council
Beef and Lamb	Beef + Lamb New Zealand Limited
DoC	Department of Conservation
F4PC	Farmers 4 Positive Change
FANZ	Fertiliser Association of New Zealand
Federated Farmers	Federated Farmers of New Zealand, Federated Farmers of New Zealand (Waikato Region) 1999 Incorporated, Federated Farmers of New Zealand – Rotorua Taupō Province Incorporated, Federated Farmers of New Zealand (Auckland Province) Incorporated
Fish and Game	Auckland/Waikato Fish and Game Council, Eastern Region Fish and Game Council
Fonterra	Fonterra Co-operative Group Limited
Forest and Bird	The Royal Forest and Bird Protection Society of New Zealand
Hamilton CC	Hamilton City Council
HFM	Hancock Forest Management (NZ) Limited
HortNZ	Horticulture New Zealand
Matamata-Piako DC	Matamata-Piako District Council
NZTA	NZ Transport Agency
Oji Ltd	Oji Fibre Solutions (NZ) Limited
Oil Companies	BP Oil NZ Limited, Mobil Oil NZ Limited, Z Energy Limited
Pamu Farms	Pamu Farms of New Zealand by Landcorp Farming Limited
PLUG	Primary Land Users Group
Rotorua Lakes DC	Rotorua Lakes District Council
South Waikato DC	South Waikato District Council
Tangata Whenua submitters	Maniapoto Māori Trust Board, Maungatautari Marae, Ngaati Tamaoho Trust Te Taiao, Ngāti Haua Iwi Trust, Poohara Marae, Potini Whaanau, Raukawa Charitable Trust, Te Arawa River Iwi Trust, Te Awamaarahi Marae Trustees, Te Kauri Marae, Te Runanga o Ngāti Kea Ngāti Tuara Trust, Te Taniwha o Waikato, Te Whakakitenga o Waikato Incorporated (Waikato-Tainui), Tūrangawaewae Marae, Tūwharetoa Māori Trust Board, Waahi Whaanui Trust, Waikato and Waipā River Iwi
Taupō DC	Taupō District Council
Waipā DC	Waipā District Council
Waikato DC	Waikato District Council
Waitomo DC	Waitomo District Council
Watercare	Watercare Services Limited
WRA	Waikato River Authority
WRC	Waikato Regional Council

C1. Diffuse discharge management

15. Given the detail that needs to be addressed in this section, the large number of submitters and the diversity of changes sought be submitters, this section is broken into the following constituent parts:
    - Overseer
    - Policies 1 and 2 and the overall rule framework
    - Farm Environment Plans and Policy 2 (part)
    - Reductions (75th percentile)
    - Land use change
    - Other relevant policies and definitions

16. The sections are interrelated and must be considered as a whole. Further, given the sheer number of submissions and variety of outcomes sought, the grouping of submitters and discussion of concepts, rather than specific wording sought, is more frequent in this part of the report.

C1.1. Overseer[2]

C1.1.1. Summary of this section and recommendations

17. This section responds to submissions about the use of the Overseer model in PC1 and related methods of managing diffuse discharges. PC1 relies on Overseer to model nitrogen leaching from farmed properties.

18. The main issue raised in submissions is about whether Overseer should be used in PC1, and if so, how. There is currently a lot of discussion in New Zealand about how Overseer should be used in regulation. Two important recent reports about this are the Parliamentary Commissioner for the Environment's "Overseer and regulatory oversight" (2018) and Enfocus's "Using Overseer in water management planning" (2018).

19. The general conclusion from these discussions is that Overseer can be used in regulation in a relative sense but not an absolute sense. Overseer can be used to give a good indication of whether a change in practice, on a particular farm, is likely to increase or decrease nitrogen leaching from that farm. It cannot be used to definitively identify how much nitrogen is actually leaching from the farm.

20. Beyond this question of how Overseer should be used, a range of other matters are addressed in this section including alternative models, how to manage farm specific matters that are not well modelled by Overseer and Overseer version changes.

21. Key recommendations include:

    1. Overseer is the best tool we have for managing nitrogen leaching from most farms.
    2. Although PC1 provisions are mostly consistent with current thinking about how Overseer is best used in regulation, some changes are needed to improve alignment.
    3. Overseer can be used to establish a property's Nitrogen Reference Point (NRP), and to inform the development of the property's Farm Environment Plan (FEP).
    4. Currently, an Overseer derived NRP should not be a point of compliance, but a tool to ensure farm changes described in the FEP do not result in increasing nitrogen leaching. Overseer inputs used to develop a property's NRP could inform consent conditions, which would then be the points of compliance for the property.

[2] This section authored by Urlwyn Trabuco and Matthew McCallum-Clark

5. Because the Overseer derived NRP should currently not be used as a point of compliance, the NRP limit in Rule 3.11.5.2 (15 kg N/ha/yr) needs to be changed to a stocking rate limit.
6. A number of changes are needed to Schedule B, which describes how Overseer is to be used, to clarify requirements, to respond to developments in the Overseer system, and to better reflect recent thinking about how Overseer should best be used.

C1.1.2. Introduction

22. This section of the s42A report responds to submissions about the use of the Overseer model in PC1. Overseer "*is a computer software model that is being used to provide estimates of annual losses of nitrogen and phosphorus from a broad range of farm systems*"[3]. PC1 relies on Overseer to model the amount of nitrogen leaching from farmed properties.

C1.1.3. Matters addressed in this part of the Section 42A report

23. Many submissions are about the use of the Overseer model. Some request changes to the way the model is used, while others state that the model should not be used at all. This section of the Section 42A Report responds to these submissions.

24. This section of the report specifically addresses the more technical aspects of the use of Overseer in PC1. Many submissions that mention Overseer are fundamentally about broader issues such as the need for a NRP, reference years for the NRP, the need for FEPs, whether the NRP or FEP is the point of compliance, thresholds for which farms need to use Overseer, the focus of PC1 on nitrogen, nitrogen trading and nitrogen allocation. These broader issues are dealt with in other parts of the Section 42A Report.

25. The following topics will be addressed in this section

    1. Requests to delete Overseer from PC1
    2. Requests to delete the use of Overseer for regulatory purposes – use as a guide only
    3. Requests to change PC1 to allow the use of models and methods other than Overseer
    4. How to provide for nitrogen reducing mitigations not modelled by Overseer
    5. Requests for specific changes in PC1 (particularly Schedule B) to the way Overseer is used
    6. Issues with respect to different Overseer versions
    7. Best farming practices assumed in Overseer
    8. Other matters related to Overseer raised in submissions
    9. Implications for the definition of NRP

26. Note that following the discussion of these matters, some overall conclusions are made about the use of Overseer in PC1.

C1.1.4. How is Overseer used in (the notification version of) PC1?

27. Overseer is primarily used to support the management of nitrogen discharges from farming activities. There are two key aspects to this: establishment of NRPs and to support the development of FEPs.

28. A NRP is defined in PC1 as:

> *The nitrogen loss number (units of kg N/ha/year) that is derived from an Overseer® use protocol compliant Overseer® file that describes the property or farm enterprise and farm practices in an agreed year or years developed by a Certified Farm Nutrient Advisor, using the*

[3] Using Overseer® in Regulation – Technical resources and guidance for the appropriate and consistent use of Overseer by regional councils

current version of the Overseer® model (or another model approved by the Council) for the property or enterprise at the "reference" point in time.

29. The Overseer model estimates nutrient flows in a farming system. Although it models seven nutrients, as well as greenhouse gas emissions, the key nutrient output for PC1 purposes is nitrogen. Input information for the model includes a range of physical attributes such as topography, soil types and climate, as well as farm system information such as farm animals, crops, fertiliser use and imported feed. The model estimates how much nitrogen leaches from a modelled farm operation.

30. Schedule B of PC1 describes how NRPs are to be developed. The NRP is calculated based on a reference period, which is the two financial years covering 2014/2015 and 2015/2016, except for commercial vegetable production (CVP), where the reference period is 1 July 2006 to 30 June 2016 (Schedule B(f)). The NRP is the highest annual modelled nitrogen leaching loss during a single year within the reference period, apart from CVP, where it is the average annual leaching loss during the reference period (Schedule B(b)).

31. The NRP must be calculated using the current version of Overseer, or any other model approved by the Chief Executive of Waikato Regional Council (WRC) (Schedule B(c)). It must be calculated using the Overseer Best Practice Data Input Standards 2016 (Schedule B(d)), except as set out in Table 1 of Schedule B.

32. Requirements for the development of FEPs are described in Schedule 1. Subsection 2(e) states that a FEP must include a description of nutrient management practices including a nutrient budget for the farm, calculated using the Overseer model (or another model or method approved by the Chief Executive of WRC). Subsection 5(a) states that the FEP must include:

> *Actions, timeframes and other measures to ensure that the diffuse discharge of nitrogen from the property or enterprise, as measured by the five-year rolling average annual nitrogen loss as determined by the use of the current version of Overseer®, does not increase beyond the property or enterprise's Nitrogen Reference Point, unless other suitable mitigations are specified.*

33. The five-year rolling average is defined in PC1 as the average of modelled nitrogen leaching losses predicted by Overseer from the most recent 5 years. In order to calculate the average, each farm authorised under these rules will need to annually engage a Certified Farm Nutrient Advisor (CFNA) to complete an Overseer analysis for that year.

34. In terms of developing a FEP, Overseer becomes a decision support tool, in that a farmer may run different farm management scenarios through Overseer, to help in decisions about future farm management.

35. Schedule 1(5)(b) states that where a NRP exceeds the 75th percentile nitrogen leaching value for a Freshwater Management Unit (FMU), the FEP shall contain actions, timeframes and other measures to ensure the diffuse discharge of nitrogen is reduced so that it does not exceed the 75th percentile. The 75th percentile is defined in PC1 as "*The 75th percentile value (units of kg N/ha/year) of all of the Nitrogen Reference Point values for dairy farming properties and enterprises within each FMU and which are received by the Waikato Regional Council by 30 November 2020*". Overseer is therefore used in PC1 to support the reduction in nitrogen leaching from high leaching farms.

C1.1.5. National guidance on the use of Overseer

36. Overseer is now used in regulation in several regions. A lot of discussion has occurred in recent years about how Overseer should be used by regional councils. Some of the key resulting documents, which will be important in terms of this section of the Section 42A report, are as follows:

- Freeman, M, Robson, M, Lilburne L, McCallum-Clark, M, Cooke, A, & McNae, D. (2016) Using Overseer in regulation - technical resources and guidance for the appropriate and consistent use

of Overseer by regional councils, August 2016. Report prepared by Freeman Environmental Ltd for the Overseer Guidance Project Board. The Overseer Guidance Project Board, consisted of representatives from groups including regional councils, the Ministry for Primary Industries, Ministry for the Environment, Dairy Industries Association, HortNZ, Beef and Lamb New Zealand and Overseer Limited. The purpose was to provide information and advice about how Overseer should be used in regulation.

- Using Overseer in Water Management Planning: Guideline 1 – Overseer, Enfocus 2018. This guide provides an "overview of Overseer, its actual and potential use in water quality management and the issues and limitations of its use in that context".
- The Parliamentary Commissioner for the Environment (PCE) report: "Overseer and regulatory oversight: Models, uncertainty and cleaning up our waterways", released in December 2018. The report raises questions about the accuracy of Overseer as a tool to model leaching in different situations, and recommends that the model be comprehensively reviewed, including by conducting sensitivity and uncertainty analysis. The report stated, in the section titled "Can Overseer be used in a regulatory context", that "It would be tempting to conclude that Overseer should not be used in regulation until such an evaluation is carried out". However, it goes on to say that that given the requirements of the National Policy Statement for Freshwater Management (NPS-FM), in catchments where nitrogen is overallocated "There is a need to have a tool capable of quantifying nitrogen lost from farms. Overseer can fulfil this task" (page 83). The PCE notes that whether Overseer use is acceptable or not, depends on how the model is used. The report does not state how Overseer should best be used in regulation, although it recommends that government develop such guidance. The report notes, without explicitly supporting or rejecting it, the position from the Enfocus report cited above, that "Overseer in a regulatory context is probably best regarded as a tool for assessing the relative change in nitrogen leaching between different points of time, rather than a model that attempts to estimate nitrogen leaching in absolute terms".

C1.1.6. The use of Overseer in New Zealand

37. Overseer is now used in New Zealand by a number of regional councils to support management of nutrient leaching. This section describes how Overseer is currently being used in the Taupō catchment and in the Canterbury, Bay of Plenty and Manawatu-Wanganui regions.

Taupō

38. In 2011, new rules to protect Lake Taupō water quality became operative. The rules capped the amount of nitrogen able to be discharged from farming and wastewater. Land owners were required to obtain a Nitrogen Discharge Allowance (NDA), using Version 5.4.3 of Overseer. The NDA was chosen to represent their highest nitrogen discharge year, within a four year reference period. Nitrogen can be traded (sold or leased), with the Overseer model being used to facilitate the trade. Trades are recorded on land use consents.

39. In order to protect Lake Taupō, it was considered that as well as capping nitrogen discharges, 20 per cent of the manageable load of nitrogen in the catchment was to be removed, to counter the 'load-to-come' of nitrogen already on its way to the Lake from historical land use practices. The Overseer model was used to facilitate the removal. Nitrogen was bought from land owners by the Lake Taupō Protection Trust, using an $80 million public fund. These transactions were recorded in legal contracts. Land owners deleted the nitrogen sold from their NDA, and used Overseer to determine what they could do with their land, while remaining within their new NDA.

Canterbury

40. The Canterbury Land and Water Regional Plan (CLWRP) manages the impacts of land use on water quality in the Canterbury region. Under the CLWRP, there are region wide provisions and separate provisions for sub-regions, recognising different water quality risk zones. Recently Plan Change 5 (PC5) has made substantial changes to the provisions in terms of farm management.

41. In general, Environment Canterbury uses Overseer in the following ways:

- Overseer is used in combination with other models to calculate and set a nitrogen load for a catchment/freshwater management unit.
- Overseer is used to determine if a property meets or exceeds thresholds in the plan rules, to distinguish between permitted activities and those that require a resource consent. For example, there are rules which state that the use of land for a farming activity is a permitted activity if the nitrogen loss rate for the property remains below a specified loss rate (kg/ha/yr). Under PC5, these thresholds have been removed and replaced with new narrative thresholds pertaining to irrigation and winter grazing. The change was due to difficulties dealing with Overseer version changes when determining which properties were permitted, and which required consent.
- Overseer is used in consent processes to establish property-based limits for farming activities. Each farm has a baseline Overseer file that represents its nitrogen baseline over the four year period, 2009-2013.
- PC5 also introduces policies and rules to ensure that farmers achieve a "*Good Management Practice (GMP) Loss Rate*", which is a nitrogen loss rate (kgN/ha/yr) that represents the nitrogen loss for the farm if operated with GMPs. Canterbury uses a 'Portal' which farmers use as a system for entering farm information. Overseer 'sits behind' the Portal. The Portal uses the property's baseline Overseer file to produce a Baseline GMP Loss Rate. Under PC5, farmers will be required to comply with this Loss Rate, which represents the nitrogen leaching that would be expected to occur if the farm continued to operate as it did during the 2009-2013 period, and GMPs were being employed. If the farmer wishes to change farm activities, the new activities can be entered into the Portal to produce a new GMP Loss Rate (i.e. different to the Baseline GMP Loss Rate). In some catchments, where leaching is above a sustainable rate, PC5 will require farmers to operate at a level that is less than their GMP Loss Rate.
- When a new version of the Overseer model is released, it will replace the earlier version in the Portal. Farmers will then be expected to operate within the new Baseline GMP Loss Rate or GMP Loss Rate modelled by the latest version of Overseer.

Bay of Plenty

Rule 11

42. Overseer is used by Bay of Plenty Regional Council (BOPRC) to manage nutrient leaching in five Rotorua Lake catchments. The regional plan's Rule 11 caps nitrogen and phosphorus loss from land use activities. Overseer was used to model the average nutrient loss between 1 July 2001 and 30 June 2004, to derive the landowner's benchmark. With the exception of Lake Rotorua, current and future land uses that stay within the benchmark are permitted. A discretionary consent is needed to exceed the benchmark.

Plan Change 10

43. BOPRC has notified a change to the regional plan (Plan Change 10) to introduce new provisions to reduce nutrient leaching in the Lake Rotorua catchment from 755 tonnes to 435 tonnes per year. A Nitrogen Discharge Allocation (NDA) using Overseer 6.2.0 is calculated for each farm enterprise. The benchmark from Rule 11 is used to help inform the start point from which reductions are to the made under Plan Change 10.

44. Farm enterprises over 10ha in area are required to apply for a controlled activity consent and to have a Nutrient Management Plan (NMP). The NMP identifies sources of nutrients associated with land uses and records mitigation actions to reduce nitrogen losses to meet Managed Reduction Targets (MRT) and the Nitrogen Discharge Allocation (NDA) and to manage phosphorus loss. The NMP includes actions to be completed at different stages to achieve their NDA by 2032. If significant changes to the farm system are made, farmers may need to re-model the farm system using Overseer to see if the farm is operating within the NDA and the NMP. Upon gaining an approved consent the mitigation actions in the NMP are locked in for five years or until the next MRT is due, whichever occurs first, protecting the consent holder from any changes to Overseer that arise during that time.

45. In addition to this, Plan Change 10 uses a 'reference file' system, to deal with Overseer version changes. Reference files are Overseer® files that represent the average benchmarked farm. Each farm's NDA is represented as a percentage of the reference file for that farm type (such as dairying or drystock). When a new Overseer version is released, the reference farm is run through the model to calculate a new Overseer number. Each farm's NDA is then updated based on their percentage. If a farm has an NDA which is 125 percent of the reference file, if a new version changes the average nitrogen loss, the farm will then have a new NDA which is equivalent to 125 percent of the new reference file.

Horizons (Manawatu-Wanganui)

46. The One Plan sets cumulative nitrogen leaching maximums (CNLMs) based on land use capability (LUC) classes, for particular catchments where water nutrient loads were too high, and the main sources were diffuse losses from intensive farming. Consents are required for intensive farming in these catchments. Limits were set for each LUC class to reflect leaching from that LUC class by a hypothetical farm modelled by Overseer on the basis of no external inputs.

47. Overseer is used to determine if particular farms meet the CNLM. If the farm does not meet the CNLM, Overseer is used to test farm mitigations, so that farmers can choose how their farm operations need to be altered to meet the CNLM. Overseer modelling is relied on in consent processes for farming operations.

48. The Horizons One Plan currently does not allow the LUC nitrogen leaching maximums to be altered as different Overseer versions are introduced. Horizons are currently working through this issue.

C1.1.7. A WRC staff view on what Overseer can and can't be used for

49. WRC staff were asked by the PCE, in June 2018, to provide a response to the question: What is the Overseer nitrogen output useful for and what is it not useful for? The response provided by WRC staff is repeated here in full, as WRC staff continue to maintain these positions. It should be noted that the response is consistent with the Enfocus view stated above, that Overseer is best used in a relative sense (such as indicating the likelihood that practices on a particular farm may increase or decrease nitrogen leaching over time).

> *In terms of estimating N leaching, WRC staff think about Overseer in the following way:*
> - *The amount of N leaching that occurs on a particular piece of land depends on a wide range of factors, including the intensity of how land is used, and the physiographic characteristics of the land (such as slope, soils and climate).*
> - *A wide range of NZ and overseas scientific research has examined the influence of these factors, and the collective scientific wisdom gained from the research has been collated to create Overseer. So Overseer represents a collated opinion of the best technical experts, and the best understanding that we have. However, that understanding is still imperfect.*
> - *The influence of the soil physical and chemical parameters that affect N loss are hugely variable both spatially and over time. No amount of scientific research can ever replicate or account for this variability. The experts have accounted for temporal climate variability to a degree by using long term rainfall and temperature averages as inputs.*
> - *Overseer therefore represents the collective best current scientific wisdom of the estimated cumulative effect of each of the factors at a particular location under a particular land management scenario that are likely to influence N leaching, but at the end of the day, there is still a large component of expert opinion behind the modelled estimates.*
>
> *In thinking about the usefulness of Overseer for regional council regulatory responsibilities, the following additional points are noted:*
> - *In general, Overseer is considered the best model available for estimating N leaching from most (particularly pastoral) farms.*
> - *Overseer has been successfully used in the Lake Taupō catchment to cap land use N leaching (informing Nitrogen Management Plans), and to facilitate trading of N.*

- *The model works better in some situations than others (depending on land use, soil conditions, topography, climate conditions and so on).*
- *The model indicates leaching below the root zone, but cannot indicate how much N will reach a water body.*
- *Confidence in Overseer estimates can be increased by the use of expert practitioners to populate the model.*
- *Overseer is continually being improved with new research and ground validation trials, and improvements to the model's algorithms. However this means that updated versions of the model may estimate different nutrient leaching losses for the same piece of land and the same set of input parameters.*

WRC is of the view that Overseer is best used in a relative sense rather than an absolute sense. Overseer can therefore best be understood as a relative index of nitrogen leaching. For example the model can provide a good indication of the likelihood that a farm management change may increase or decrease N leaching. However, the model cannot be used to quantify the exact leaching amount from a particular property.

Considering the above matters, we can say that Overseer can be used to tell us the following:

1. *Two farms with the same Overseer estimate are likely to be leaching broadly similar amounts of N, irrespective of differences in land use or physiography.*
2. *Two management scenarios (i.e. two differing sets of input parameters) on the same farm that both have the same Overseer estimate can be considered to be equivalent in terms of N leaching.*
3. *A farm with a higher Overseer estimate is likely to be leaching more than a farm with a lower Overseer estimate, irrespective of differences in land use or physiography.*
4. *A change of management on a farm that, when modelled, results in a lower Overseer estimate, means that management change is likely to reduce the long term average N loss from that farm (and vice versa).*
5. *Overseer can provide an estimate (an approximation) of the average annual amount of N leaching from a property. The modelled estimate can be compared to a modelled N Reference Point for the property, calculated by the same version of Overseer. For example, a farmer may test different farm management systems by modelling them with Overseer, to see how the output would compare with the farm's NRP. Making such comparisons with different versions of Overseer will be less reliable, and perhaps considerably so.*
6. *Overseer is very useful as a decision support tool, to identify farm management practices for N mitigation (such as during development of a Farm Environment Plan).*
7. *Overseer can be used to estimate catchment level N leaching, by accumulating property level estimates of N leaching. This can be useful for helping to build understanding of the relationships between catchment land use and receiving water body N concentrations.*

However, there are some things that Overseer cannot tell us:

1. *Overseer cannot tell us that a farm with an Overseer estimate of say 25 kgN/ha/yr has actually leached 25 kg of N in the last year or even that it has actually leached 25 kgN/ha/yr on average over the last 10 years.*
2. *Overseer cannot be used to prove that a farm is, or is not, compliant with a particular N leaching discharge limit (ie to prove for example that actual N leaching on a farm exceeds say 25 kgN/ha/yr)*
3. *Overseer cannot be used to determine how much N is likely to reach a water body from a particular farm, given that the model does not account for N attenuation beyond the root zone.*

There has been a lot of discussion about whether Overseer should be used to trigger a consent requirement for a particular property. On the surface, an Overseer number could be used to indicate the potential extent of adverse effects, and therefore an appropriate consent category for an activity involving N leaching. So for example, farms with a modelled Overseer N leaching value of below xkgN/ha/yr are permitted activities, those with between x and y kgN/ha/yr of modelled Overseer N leaching are controlled activities and those above y, discretionary activities. In practice however, there are a number of negative consequences of this; the main

issue relating to different Overseer versions. Because different versions of Overseer can result in different modelled N outputs for the same inputs, a property where farming is permitted under one version, may change to controlled activity under another version, despite the farm system being the same. At present, there is no generally accepted solution to this problem, although a number of councils are trying to find solutions.

50. A number of these points will be drawn on, in the analysis of the decisions requested.

C1.1.8. Analysis of decisions requested

C1.1.8.1. Delete Overseer use in PC1

51. Many submissions request that all mention of Overseer be deleted from PC1 (over 175 specific submission points recorded). A number of other submission points request deletion of Overseer from particular PC1 provisions (92 submission points request deletion from Policies 2 and 7, Rules 3.11.5.2 - 3.11.5.7, Schedule B and Schedule 1).

C1.1.8.2. Accuracy of Overseer

52. Many submitters stated that Overseer does not accurately model nitrogen leaching. A fairly typical submission in this respect is Lamont and Neal who request that Overseer be removed completely from PC1. Their reasons are that Overseer "*relies on a wide number of assumptions, the accuracy of Overseer for drystock and particularly trading properties is apparently very poor (50% variation) and can vary depending on the information that is entered into it. It was never designed to be used for this purpose*". Some submitters consider that the model itself is flawed, that it is not based on sufficient science. Some felt that it did not allow inputs sufficient to accurately model their farms, such as some crops, some nitrogen mitigation methods, climate specific to a farm and so on. Some felt that there are too many assumptions in the model, and that depending on the person doing the modelling, very different nitrogen outputs can be obtained.

53. Accuracy, and sources of error in Overseer have been discussed in the three reports described earlier (Freeman et al 2016, Enfocus 2018 and PCE 2018). The PCE report raises significant questions about the accuracy of the Overseer model. The report is concerned that the model may not accurately determine how much leaching actually occurs from any particular farm, and cannot determine how much of the leached nutrients actually reach water bodies. As noted above, WRC Officers accept that the model should not be relied upon as an accurate representation of actual leaching rates.

54. The most detailed assessment of errors in the Overseer Model is to be found in the Enfocus report. The report noted that the only attempt to quantify the accuracy of Overseer for pastoral farming, Ledgard and Waller (2001), concluded that the estimated uncertainty in nitrate-N drainage was +/- 25-30%. It is not possible to know if this would still apply to modern versions of the model. Enfocus also noted that there are potential sources of error that would not have been considered in Ledgard and Waller calculations. Enfocus noted sources of error such as:

- Overseer can use long-term averaged data rather than real time data, so the estimated leaching rate will differ from the actual rate at any particular point in time.
- Some input data can be obtained by field measurements. However those measurements are for a particular time and place, so cannot be perfectly representative of what is actually occurring on the farm being modelled.
- Data input errors and inaccuracies can include inadvertent errors, errors from misunderstanding or lack of knowledge, interpretation differences (such as which input parameter applies to a particular situation), variation from attempts to provide a "work around" for an aspect of the farm system not modelled by Overseer and deliberate attempts at manipulation (where the user enters a value they know to be incorrect).

55. These sorts of errors would be over and above the +/- 30 per cent error noted above, which is more a result of internal model assumptions that will not always accurately represent the real world situation in any particular case.

56. There are a number of ways of decreasing error and uncertainty in the use of Overseer. The August 2016 "Using Overseer in Regulation" report (section 7.5) notes that error and uncertainty can be reduced by "*using good quality user data inputs that are supported (and/or verified) through accurate record keeping or supported by using other data (e.g. improved soil mapping), other modelling tools (e.g. crop calculators, Farmax, pasture modelling tools) or farm system expertise*". Ensuring that those inputting into Overseer have the necessary expertise, and using best practice data input standards are also ways of improving accuracy of Overseer outputs. It is important that modellers have a good understanding of situations that Overseer does not model well (where certain farm systems and environments are not fully and accurately represented in Overseer), and that effective work-arounds, such as surrogate crop types, are employed. PC1 does support some of these methods, such as ensuring data inputs are supported by farm records, requiring CNFAs to undertake the Overseer modelling, and requiring the use of Best Practice Data Input Standards.

57. It should be noted that accuracy issues arise less when Overseer is being used in a relative way rather than an absolute way. There are likely to be inaccuracies when Overseer is being used to estimate actual leaching from a particular farm (using Overseer in an absolute way). However, if Overseer is being used to assess which management practices may result in higher or lower leaching rates for a particular farm, the results should be relatively reliable (used in a relative way).

C1.1.8.3. Suitability of Overseer for different farm systems

58. Many submitters stated that Overseer does not model particular farm types or particular conditions such as extremes of climate (a drought year or a wet year), steeper topography and certain soils (peat soils were often mentioned). Some stated that it is not accurate for goat farms, piggeries, deer farms and horses. Many submitters stated that it does not model vegetable growing, cropping or horticulture well. Many reasons are cited for this, including complex crop rotations, different fertilisers and fertiliser practice, a limited range of options in Overseer for crop types, cultivation methods and so on.

59. By way of example, HortNZ request that alternatives to the Overseer model are made available to calculate the NRP for the arable and commercial vegetable sector. The submitter requests that proxy farm systems are used to approximate commercial vegetable NRPs. Genetic Technologies Ltd request that Schedule B(c) be changed to ensure that the NRP is calculated using the Overseer model once the changes for cropping have been completed and there is general agreement that it should be used, or some other model approved by the Chief Executive of the WRC. Note that Overseer use for CVP is subject to an expert conferencing session and will be discussed in a future section of this report.

60. Overseer does model some farm systems better than others. Many years of development have gone into developing Overseer as a model for pastoral systems, but cropping is a more recent addition. A lot of work is currently going into better understanding how well Overseer models cropping systems. The Plant and Food Research report: "Overseer crop module testing – end of project report"[4] discusses research which tested the accuracy of the APSIM model against experimental data and then compared Overseer estimates to the APSIM results. The results showed that APSIM "adequately estimated" nitrogen leaching, but that Overseer estimates were not always consistent with those from APSIM. Further work is occurring to improve Overseer modelling of cropping.

61. WRC Overseer experts consider that deer farming is well supported in Overseer, using (along with beef sheep and dairy) research based stock unit assessment and metabolic nutrient cycling. Because deer are

[4] Khaembah E, Brown H, 2016, https://www.overseer.org.nz/publications

ruminants like sheep and cattle there is reasonable understanding of their feed and energy requirements, growth rates, energy requirements for lactation and breeding, and metabolism.

62. In relation to goat farming, some submitters stated that Overseer does not model the goat farming cut-and-carry operation well (including Dairy Goat Co-Operative (N.Z) Ltd, Juby Goat Enterprises Ltd, D. McDonald, Schuler Brothers Ltd, and several others). Nutrients from such operations can be controlled by effluent systems and solids storage. The submission describes how the Dairy Goat Co-operative has been working with Overseer Limited to improve modelling of dairy goat operations. The submission includes a letter from the Chief Executive of Overseer Limited, acknowledging the difficulties in modelling the net nitrogen loss for cut-and-carry milking goat operations, and noting that Overseer Limited is responding to the matter, but that the science required for modelling changes will take some time to deliver. The Dairy Goat Co-operative submits that the WRC should explicitly address this issue by providing an equitable alternative pathway for the dairy goat sector until such time as the Overseer model is able to be upgraded.

63. Horses are uni-gastric, meaning they don't ruminate. There are few studies regarding horse energy requirements and feed/pasture uptake. This is further complicated because many horses diets are made up of a large amount of supplementary feeds, and there is little research regarding the nutrient flows around horse nutrient cycling.

64. In terms of steep land, Officers are not aware of any research or analysis published that suggests that the Overseer model is less accurate in hill country.

65. In terms of soils, Overseer can only calibrate and/or validate against measured data where trials have been carried out. It is not possible to conduct trials for all soil types, climates and topographies. Overseer attempts to address this by extrapolating and interpolating available information based on robust scientific principles. However, this is not a perfect science, and estimates of farm nutrient losses undertaken for situations significantly beyond a reasonable calibration/validation range need to recognise the uncertainty involved. Peat soils are an example where there has been incomplete validation (such as in high rainfall areas).

66. It is clear that Overseer models some farm systems (such as particular animals and crops) better than others. There will always be some farm systems that it was not specifically designed to model. In some cases, sufficient science is available to develop certain 'work-arounds' or proxies that allow Overseer to be used in a way that more accurately models animal types and crops not directly accounted for in the model. If these work-arounds and proxies are used, it is important that they are consistently used, and that all farmers know they can be used. WRC is developing a Nitrogen Reference Point Guide, which, among other things, will describe the work-arounds that may be used in particular situations.

67. Note that in relation to guidelines, Federated Farmers requests that a new paragraph c) be added to Method 3.11.4.12 to read:

> *In consultation and collaboration with industry and stakeholder, develop and disseminate guidelines for how Waikato Regional Council will consider applications to use models other than Overseer, how mitigations not recognised by Overseer will be recognised and provided for, how actual data may be used as an Overseer input (as opposed to defaults), circumstances for departure from Overseer parameter settings, how different input standards could be used for changes in the 2016 data input standards could be accommodated, and alternatives to provide for situations where data is missing*.

68. The Officers agree that a WRC guideline is needed that officially states the proxies and work-arounds as discussed above. It is also recommended in section 1.8.5.1 (General changes to Schedule B) that Table 1 be deleted from Schedule B and that such exceptions and inclusions to the Overseer Best Practice data input standards be included in a WRC Nitrogen Reference Point Guide, which can be updated as new Overseer versions are produced. The matter of guidance about the use of models other than Overseer is discussed

in Section 1.8.5.2 (Requested changes to Schedule B, a-g: Changes to Schedule B(c)). It is considered that this is a matter where general guidance would be very difficult to provide in a plan so is not supported. The discussion in the S42A report about whether to keep or remove the PC1 non-regulatory methods is yet to be published. If the non-regulatory methods are to be kept, a new method could be added as follows:

> ***3.11.4.13 Development of WRC Nitrogen Reference Point guide***
> *Waikato Regional Council will develop and maintain a Nitrogen Reference Point Guide that:*
> a. *Describes data input methodology for the Overseer model where this is to be different or additional to the Overseer Best Practice Data Input Standards or the official Overseer User Guide.*
> b. *Describes any proxies or accepted alternative methods to be used in association with the Overseer model, such that nitrogen mitigations and farm systems not specifically included in the Overseer model and the Overseer Best Practice Data Input Standards or the official Overseer User Guide, can be modelled.*

69. The Officers do consider that there are some farms, such as horse studs and free range piggeries, that are not well modelled by Overseer, and for which work-arounds and proxies may not provide an accurate modelled leaching output. This matter is discussed in relation to the definition of farming and a specific exclusion is recommended.

C1.1.8.4. Overseer is a farm management tool, not a regulatory tool

70. Many submitters say that Overseer was developed as a management tool, not a regulatory instrument. It is a model for long term averages that assume a steady farm state, so should not be used to determine compliance against a number, at any particular point in time (this is further discussed below in relation to overall conclusions for the use of Overseer in PC1).

71. Officers agree that Overseer was developed as a support tool for farmers rather than necessarily as a regulatory tool. The Overseer web site, https://www.overseer.org.nz/about-us-2, describes the vision behind Overseer as being "*Farms are enabled to be environmentally and economically sustainable*". The Mission is to "*manage and develop Overseer to play a major supporting role in the success of primary industries in New Zealand, including:*

- *Increasing farm efficiency and profitability*
- *Achieving national water quality objectives*
- *Managing greenhouse gas emissions*
- *Supporting growth in the value of our primary sector exports*".

72. The Overseer brochure states that Overseer supports:

- Good farming decisions grounded in robust science
- Farmers and their advisers tailoring responses that are best for their individual farms
- Regulation that focuses on farm impacts, rather than blanket restrictions on farm inputs.

73. Overseer Limited has been working with regional councils for many years now. They are very aware of the importance of the Overseer model to support regional council regulatory activities. The Overseer brochure clearly recognises the importance of Overseer for regulation.

74. As noted earlier, the 2018 PCE report recognises the need to use a model that can account for nitrogen leaching in regional council regulation. Although it expresses concerns about Overseer, it recognises that if used appropriately, it can be used to support regulation. It recommends that the Minister for the Environment "prepare guidance for councils designing plan provisions that use Overseer as part of a framework involving nitrogen-loss limits" (page 123).

C1.1.8.5. Overseer does not model leaching beyond the root zone

75. Some submitters state that Overseer does not account for potentially significant nitrogen reduction beyond the root zone. L Bilby states that on heavy silt loam and peat soils, attenuation could account for as much as 80-90% of nitrogen lost from the model, 50% on silt loams and 10-30% on stony coarse textured soils. The concern seems to be that some submitters consider their farming operations will be unfairly limited, if they are farming on soils where there is a high level of nitrogen attenuation. In other words they should be able to farm more intensively on such soils.

76. The Overseer model uses soil information in a range of ways to model N leaching. Different soils will influence leaching due to the rate of drainage through the soil or factors that would influence in-soil denitrification processes. Overseer therefore does take into account some of the impacts of soil type on leaching. Critically, the model does not account for nitrogen attenuation beyond the root zone limit. This is considerably different for different sub-soil types, climate and geological conditions. It is for this reason that Overseer does not model the likely impact of leaching on receiving water bodies. This may mean that some farmers are disadvantaged by controls on their productivity that do not accurately respond to the actual effects of their farming activities. At this stage, Officers consider there is insufficient information to address this accurately for an individual farm.

C1.1.8.6. 'Gaming' Overseer results

77. Some submitters felt that many farmers would 'game' the Overseer results. For example, it is not possible to tell from fertiliser receipts where the fertiliser is used, so farmers with multiple properties could claim it is used on one property with few nitrogen inputs, when in fact it is used on a more intensively farmed property. There could be an incentive for farmers to 'lose' data, if they think the Overseer default options give them a 'better' result.

78. There is certainly potential for 'gaming' Overseer results. This is particularly the case where there are genuine reasons why certain information could be lost (such as when a farm changes hand). PC1 does build some safeguards into the system to try to minimise intentional inaccurate use of Overseer. The key ones are:

- Schedule B(g) requires that records are retained and provided to WRC on request, including stock numbers as recorded in annual accounts together with stock sale and purchase invoices, dairy production data, invoices for fertiliser applied to the land, invoices for feed supplements sold and purchased, water use records for irrigation, crops grown on the land, and horticulture crop diaries and NZGAP records.
- NRPs must be calculated by CFNAs.
- FEPs must be approved by Certified Farm Environment Planners (CFEP).

79. Most farmers will likely try to ensure that Overseer models their farm accurately. While some 'gaming' may occur, the above systems are likely to minimise this to a reasonable degree, particularly over a longer timeframe. Most farmers would not benefit from choosing to use default data rather than farm specific data, as the defaults are generally around 75 per cent of normal FMU average values for those inputs (refer Schedule B, Table 1, noting that while Officers recommend deleting Table 1 its contents will be rolled into a WRC Nitrogen Reference Point Guide). WRC staff who use Overseer for regulatory purposes consider that gaming with a meaningful impact on the modelled output will be rare. Finally, the potential for gaming will decrease over time, due to PC1's requirements for more rigorous reporting of farm information and potentially for the auditing of FEPs.

C1.1.8.7. Overseer is biased toward the fertiliser industry

80. Some submitters believe that Overseer provides results that benefit the fertiliser industry, as they claim Overseer is funded and controlled by the industry.

81. Overseer is jointly owned by the Fertiliser Association of New Zealand (FANZ) (with a Management Board from Ravensdown and Ballance Agri-Nutrients Limited (Ballance)) and AgResearch (a Crown Research Institute). The Ministry for Primary Industries has equal voting rights alongside the shareholders. The Overseer.org website states that "*Overseer Limited is required to re-invest income into the ongoing improvement of Overseer, ensuring that it is a non-profit focused company*." The model has been developed since the 1980s, with input from many scientific papers (many of which are cited on https://www.overseer.org.nz/publications).

82. Given the importance of Overseer to New Zealand, the joint ownership model which involves the New Zealand Government, and the long history of scientific research supporting Overseer's development, it is difficult to imagine how industry bias could be intentionally adding inaccuracies to model outputs. Submitters may wish to explain this in the hearing.

C1.1.8.8. Overseer doesn't model all nitrogen reduction practices

83. Some submitters stated that Overseer should not be used because there are mitigations that can be used to reduce nitrogen leaching that are not modelled by Overseer. This matter is discussed in more detail below. It is true that there will always be a range of mitigations that Overseer does not yet model. This would be the case with any model. It is not a satisfactory reason to not use models for regulation, although it may affect the way models are used.

C1.1.8.9. The cost of using Overseer

84. Some submitters are concerned about the cost of using Overseer (including Kaihere Farms Ltd, and J Nelson). M and C Ravenscroft state that the use of Overseer will bring with it another compliance cost with estimates from a farm consultant for initial data set up being $3000 and approximately $500/annum to get annual reference data.

85. Currently, use of the Overseer model is free. Use of the new Overseer FM version is expected to require an annual subscription fee. Land owners who require a NRP under PC1, will need to have it prepared by a CFNA. WRC staff have reported that the cost of having a NRP prepared will be between $1500 and $5000. The cost range is due to differences in the complexity of the farm and farm system. The cost will also be influenced by the completeness, quality and presentation of validation data. Some land owners will be required to have their farm systems modelled annually to prove compliance.

C1.1.8.10. Lack of computer skills and internet facilities

86. R Hansen and Gillian Joy state that some farmers do not have computer skills, nor internet facilities and service. Officers consider that farmers would not necessarily need computer skills or internet facilities in order to satisfy PC1 requirements. In terms of Overseer use, the model needs to be run by a CFNA who will have such facilities. Farmers can provide farm information in hard copy for the Advisor to work from.

C1.1.8.11. Concerns about sharing farm information

87. Some land owners are concerned about requirements to share information about their farming operations in order to run Overseer. D and S Fish, for example, state that they oppose the need to provide financial accounts, as they consider such accounts are private information, and the requirement an invasion of privacy. Wellington Farms Ltd also considers that such information is private, and D, L, D and C Stobie express concern that private information could be passed on to other parties.

88. The safe management of farm information is an important matter. The report "Using Overseer in Regulation", notes that there are a number of Acts that control information collection by councils including the Local Government Official Information and Meetings Act 1987 (LGOIMA), the Privacy Act 1993, and the Public Records Act 2005. WRC needs to comply with such Acts and to manage farm information responsibly.

89. The WRC submission requests that an advice note be added to Schedule B which reads: *Advice note: For the avoidance of doubt, financial information contained within the above records may be redacted (blacked*

out) prior to it being provided to Waikato Regional Council. Given the concerns expressed by the above submitters, this may help to relieve some of the concerns. It is recommended that this change be made.

C1.1.8.12. Conclusions about whether Overseer should be used in PC1

90. Many submitters have requested that Overseer be deleted from PC1 entirely. Overseer certainly has limitations, as any model does. Officers consider that the Overseer model provides very useful information, if it is used in a way that is appropriate, given these limitations. This matter will be discussed a number of times in this S42A Report.

91. The first key message of the report "Using Overseer in Regulation", was that: *Providing the assumptions, limitations (Appendix 3) and principles (Table 1) are taken into account, Overseer is suitable to provide estimates of nutrient loss for use in the implementation of the National Policy Statement for Freshwater Management 2014*.

92. At this stage the following conclusions can be made (and as noted in the WRC staff response to the PCE question):

- Overseer represents a collated opinion of the best technical experts, and the best understanding that we have. However, that understanding is still imperfect.
- In general, Overseer is considered the best model available for estimating N leaching from most (particularly pastoral) farms.
- Confidence in Overseer estimates can be increased by the use of expert practitioners to populate the model
- Overseer is a useful tool in a relative sense. So for example two farms with similar Overseer nitrogen leaching rates are likely to be leaching broadly similar amounts of nitrogen.
- Overseer is a useful decision support tool, such as to inform development of a farm plan (comparing leaching estimates for different farm management scenarios).

93. The Officers recommend that Overseer should continue to be used to support the management of nitrogen leaching in PC1. WRC should continue to develop work-arounds and proxies that enable Overseer to more accurately model animal types and crops not directly accounted for in the model, where there is sufficient scientific support to enable this. These should be detailed in a WRC Nitrogen Reference Point Guide.

C1.1.9. Delete use of Overseer for regulatory purposes – use as a guide only

94. Somewhat related to requests to delete references to Overseer, over 150 submission points request that Overseer not be used for regulatory purposes, such as to establish a NRP or any form of nitrogen allocation. Some explicitly stated that Overseer should be used as a guide only to farm management. Two submitters (in over 20 submission points) explicitly support the use of Overseer to establish NRPs. One submitter more generally requests Overseer be retained in PC1.

95. TerraCare Fertilisers Limited states that Overseer should be used as a guide to best management practices rather than as a regulatory tool. The reason given is that Overseer is not intended to be used as a regulatory tool and is not accurate enough to set limits, given the resulting high impacts on industry. A Loader expresses similar views, stating that the Overseer model was developed as an expert system to inform nutrient management at a farm level, and as with any model it is subject to errors. Many Māori farm/land trusts (such as the Ngati Haua Tribal Trust) state in their submissions that they accept Overseer remains the best tool to measure and manage nutrient losses, but that it needs to be used within its bounds (referring to the margin of error in Overseer outputs). They consider that the model should be used to create solutions, not as a means to regulation. S and T Stark state that Overseer has not been tested or calibrated in all possible combinations of climate, soil type and farm systems, and that a farm's ongoing viability and right to farm should not be assessed against a tool not fit for regulatory purposes.

96. In general, the reasons given for why Overseer should be used as a guide to farm management, rather than as a tool to determine if a farm is compliant with regional plan rules, are the same as the reasons discussed above about whether Overseer should be used in PC1 at all. In general, the response is that Overseer is appropriate as a tool for nutrient management.

97. It was concluded earlier that Overseer cannot tell us how much nitrogen is actually leaching from a farm. However, some of the provisions in PC1 seem to indicate that Overseer can show actual leaching rates. This seems an oversight rather than intentional. The key concerns in this respect are:

- Rule 3.11.5.2(4)(b) where it says "the diffuse discharge of nitrogen from the property or enterprise will not exceed either the NRP or 15 kgN/ha/yr"
- Schedule B(a) states that the NRP must be calculated to "determine the amount of nitrogen being leached from a property . . ."
- Schedule B(b) states that the NRP "shall be the highest annual nitrogen leaching loss that occurred during a single year . . ."
- Schedule 1 states in 5(a) that the FEP must contain measures to ensure that the diffuse discharge of nitrogen as determined by Overseer does not increase.

C1.1.9.1. Analysis

98. Many submissions state that Overseer should be used as a guide, and not as part of a regulatory process. The most common reason given is that Overseer is not fit for a regulatory purpose as it is not able to accurately model actual nitrogen leaching for any particular property. The WRC staff position on how Overseer should be used acknowledges that Overseer cannot accurately determine actual leaching rates. However, it is clear that Overseer can be used in a relative way. It is therefore appropriate for Overseer to be used to compare modelled leaching for a property, with the modelled NRP for that property (assuming the issue of different versions can be satisfactorily addressed).

99. Currently some of the PC1 provisions are worded in a way that is not helpful, in that they seem to interpret the Overseer number as being the actual leaching rate for the property. It would not be difficult to address this problem though, as this is more a wording issue, than an issue of how Overseer is intended to be used. Some slight wording changes would resolve the issue.

100. Provided the suggested wording changes are made to PC1, and providing the version issues can be resolved, Officers are of the opinion that it is appropriate to use Overseer as envisaged by PC1 rules.

C1.1.10. Use models and methods other than Overseer

101. A number of submitters request that WRC re-examine whether Overseer is the best tool for the job. Over 50 submission points stated that PC1 should be amended to allow the use and development of alternative and more accurate models to Overseer. R Boom requests that the Overseer model be replaced with better indicators such as the Land Utilisation and Capability Indicator and the Phosphate Saturation Index. Thirty three submission points stated that Overseer should not be used for vegetable production, stating that it is not accurate for this purpose. Most of these asked for PC1 to be amended to provide an alternative method or model to establish a benchmark nitrogen and phosphorus discharge for CVP systems. Sixteen submission points request that the accuracy and dependability of Overseer be improved. Some submissions said that other methods should be used as well as Overseer, to assess adverse effects of land use.

102. The following points can be considered in response:

- WRC staff, and many submitters consider that Overseer is the best tool New Zealand has for modelling nitrogen leaching. It has been developed and calibrated based on research of farm leaching under a broad range of New Zealand conditions and land uses.

- It is acknowledged that Overseer has had a longer history of development as a model for pastoral farming. Additions for vegetable growing and cropping are more recent. A more complete discussion about Overseer use for vegetable growing will be published in a future part of the S42A report. Overseer has been providing separate crop and horticulture models since about 2000 (Overseer Version 2) and continues to improve these models.
- PC1 does allow the use of models other than Overseer, providing they are approved by the Chief Executive of WRC.
- The Land Utilisation and Capability Indicator (LUCI) is a useful model for exploring ecosystem services in an area, and the potential impacts of land use decisions on them. It is not a model for estimating nutrient leaching under different land uses on New Zealand farms. It would therefore not be useful as a tool to manage in detail, nitrogen leaching on farms.
- The Phosphorus Saturation Index is a method for evaluating soils for their capacity to retain phosphorus (https://www.soils.org). It does not model nitrogen leaching.
- There are other models developed for New Zealand conditions, which can provide detailed information about nutrient leaching. APSIM is internationally recognised as a highly advanced simulator of agricultural systems (http://www.apsim.info). It has been suggested as a better model where there is a complex rotation of vegetables, pasture, arable and cover crops. As noted already, this is further discussed in relation to vegetable growing, to be published at a future date. There may be situations where APSIM or other models could be used in PC1 consent processes. However, in general, farmers and farm nutrient advisors have less experience with APSIM, it is not as widely and easily available as Overseer, and is a far more complex model which is primarily used for research purposes.
- It is considered better for regulatory purposes to use one model rather than several. This allows for much greater consistency of rule implementation. All farm nutrient advisors can be given the same guidance about how the model should be used. Farmers can also gain knowledge of the model that will help them make farm management decisions which produce a consistent nutrient output. The use of more than one model would create more uncertainty for farmers and for consent staff.
- Overseer has been used by New Zealand farmers for many years. It is certainly the best known model for nutrient modelling and the one that farmers and advisors have most experience with. It has been well researched and is relatively straight forward to use.

103. Notwithstanding the above, there is potential to reduce the need to use the Overseer model or to reduce the number of times farmers need to model their farm system through Overseer. It may not be necessary to use Overseer regularly where a farming operation is at a steady state, and that information can be produced to prove that the operation is not increasing nitrogen leaching.

104. Fonterra Co-operative Group Limited (Fonterra) has suggested one way of doing this. The submitter requests that PC1 provides "*for the availability of a simplified tool, to be used as an alternative to the Overseer Model reporting, for properties meeting low to medium risk criteria*". The submitter states that requiring Overseer modelling for low risk farming activities that remain in a relative 'steady state' year to year represents a significant administrative burden for farmers. Fonterra provides considerable detail in its submission on how such a risk-based system could be set up.

105. Following are some specific elements in Fonterra's request:

- An alternative method will be established that ensures a property's nitrogen leaching does not increase for low nitrogen leaching farms, including farms authorised by Rule 3.11.5.3 with an NRP below the 50th percentile leaching value.
- The alternative method will be a Nitrogen Risk Scorecard. The scorecard will establish a reference nitrogen risk level that is not be exceeded.
- The scorecard will be an online tool.

- The scorecard will weight the key drivers of nitrogen loss from a property that are within farmer control (livestock, nitrogen fertiliser, imported feed, effluent management, cropping and cultivation, irrigation).
- Each driver will be assessed based on defined risk factors informed by particular farm data, to give a risk grading.
- Key risk factors provide direction for the development of tailored actions in the FEP.
- Regular reporting is used to show that the farm maintains a steady state in terms of nitrogen loss risk.
- Each farm's scorecard needs to be accompanied by a statement from a Certified Farm Nutrient Advisor that the information is a true and accurate reflection of the farm inputs.
- The landholder will keep records supporting the reliability of the data used in the score card. This data shall include stock numbers as recorded in annual accounts together with stock sale and purchase invoices, dairy production data, invoices for fertiliser applied to the land, invoices for feed supplements sold or purchased, and water metering records.

106. Officers agree that regular Overseer assessments may not be necessary when a farm is operating at a steady state. However, the Fonterra proposal seems to create an overly complicated solution. Most farms with higher nitrogen leaching would need a consent under Rule 3.11.5.4. This rule requires farms to have a NRP and a FEP. The expectation under Schedule 1 clause 5(a) and Matter of Control iii in Rule 3.11.5.4, is that the five-year rolling average nitrogen discharge will not exceed the property's NRP. To ensure this, the farm would need to be modelled by Overseer annually. This should not be necessary if the farm is at a steady state and information can be provided to show nitrogen leaching is not increasing. This could be done by providing annual information about farming activities that could increase nitrogen leaching, such as stocking rate, fertiliser application, imported feed or cropping. Overseer modelling should really only be necessary if the farm system is very complex or if inputs are changing significantly each year.

107. Note that G Treweek suggested that instead of all farmers needing to carry out an Overseer assessment, farmers could develop a Reference Land-use Description that summarises farming activity at a point in time. During audits of the FEP, activities on the farm could be checked against the Reference Land-use Description and if there was a significant difference, an Overseer assessment could be required to determine if the farm had intensified or not. The Officers consider that there is benefit in all farms having at least an initial Overseer assessment to provide good information to inform future thinking about farm management and to assist with catchment wide considerations of nitrogen loads. However, there is also benefit in the idea of a farmer providing information to show that the farm system is not changing, rather than needing ongoing Overseer assessments.

108. For these reasons, it is recommended that farmers are given a choice through the consent process of annual Overseer modelling, or of providing information annually that demonstrates that the key farm parameters that influence the farm's nitrogen leaching rates, are not changing. Consent conditions could state that either annual Overseer modelling of the farm system is carried out and the results provided to WRC, or that certain identified information is provided annually to WRC that would show that the farm is not likely to be increasing nitrogen leaching such as stocking rate or fertiliser application. The relevant information is likely to be different for different farm systems.

C1.1.11. Use of nitrogen reducing mitigations not modelled by Overseer

109. Over 20 submitters (including D Aitken, Glenshee Trust, M Bennett, J Fisher and G Moss) state that farmers should be able to use, and be credited for, mitigations not modelled in Overseer (such as wetlands, different pasture composition, legume content, rotation length, cultivation practices and depth of soil and soil carbon). DairyNZ states that WRC should develop guidance about which mitigations outside Overseer are appropriate and how they can be accounted for. Miscanthus state that Overseer should be updated to model Miscanthus grass as a useful mitigation.

110. There are, and will always be, mitigations for reducing nitrogen leaching that are not modelled by Overseer. The PC1 approach will only be successful if it is clear whether or not a farm is operating such that nitrogen leaching is not increasing. Therefore, mitigations to reduce nitrogen can generally only be recognised in the regulatory sense, if there is a rigorous and consistently applied process for doing so. Overseer can provide this rigour due to the science that sits behind its algorithms, the use of expert modellers, the use of well understood data input standards and so on. If additional mitigations not modelled by Overseer are to be recognised as part of a farm's strategy to meet its NRP, the process needs to be transparent, consistently applied and supported by rigorous science and modelling.

111. There are some situations where there is sufficient science available, such that mitigations not modelled by Overseer can be incorporated by some proxy or work-around, or can be specifically recognised in a resource consent process. This occurred in relation to lucerne cropping in the Lake Taupō catchment. As another example, some farmers are experimenting with plantain as a low nitrogen leaching feed crop. WRC staff are investigating a work-around for plantain, in collaboration with Overseer Limited, to allow it to be recognised through Overseer modelling. When these proxies or work-arounds are determined however, they need to be made available for all farmers. This is occurring as part of development of a WRC Nitrogen Reference Point Guide for Waikato farmers.

112. There may also be some scope for farm specific mitigations to be recognised through some consent processes. In this case, if a farmer wishes to use a mitigation that is not modelled by Overseer, he or she will need to provide sufficient evidence during the consent process, to show that the mitigation will be effective in reducing nitrogen leaching. The evidence would need to be based on sound science. Officers consider that an activity status that retains some discretion to WRC to decline such applications would be necessary for these situations.

C1.1.12. Requests for specific changes in PC1 (particularly Schedule B) to the way Overseer is used

113. Over 40 submission points request particular changes to the wording of Schedule B, which is the main Schedule that details how Overseer should be used in PC1. Many submission points specifically asked for changes to the Schedule B Table 1 (Data input methodology).

114. Before responding to these submissions in detail, it is important to note that a new Overseer version has now been released (Overseer FM) which is quite different in some fundamental ways to the previous Version 6. Overseer FM was not considered during development of PC1 and there are some matters in PC1 that are no longer appropriate in terms of the latest model. The WRC submission requested changes to recognise this. The submission states:

> *A new version of Overseer will be released in May 2018 - 'Overseer FM'. Overseer FM will not support a file type format like the previous version, but will rather be fully online. Schedule B currently specifies that "The Nitrogen Reference Point shall comprise the electronic output file from the Overseer model". However, this will no longer be possible with Overseer FM. Schedule B should therefore be amended to accommodate this change, or provide for ongoing flexibility as the Overseer software continues to develop.*

115. Some of the implications of this change to Overseer FM will be discussed in the following sections. Further, there are changes to the relationships between farmers, advisors, Overseer Limited and regional councils, in part due to Overseer FM. Some of these are evolving, such that any recommendations here may need updating through the hearing process.

C1.1.12.1. General changes to Schedule B

116. Beef and Lamb request that Schedule B is amended by adding "*a requirement for land owners to provide a summary of soil properties, including land use capability classes, to ensure blocks are developed and applied*

appropriately within Overseer, and in determination of farm optimisation within natural resource limits". CFNAs are required to produce NRPs in a way that conforms with Schedule B, including being consistent with Overseer Best Practice Data Input Standards. WRC is also producing detailed guidance on the use of Overseer. There is therefore sufficient guidance on identifying and applying Blocks for Overseer input. Overseer uses SMAP data as a standardised approach to soil modelling. It does not seem necessary therefore for the regional plan to require farmers to provide the additional information requested by the submitter. It is also considered that farm optimisation is not a matter that needs to be addressed in the regional plan.

117. J Reeve states that Table 1 of Schedule B should be in a FEP guideline, rather than in PC1 itself. In the Officers' view, this would be appropriate. This is particularly appropriate because different Overseer versions will have different decision-making steps and parameters, meaning that Table 1 will very quickly become out of date (some aspects of Table 1 already need updating so that they are meaningful with respect to the new version of Overseer: Overseer FM). It is also considered that instructions about how Overseer is populated would be more a technical implementation issue than a planning issue.

118. Overall, it is recommended that Table 1 be deleted from Schedule B and that such guidance be included in a WRC Nitrogen Reference Point Guide, which can be updated as new Overseer versions are produced. There would clearly need to be a rigorous and transparent process for deciding which changes to the Overseer best practice standards are needed.

C1.1.12.2. Requested changes to Schedule B, a-g

Changes to Schedule B(a)

119. HortNZ requests that Schedule B(a) be amended to read: "*The Nitrogen Reference Point must be calculated by a person who is certified as being competent to do so, with a certification being approved by the Chief Executive of the Waikato Regional Council ~~Certified Farm Nutrient Advisor~~ to determine the amount of nitrogen being . . .*". The submitter considers the current process too restrictive. The Officers consider that it is very important that Overseer is used in a consistent way and that those who prepare the NRP are similarly and appropriately trained and certified. Therefore the current process and wording, with reliance on CFNAs as defined in PC1 would better ensure consistency and should be retained. The submission is therefore not supported.

120. CNI Iwi Land Management Ltd and Timberlands Limited request that Schedule B(a) be amended to read: "*The Nitrogen Reference Point must be calculated by a Certified Farm Nutrient Advisor to ~~determine~~ identify the probable amount of nitrogen being leached from the property . . .*". Federated Farmers request that Schedule B(a) be amended to read: "*The Nitrogen Reference Point must be calculated . . . to ~~determine~~ estimate the amount of nitrogen being leached . . . except for any land use change approved under Rule 3.11.5.7 where the Nitrogen Reference Point shall be ~~determined~~ identified through the Rule 3.11.5.7 consent process*". These submissions were concerned about the accuracy of Overseer in terms of actual leaching. In Section 1.8.2 of this report, it is noted that the wording in Schedule B(a) is not consistent with the fact that Overseer can only model leaching, not determine actual leaching. Use of the phrase "identify the probable amount" suggested above may lead to arguments about the level of probability that the Overseer output is equivalent to. The word "estimate" may be more useful although to be accurate, what Overseer does is "model" farm leaching. It is recommended that to address this matter, the words 'to determine' should be replaced with the words 'by modelling'. In terms of Federated Farmers' request to replace 'determined' with 'identified', this does not seem a necessary change given that the words have very similar meaning.

Changes to Schedule B(b)

121. CNI Iwi Land Management Ltd request that Schedule B(b) be changed to read: "*The Nitrogen Reference Point shall be the average nitrogen leaching loss that occurred during the reference period ~~highest annual nitrogen leaching loss that occurred during a single year (being 12 consecutive months)~~ within the reference*

period…". WRC requests that Schedule B(b) be changed to read: "*The Nitrogen Reference Point shall be the highest annual nitrogen leaching loss that occurred during a single financial year ~~(being 12 consecutive months)~~ within the reference…*". Federated Farmers request that Schedule B(b) be amended to read: *"The Nitrogen Reference Point … during the reference period (and where the property was not used for commercial vegetable growing during that entire period, it shall be the average annual nitrogen leaching for the period it was used for commercial vegetable growing and also within the period specified in clause f).*" The submitter also suggests an alternative amendment, to change Schedule B(b) "*to provide for all farming activities (including commercial vegetable production) to be measured as the highest annual nitrogen leaching loss in a single 12 month period*". These submissions are primarily about the NRP rather than the Overseer issues being addressed in this section, and are addressed later in this section.

Changes to Schedule B(c)

122. Miraka seeks clarification on the meaning of 'current version' as used in PC1, asking whether it means "'*the current version of the Overseer Model', and whether this means the version at the time of notification, the current version 6.2.3 released 7 November 2016 or a version current at the time of calculation"*. Similar comments are made by WRC, Open Country Dairy, Pouakani Trust, and Ashdale Enterprises Ltd.

123. To resolve this, WRC requests a new definition in the Glossary of Terms to read "Current version of Overseer® is the version of the Overseer® Model with the most recent release date."

124. DairyNZ, Fonterra and other submitters request that Schedule B(c) be changed to read: "*The Nitrogen Reference Point must be calculated using the ~~current~~ most recent version of the Overseer® Model…", or words to that effect.*

125. Officers agree that the phrase 'current version' in Schedule B(c) is ambiguous and should be changed. It would seem unnecessary to provide a definition in the glossary for "current version" (as requested by WRC) if the original phrase could be written in a clearer way. The request by DairyNZ and Fonterra provides perhaps the clearest way of expressing the intent of the provision, by replacing 'current' with 'most recent' version in clause c). Note that this has implications for the definition of Nitrogen Reference Point in the PC1 glossary. This matter is discussed in more detail below.

126. WRC requests that Schedule B(d) be amended to clarify that the Overseer model is to be the default model for calculation of the NRP. The submission states that for the PC1 regulation to be effective, nitrogen loss estimates need to be comparable. Therefore, Overseer should by default be used to support the regulation. The submission states "Schedule B(d) currently requires an NRP to be developed using the Overseer Model 'or any other approved model'". The Officers agree that Overseer should be used unless a special case is made for the use of another model, for the reasons stated by the submitter. Officers therefore recommended that Schedule B(c) be amended to read: "*The Nitrogen Reference Point must be calculated using . . . the Overseer® Model, as the default model (~~or any~~ other models may be approved for use by the Chief Executive of the Waikato Regional Council, if justified on a case by case basis.*)"

127. Pamu Farms of New Zealand by Landcorp Farming Limited (Pamu Farms) states that:

> "Schedule B Clause (c) does not provide clarity, certainty or transparency for the approval of any of the world cropping/agricultural impact models available and does not provide input standards for models other than Overseer. Decision request: AND ADD a Rule for Overseer or enable other models to the same quality standards. AND AMEND to clarify the process for approval of cropping/agricultural impact models"

128. As stated in the previous paragraph, Overseer should be the default model for use with the PC1 rules. Other models should only be used if justified on a case by case basis. There is no need therefore to provide further detail about which other models may be used in which situations, or what input standards would be appropriate for them. The Pamu Farms submission is therefore not supported.

129. Federated Farmers request that Schedule B(c) be amended to read:

> *"The Nitrogen Reference Point must be calculated using the current version of the Overseer Model approved by the Chief Executive of the Waikato Regional Council or an alternative model or Overseer versions approved by the Chief Executive of the Waikato Regional Council.*
> *OR AMEND PPC1 to set out the assessment criteria for consideration of alternative models to Overseer.*
> *OR AMEND to provide for Waikato Regional Council to develop guidelines or assessment criteria that sit outside PPC1.*

130. The use of other models is clarified in the above paragraphs. The introduction of Overseer FM means that only one Overseer version will be available for use at any one point. It would therefore not be possible for WRC to approve the use of any other version as requested in the above submission. The assessment criteria for consideration of alternative models would need to be determined on a case by case basis. It would not be appropriate or indeed helpful for a regional plan to include such criteria, as they could vary widely depending on circumstances such as animal and crop mixes, the level of current science supporting a particular model, other models that could be used, the ability of Overseer to model the situation in question, the relevancy of the model to farm conditions and so on. The same issues would arise if WRC was to attempt to develop guidelines for the use of alternative models. For these reasons the Officer does not support these requests by Federated Farmers in relation to Schedule B(c).

131. Waikato District Council (Waikato DC) requests that Schedule B(c) be changed to read: "*The Nitrogen Reference Point must be calculated using the current version of the Overseer Model (or any other model approved by the Chief Executive of the Waikato Regional Council). Overseer results can be adjusted where there are scientific reasons to believe the model is over or underestimating nitrogen emissions.*" The additional wording is not considered appropriate because there needs to be certainty about the NRP. It would not be appropriate to simply adjust Overseer outputs based on a belief that the model is not producing accurate results for a particular property. However, as noted above, if work-arounds and proxies are determined in a formal way (through a WRC Nitrogen Reference Point Guide), based on sound science, they could be used to ensure Overseer outputs are as accurate as possible for particular farm systems. For this reason, as stated earlier, a new method is recommended requiring the development of a WRC Nitrogen Reference Point Guide that describes any proxies or work-arounds to be used in association with the Overseer model, where there is sufficient justification for their use, such that nitrogen mitigations and farm systems not specifically included in Overseer, can be modelled. For those farms where there is justification for developing a different NRP, the recommended changes to the rules enable this, as a discretionary activity (by way of recommended Rule 3.11.5.6A).

Changes to Schedule B(d)

132. WRC requests that Schedule B(d) be amended "*to accommodate changes to the Overseer business model and Overseer data being held on-line*". The WRC submission states that Overseer FM will not have downloadable electronic output files. The wording in Schedule B(d) needs to change to reflect this. At the time of writing this report, discussions between WRC and Overseer Ltd were underway about what Overseer input data will be available to WRC and how it will be supplied. It is currently expected that farmers will need to publish their NRP analysis to WRC. This is important as WRC does need access to the data that farmers use to calculate the NRP in order to check that the NRP is accurate and continues to represent farm activities. Officers recommend therefore that clause d) be amended to read: "The Nitrogen Reference Point data shall comprise the data used by ~~electronic output file from the~~ Overseer or another approved model, …".

133. DairyNZ requests the following change to Schedule B(d). The nitrogen Reference Point data… with the exceptions and inclusions set out in Schedule B Table 1. When a new version of Overseer is issued, the Nitrogen Reference Point may be re-calculated using the latest version of that model. This recalculation should use the same data input file as was used to calculate the first Nitrogen Reference Point in clause a)." This matter is addressed further below (Maintaining the NRP through different Overseer Versions).

134. With respect to Schedule B(d) a number of submitters were concerned that the clause required the use of the 2016 Overseer Best Practice Data Input Standards, noting that updated Overseer versions will come with updated data input standards. Various requests were made to change the wording of Schedule B(d) to address this. WRC requested that Schedule B(d) be changed to read: "…*and where the Overseer® Model is used, it must be calculated using the Overseer® Best Practice Data input standards ~~2016~~that relate to the version of the Overseer® model being used, with the exceptions and inclusions set out in schedule B table 1*." Officers recommend that wording change.

135. WRC requests that Schedule B(d) be amended to read: *"…with the settings that must be used complying with ~~exceptions and inclusions set out in~~ Schedule B Table 1. Where another approved model is used, it will conform to the data input standards as approved by the Chief Executive of the Waikato Regional Council.*" The additional sentence requested by this submitter is considered appropriate as it provides clarification about data input standards for models other than Overseer. The earlier changes are not appropriate given the Officers recommendation to delete Table 1 and replace references to it with references to a WRC Nitrogen Reference Point Guide. However, the phrase '*with the exceptions and inclusions set out in Schedule B table 1*' should be replaced with '*with the exceptions and inclusions set out in the Waikato Regional Council Nitrogen Reference Point Guide'*.

136. Note that this section has discussed and made recommendations on a number of aspects of Schedule B, clause d). Bringing all these together, this section recommends that Schedule B(d) be amended as follows:

The Nitrogen Reference Point data shall comprise the data used by ~~electronic output file from the~~ OVERSEER® or another approved model to calculate the Nitrogen Reference Point, and where the OVERSEER® Model is used, it must be calculated using the OVERSEER® Best Practice Data Input Standards ~~2016~~ that relate to the version of the Overseer® model being used, with the exceptions and inclusions set out in ~~Schedule B Table 1~~ a Waikato Regional Council Nitrogen Reference Point Guide. Where another approved model is used, it will conform to the data input standards as approved by the Chief Executive of the Waikato Regional Council.

Changes to Schedule B(e)

137. Fonterra has suggested wording to be added to Schedule B(e) to describe a process for changing the NRP when a new version of Overseer is introduced. This is discussed further below (Maintaining the NRP through different Overseer Versions).

138. Oji Fibre Solutions (NZ) Limited (Oji Ltd) requests that Schedule B(e) be amended "*by changing the requirement to provide the Nitrogen Reference Point and data to the Council to within 6 months of data of the plan becoming operative (unless the period stipulated is earlier)"*. Note that the dates in clause e) have been changed by Variation 1 since the Oji Ltd submission. However, the submitter has submitted again on the dates (in their submission on the Variation), requesting: "*Where appropriate amend the implementation dates so that they take effect within 6 months of the release of decisions pursuant to clause 10 of Schedule One or any appeals*". The issue of changes to dates in PC1 is addressed in Section C1 of the Section 42A report.

Changes to Schedule B(f)

139. WRC requests that Schedule B(f) be amended to read: "*the Nitrogen R~~r~~eference P~~p~~eriod is the two financial years covering* . . .". This is considered a useful change to provide clarification. R and W Verry request that Schedule B(f) be amended to define what is meant by 'financial year'. Officers agree that clause (f) needs to make clearer what is meant by the term 'financial years'. In response to these two submissions on clause (f), it is recommended that the wording be changed to read: "*The Nitrogen R~~r~~eference P~~p~~eriod is ~~the two financial years covering~~ 1 July 2014~~/2015 and 2015/~~ to 30 June 2016, except for commercial* …".

Changes to Schedule B(g)

140. Schedule B(g) requires that certain records be retained, and be provided to WRC at its request. HortNZ requests that the first paragraph of Schedule B(g) be amended as follows: "*The following records (where*

relevant to the land use undertaken on the property or enterprise) must be retained and ~~provided~~ available for inspection by ~~to~~ Waikato Regional Council at its request". The records required by Schedule B(g) are needed to allow WRC to check that a farm's NRP is being complied with. This would require the information to be supplied to WRC rather than just inspected, such as at the property. HortNZ's submission on clause (g) is therefore not supported.

141. The Reeves and Taylor submission requests that Schedule B (g) be amended to read: "*The following records (where relevant to the land use undertaken on the property or enterprise), from which the Nitrogen Reference Point has been calculated, must be retained until 1 July 2022, and provided to the Waikato Regional Council at its request*." The submitter states that clarity is required on what records need to be kept and for how long. The submitter considers that in the absence of any other date, to be consistent with common accounting practice, records should be kept for seven years. Similarly, in terms of the requirement to keep records, R and W Verry request that clause (g) be changed to read: "*The following records...must be retained for 7 years and provided to the Waikato Regional Council at its request.*" Federated Farmers also request clarification that records be kept for seven years. It is probably helpful to specify that records are kept for a certain period of time. The records are needed so that farmers are able to prove compliance with the NRP if called upon to do so. Compliance audits can occur at any time. Farmers may need to provide proof of compliance with the regional plan provisions and/or consents, over the time that the activity has been occurring. It is therefore appropriate that records are kept for the duration of the activity and the current plan provisions or consents, whichever is longer, rather than for a specified period such as seven years.

142. In terms of the request to add the words '*from which the Nitrogen Reference Point has been calculated*' to clause (g), this is not supported because information is needed to assess compliance. Such information may be about farm systems that have changed since the NRP was calculated. However, to improve clarity about the information required by clause (g), it is recommended that it be amended to read: *The following records, ~~(where relevant to the land use undertaken on the property or enterprise)~~ calculation and compliance auditing of the Nitrogen Reference Point), must be retained for the life of the plan and/or relevant consent, whichever is longer, and provided to the Waikato Regional Council at its request*."

143. Note that in Section 1.8.1.10 of this s42A report (Concerns about sharing farm information) there is a discussion about some submitters' concerns about supplying financial information under Schedule B(g). In that discussion, it was recommended that a WRC submission request be accepted, that an advice note be added to Schedule B(g) to read: "*Advice note: For the avoidance of doubt, financial information contained within the above records may be redacted (blacked out) prior to it being provided to Waikato Regional Council.*"

144. A number of submitters requested changes to Schedule B(g) which identifies records that must be retained and provided to WRC on its request. It is important for compliance purposes, that WRC has access to accurate information about farm systems.

145. HortNZ, FANZ, Ballance, M Lumsden and WRC request changes to Schedule B(g)(i) to provide better clarity about information to be kept about stock numbers. The WRC request provides the clearest wording: ~~*Stock numbers as recorded in annual accounts together with stock sale and purchase invoice*~~ *Records of stock numbers and stock classes, births and deaths, stock movement on and off the property, grazing records and transport records*. This change is recommended by the Officers.

146. M Lumsden requests a change to clarify Schedule B(g)(ii). Officers agree that a change is needed to clarify the expectation. The following change is recommended: ~~*Dairy production data*~~ *Total annual milk solids as stated in the milk supply statement.*

147. M Lumsden, WRC and others request changes to Schedule B(g)(iii). It is agreed that clarification would be helpful. After considering the wording suggested by submitters, the Officers recommend the following

change: ~~*Invoices for fertiliser applied to the land*~~ *Records of fertiliser type and amount, including annual accounts, and records of fertiliser application rates and placement*.

148. WRC requests a change to Schedule B(g)(v). The intent of the clarification is supported. The following change is recommended by the Officers: *Water use records for irrigation, in order to determine irrigation application rates (mm/ha/month per irrigated block) and areas irrigated.*

149. M Lumsden, WRC and HortNZ have requested changes to improve clarity of Schedule B(g)(iv) and (vi). After considering the requests, the Officers consider that the following changes should be made:

- *(g)(iv) Quantity and type of* ~~*Invoices for*~~ *feed supplements* ~~*sold or*~~ *purchased and used on the property*"
- *(g)(vi) Crops grown on the* ~~*land*~~ *property (area and yield), quantities of each crop consumed on the property, and quantities sold off farm; and . . .*

150. Oji Ltd requests a new point (viii) be added to Schedule B(g) which reads: "*The information in Clause (d)"*. The information in Clause (d) is the NRP data. Clause (e) states that the NRP and the NRP data must be provided to WRC within the period 1st May 2020 to 30 November 2020. Officers consider that there is no need for this to be restated in clause (g).

151. WRC requests that four new clauses be added to Schedule B(g). The additions are considered useful apart from 'Certificate of title and legal description' which are already required for farm registration under Schedule A. To simplify the remaining three clauses, the following two additional clauses are recommended:

- *Soil test data* – including *anion storage capacity if measured*
- *A map which* shows *property boundaries, block management areas, retired/non-productive areas and areas used for effluent irrigation.*

C1.1.12.3. Requested changes to Schedule B, Table 1.

152. Many submitters request changes to Schedule B, Table 1. As noted earlier, the Officers consider that Table 1 should be deleted and included in a WRC guidance document for populating the Overseer model, which can be updated as new Overseer versions are produced. Following is a discussion of the changes requested by submitters to Table 1, to be considered by the Hearing Panel if it decides to retain Table 1 in Schedule B.

153. A number of submitters have requested changes to Table 1 to allow farm specific data to be modelled by Overseer, rather than using the defaults specified in Table 1. A number of submitters stated that where there is verifiable data about matters such as actual stock numbers, measured soil carbon and nitrogen levels, animal weights and property specific climate data, this data should be able to be used in Overseer rather than the defaults currently required by Table 1. Some submitters state that this could be done if approval is given by WRC.

154. In a regulatory context, Overseer needs to be used in a way that:

- Provides as much consistency as possible
- Is efficient in terms of the resource needed to be provided by WRC to ensure accurate and consistent modelling
- The inputs can be relatively easily validated
- Is as accurate as possible, focusing on the input parameters that have most influence on nitrogen leaching rates.

155. Overseer does provide more input choices than Table 1 provides for. This was intentional, based on the kinds of considerations in the four above bullet points. Establishing the validity of farm specific data in many cases could be inordinately time consuming. For example, it would be very difficult to establish the productivity of particular farm blocks and what constitutes proof would be controversial. Seeking approval from the WRC Chief Executive would be time consuming. For such reasons, Table 1 establishes where defaults should be used.

156. Ballance, Fonterra and others request that the most up-to-date soil data be used in Overseer. Currently Table 1 states that soil order rather than the more detailed and up-to-date S-map data should be used. At present there is not full coverage of S-map data in the Waikato region, although full coverage is expected in the next few months. The reason why Table 1 states that all properties should use soil order, is to ensure all are using the same soil data. If some farmers used the more detailed data, there would not be a level playing field in terms of soil data used in Overseer. This is another good reason for why Table 1 should be taken outside the regional plan. It could then be updated to require S-map data when it is available across the Waikato region.

157. Fonterra, Federated Farmers and Perrin Ag Consultants requested changes to Table 1 where Overseer requires data that farmers do not have ('missing data'). While Officers agree that the current statement, that default numbers will generally be around 75% of normal FMU average values for those inputs, is rather vague, this is a matter that should be clarified in the WRC Guidance Document for populating Overseer.

C1.1.13. Overseer versions

158. A number of submitters (over 20) expressed concerns about the use of different Overseer versions. Some stated that it would not be lawful under the RMA for a plan to require the use of a model that is changed regularly. Some were concerned about how the five year rolling average can be used for regulatory purposes when different Overseer versions result in different leaching estimates from the same set of model inputs. Many stated that PC1 should clearly identify which version is to be used (i.e. only allow the use of one version). Others request clarification about how WRC will deal with changing versions. Such matters are discussed in this section.

C1.1.13.1. Overseer limits in Permitted Activity Rules

159. Waipā District Council (Waipā DC) and Waitomo District Council (Waitomo DC) state that version changes mean that permitted activity rules relying on Overseer are uncertain and therefore do not meet the standard for 'written material' to be included in a Plan as required by Clause 30 of Schedule 1. Ata Rangi and Southern Pastures Limited Partnership stated that for similar reasons such permitted activity rules may not be lawful under the RMA. It is noted that Clause 4 of Schedule 1AA of the RMA explicitly allows models to be incorporated by reference into national environmental standards, national policy statements, and New Zealand coastal policy statements. While clause 30 of Schedule 1 does not include such wording, Officers note that the use of models, which may or may not update, is relatively common in a regional planning context. Furthermore, the use of Overseer in regional plans has been accepted by the Courts, including in the WRC's own Chapter 3.10 of the Waikato Regional Plan (WRP) for the Taupō catchment (Lake Taupō Variation 5).

160. Notwithstanding the above, different versions of the Overseer model will give different estimated leaching rates for the same farm inputs, which adds complications to a permitted activity rule. WRC requests that Rule 3.11.5.2(4)(b)(ii) be amended so that the nitrogen threshold (15 kg N/ha/yr) is deleted and replaced with a suitable land use intensity proxy. The submission notes that different versions may mean that farmers may be compliant with 3.11.5.2 using one version but not another. The submission also notes that the report "Using Overseer in regulation - technical resources and guidance for the appropriate and consistent use of Overseer by regional councils" advises against relying on Overseer thresholds to determine permitted activities.

161. Officers agree with the points made by WRC, and support the change in Rule 3.11.5.2 from 15 kg N/ha/yr to a comparable proxy. Stocking rate would be the most straight forward proxy to use. WRC staff have investigated the relationship between nitrogen leaching and stocking rate for dry stock farms (refer WRC Doc No 13513141). The investigation found that when soil, climate and fertiliser settings were standardised, there was a very strong relationship between stock units per hectare and the Overseer nitrogen leaching calculation. In other words, for any particular farm, if the fertiliser regime doesn't change, nitrogen leaching is strongly related to the stocking rate of the farm. For Rule 3.11.5.2, 15 kg N/ha/yr was chosen as a leaching rate that would equate to a low impact farming system. Based on the investigation by WRC staff, it can be concluded that a stocking rate of 10 stock units per hectare would be roughly equivalent to a leaching rate of 15 kg N/ha/yr. In other words, farms with a stocking rate of 10 stock units or less would generally be considered low impact farming systems. It is therefore recommended that the 15 kg N/ha/yr limit in Rule 3.11.5.2 be changed to a maximum stocking rate of 10 stock units per hectare.

162. Several submitters stated that Overseer should not need to be used on medium to low stocking rate farms, such as those farms with less than 12 stock units per hectare or less than 25 kg/ha/yr Nitrogen leaching (some explicitly referring to Rule 3.11.5.2). Officers consider that an initial NRP should be calculated for low leaching farms authorised by Rule 3.11.5.2 that are over 20 hectares so that information on the amount of leaching is established for the Waikato/Waipā catchment for future management. However, if the 15 kg N/ha/yr limit is changed to a stocking rate limit, Overseer would not need to be used to prove compliance. Officers would agree with these submitters, that Overseer should not need to be used with Rule 3.11.5.2 as a point of compliance. Although an NRP is required, there should not be a requirement that the property continues to operate within the NRP, as this would require ongoing checking by Overseer modelling. Instead the stocking rate limit would be the point of compliance.

163. A further implication of this change is that if the 15 kg N/ha/yr limit is changed to a stocking rate limit, there is no longer a limit on cropping, apart from clause d) which states that no winter forage crops are grazed in situ. If the farm is only limited by a stocking rate, and there is no limit on cropping, a farm over 20 ha could be permitted by Rule 3.11.5.2 even if it changed say from extensive dry stock to maize growing, which could in fact leach greater amounts of nitrogen. As a result, the Officers have recommended a number of changes to these rules to limit unmanaged land use change. These changes include replacing the 15 kg N/ha/yr with a stocking rate limit, and adding a limit on the percentage of the property which can be used for cropping. The changes therefore address the matters discussed above.

C1.1.13.2. Specify the Overseer Version to be used

164. As noted above, a number of submitters stated that PC1 should specify the Overseer version to be used in the provisions, primarily because the use of different versions creates uncertainty for farmers. G Moss states that a single version should be used because the potential value of mitigations used could change over time with different Overseer versions. Similarly, P and M Kidd state that using different versions will "*not provide certainty for investments in farm system changes. Environmentally positive investments require secure data on which to base decisions, and a shifting basis will see as little investment as possible made to avoid risk*".

165. WRC has had experience in restricting the Overseer version used in regional plan rules. Chapter 3.10 of the WRP has land use rules for the Taupō catchment which specify that only Overseer Version 5.4.3 may be used to estimate nitrogen leaching. This has created a number of difficulties including:

- This version no longer is based on the latest scientific information
- It does not have some of the mitigations and input flexibility (such as particular crops) of later versions
- Overseer Limited has needed to keep supporting this particular version just for the Taupō catchment
- The version will become unsupported in the near future. Therefore, the Taupō rules need to be changed to allow the use of updated versions.

166. As noted earlier, Overseer Limited is changing its operating model to a web-based system that will only allow the use of one version, which will be automatically updated over time.

167. It is accepted that using different Overseer versions will create some uncertainty and that new versions may mean that mitigations under older versions may be found to be of less value in later versions. On the other hand, newer versions should provide a greater range of options over time for mitigations. In any case, there are a number of disadvantages of restricting the version number as stated above, and in future there will not be opportunity to use older versions. For these reasons Officers do not recommend that the Overseer model used in PC1 is restricted to a single version.

C1.1.13.3. Use of Overseer to calculate the five year rolling average

168. Open Country Dairy requests amendment to clarify how the five year rolling average will be calculated given changing Overseer versions. WRC's submission states that:

> *The rolling average will be calculated from outputs from different versions of the model, which cannot be related to each other. Assessing whether a farmer has stayed within their NRP will require both the NRP data, and each of the previous year's Overseer input data to be run through the latest version of Overseer, prior to being able to compare "actual" nitrogen loss with the NRP. This is potentially an administratively very time consuming, inefficient and expensive process.*

169. The five year rolling average is stated as a matter of control in Rule 3.11.5.4 as a means of assessing compliance with the NRP for activities authorised by this rule. Also, Schedule 1 states that a FEP needs to contain methods to ensure the five year rolling average does not exceed the NRP, which would indicate the five year process is needed whenever a FEP is required. It would not be meaningful to calculate a five year rolling average if the annual leaching rates were derived by different Overseer versions. The comment made by WRC is therefore correct that the NRP and the five annual calculations would all need to be derived from the same Overseer version.

170. The Overseer FM system would support the use of a five year rolling average more than previous versions. This is because the online system retains all data and automatically calculates the NRP from locked-in farm reference data using updated versions (refer next section for more detailed discussion). The system can also recalculate previous year end farm inputs using updated versions. So each year the NRP is updated based on the latest Overseer version, and at the same time, previous year end data can also be remodelled with the latest version. It would not be difficult therefore to calculate the five year rolling average, using the latest Overseer version and previous year end data inputs.

171. The WRC submission requests that all references in PC1 to the five year rolling average be deleted. A number of reasons for this stance are given (including the issue of version control). The matter will be discussed in more detail in the Section 42A report for Block 3 of the hearing, in the discussion on Schedule 1 (Requirements for FEPs).

C1.1.13.4. Maintaining the NRP through different Overseer Versions

172. The Fonterra Shareholders Council and other submitters seek assurance that the NRP will remain a valid benchmark in the face of the Overseer Model version change. The submitter requests further detail about how Overseer version changes will be managed.

173. As noted earlier, Overseer FM will be a different system to Overseer 6. Overseer FM is an online cloud based system. Farmers will register with Overseer FM and set up their farm account online. They will need to set up their base data as required in Schedule B. Apart from CVP enterprises, the base data will represent the farm system during the 24 month period between 1st July 2014 and 30th June 2016. The NRP will be highest modelled annual nitrogen leaching loss that occurred during a single year (being 12 consecutive months) within that reference period (refer Schedule B, clauses b) and f)). This base data will be the farm's reference data and will be locked in Overseer. Overseer will then establish the NRP based on that base

data. Each time a new Overseer version is released, the Overseer software will automatically run the base data through the updated model to determine the new NRP. WRC does not influence this process.

174. At the end of each financial year, farmers with an NRP may enter their data for the year's farming operation (annual Overseer assessments may be required through the farm's consent). Overseer will calculate the nitrogen output with the latest version, which can be compared to the NRP.

175. Fonterra, Forest and Bird, DairyNZ and others suggest changes to Schedule B to ensure the NRP is updated when a new version of Overseer is released. Note that Schedule B(e) states that the NRP and NRP data must be provided to WRC within a specified period. The NRP needs to relate to the most recent version of Overseer (see discussion of Schedule B(c) above). Under Overseer FM, once the NRP 'analysis' is published to WRC for a particular farm, WRC is able to access the analysis at any future time (provided the farmer maintains the Overseer subscription). When a new Overseer version becomes operative, WRC will be able to access the NRP as it is modelled by the most recent version.

176. Given the WRC submission to update Schedule B so that it is more appropriate with respect to the new Overseer FM system, it is recommended that the wording of clause e) be updated to Overseer FM terminology. It is therefore recommended that clause e) be amended to read: "*The Nitrogen Reference Point Analysis (inputs and* outputs*) must be published to Waikato Regional Council within the period 1 May 2020 to 30 November 2020*". Note that the 'analysis' includes all Overseer inputs and outputs for the property. Although as noted above, once published to WRC, access to NRPs as updated by new Overseer models is currently provided for, this may not always be the case with future software arrangements. It is therefore recommended that the following sentence is added to Schedule B(c): *The Nitrogen Reference Point must be updated using the initial reference data whenever a new version of the Overseer® Model, or any other approved model used to prepare the Nitrogen Reference Point, is released.* Although, as noted above, this is currently what is expected to happen through Overseer FM in any case, this may not be the case for other approved models, and the importance of keeping the NRP up to date into the future, justifies the additional clause.

177. If farmers do not keep their Overseer subscriptions up to date, WRC will lose access to their NRP analysis. This would mean that WRC may not have access to that farm's updated NRP. The Hearing Panel may wish to consider how to address this matter and may seek further evidence about it. One option may be to add a requirement to clause e) that WRC access to a farm's NRP analysis must be maintained. There may however be legal implications of this (although Officers have not sought a legal opinion on that at this stage), as it would mean farmers are required by Schedule B to maintain a subscription to a third party (that is, Overseer Ltd), and also is a restraint on Overseer Ltd. Another option is to simply require ongoing compliance with the last available NRP value (kg N/ha/year) modelled by Overseer. This may provide an incentive for farmers to maintain their Overseer subscriptions, otherwise they will lose the benefits of any new mitigations or modelling updates incorporated into Overseer as time goes on.

178. If the Panel wishes the Officers to prepare wording for the Plan to give effect to either of these options, or other options that emerge in evidence during the hearing, then that wording will be included in the Officers end of Hearing Reply Report.

179. Federated Farmers has requested changes to ensure flexibility to allow other Overseer versions to be used besides the current one. The submitter states that this may be necessary where the current version of Overseer contains bugs or less effectively models nitrogen for a particular farm. As noted above, eventually only one version will be available at a time. This is not a matter under WRC's control.

180. Federated Farmers also expresses concern that a farmer who is operating in accordance with his or her NRP could become non-compliant purely because a new version is required to be used. The Officers assume the concern is that, for example, a 200 cow farm's modelled nitrogen leaching is within the NRP under one Overseer version, but not in another version where leaching per cow is higher (that is, the farmer would become non-compliant without changing the farm system). This should not generally be a problem if the

NRP is updated with each new Overseer version as described above. In this example, the farm with 200 cows would have an increased NRP under a new Overseer version that increases the leaching calculation for cows. Therefore, although the modelled leaching rate of the 200 cows would increase through the new model version, the nitrogen allowance for the farm would also increase by the same amount.

181. Fish and Game request a new clause h) be added to Schedule B stating:

> *Where changes to Overseer (or another model approved by the Chief Executive) results in a higher nitrogen discharge modelled for the same Overseer input file on any particular property or properties, then the consent holder will be required to modify inputs in order to continue meet the level stated on the consent based on the new version of the model (or new model) unless and until all consents in the sub-catchment are reviewed under the sub-catchment review timeframes as specified in Table 3.11-2.*

182. It is not entirely clear from the submission what this expected to achieve, other than a possible sinking lid for actual farm diffuse discharges. The consent holder is expected to farm in a way that is consistent with the NRP (as described in the FEP). If a new version of the Overseer model increases the modelled leaching amount for the farm, in general (as described above) the NRP would also increase, so there should not normally be significant changes to animal numbers on the farm in order to remain compliant. The requested addition is therefore not considered necessary.

C1.1.14. Best practices assumed in Overseer

183. Overseer outputs assume that certain best practices are used on farms. Pamu Farms state that the Overseer assumed best practices should be made explicit, and that PC1 should ensure farmers undertake them. Officers note that there are increasing expectations that farmers meet good practice standards. The report "Essential Freshwater: Healthy water, fairly allocated" (Ministry for the Environment and Ministry for Primary Industries, October 2018) stated that all those who discharge pollutants to freshwater would be required to meet good practice. The "Good Farming Practice Action Plan for Water Quality 2018", developed by a Governance Group composed of representatives from primary sectors, regional councils and Ministries for the Environment and Primary Industries contains 21 National good farming practice principles. WRC is currently developing a Good Farming Practice approach for implementation of PC1. The approach is further discussed in relation to FEPs and Policy 2 further below.

C1.1.15. Other matters

184. A Harris, Ata Rangi and Southern Pastures Limited Partnership stated that there should be an independent audit (or regular audits) of the correctness of Overseer assumptions, and of whether Overseer is being used appropriately. TerraCare Fertilisers Ltd stated that Overseer should be published so that it can be peer reviewed by other modellers, and that peer reviews should be made publicly available. H Jellie, stated that there needed to be research to validate the predictions made by the Overseer model. AG Wilding, Anthony Gordon stated that Overseer modelling should be substantiated by physical field monitoring on reference farms in each catchment. Similar matters to those raised by these submissions were also included in the PCE report on Overseer described in section 1.5 above. They are matters that need to be addressed nationally. They are not matters that can be managed through the regional plan and so the submissions are not supported.

185. Kane O'Donnell requests that the Overseer model be changed to produce outputs based on probabilities, not predictions. D Lord states that parties such as fertiliser companies and feed merchants should be able to directly input into farmer Overseer files. Again, these are not matters over which the regional plan has control. The submissions are therefore not supported.

186. Oji Ltd requests that Schedule B be amended to require that Overseer Parameter Files or certified XML files used to calculate the NRP are provided to WRC to be used as part of the audit process. As discussed in section 1.8.5.2, there is already a requirement for the data used to prepare the NRP to be provided to WRC (Schedule B(e)) and a change to this clause is recommended to ensure new Overseer outputs are published to WRC when new Overseer model versions are introduced.

C1.1.16. Implications for the definition of Nitrogen Reference Point

187. PC1 has the following definition for the Nitrogen Reference Point:

> *The nitrogen loss number (units of kg N/ha/year) that is derived from an Overseer® use protocol compliant Overseer® file that describes the property or farm enterprise and farm practices in an agreed year or years developed by a Certified Farm Nutrient Advisor, using the current version of the Overseer® model (or another model approved by the Council) for the property or enterprise at the "reference" point in time*

188. Some of the above discussion has implications for the PC1 glossary definition of Nitrogen Reference Point. As noted above, it is recommended that it is clearer to state that the NRP must be modelled with the 'most recent' version of Overseer, rather than the 'current' version. The glossary definition uses the phrase 'current version', which should also be changed.

189. It was also noted earlier that each time a new Overseer version is released, the Overseer software will automatically run the base data through the updated model to determine the new NRP. In other words, the NRP is not just a static nitrogen loss number, but will now change automatically through the Overseer software when a new version of the model is activated. It is important that this is reflected in the NRP definition.

190. There are more than 25 submissions directly on the definition. A number of submissions requested deletion of the definition as part of a general opposition the NRP.

191. Ata Rangi, Pouakani Trust and Southern Pastures Limited Partnership request that the definition specify the version to be used. As noted above, a single version should not be used in PC1, and the most recent version of Overseer should always be the one used.

192. FANZ requests that the definition include reference to data input standards and the Certified Nutrient Management Adviser (CNMA). This is not considered necessary as these matters are described in Schedule B and Schedule B can be cross-referred to in the NRP definition.

193. HortNZ requests that the definition retain the ability to use models other than Overseer to prepare the NRP. This is supported by the Officers. The Pork Industry Board requests that the definition be changed to allow the use of a standalone pig module for preparation of the NRP. This is not supported as the ability to use other models is already provided for.

194. Fonterra requests that the definition be changed to "The nitrogen loss number (units of kg N/ha/year) that is derived using the methodology specified in Schedule B". As noted above, the Officers support referring to Schedule B.

195. Pamu Farms notes that the current definition is confusing given that the first part of the definition seems to imply that only the Overseer model can be used to produce the NRP, while later in the definition, other models are allowed. Pamu Farms also notes that the definition is confusing about the years for which the Overseer models the farm system. The submitter considers the definition is not consistent with Schedule B clause a) and f). Officers agree that the current definition is confusing in these respects.

196. Bruce Gordon and Miraka request a clearer definition for Nitrogen Reference Point. A number of submitters request alternative wording for the definition (including Oji Ltd, Forest and Bird and WRC). In most cases, additional words are suggested that repeat provisions in Schedule B. WRC requests that the definition be replaced with a NRP definition for CVP, and one for other land uses. The submission also requests that the definition be amended to include changes that result from the incorporation of new land into a property and which are approved by the Council.

197. Ravensdown requests that the definition be amended to refer to the Schedule B process for determining the NRP, reference Overseer Data Input Standards, reference the Certified Nutrient Management Adviser Programme and clarify what 'protocol compliant' means.

198. Officers have considered whether the NPR glossary definition should be deleted, given that Schedule B already gives some definition to the term. However, it may be useful to retain a NRP definition in the glossary to allow quick reference for those reading other parts of PC1. Having said that, it would be useful to remove overlap of the glossary definition with elements in Schedule B, although reference to the most recent version of Overseer is necessary, to acknowledge that the NRP number may change when a new version of the model is adopted.

199. The Officers consider that the glossary definition should concisely define the NRP, with the operational detail being left for Schedule B. The Officers recommend the following definition for Nitrogen Reference Point: *The nitrogen discharge benchmark established for a farm, when the farm system in place during the benchmark period, is modelled using the most recent version of the Overseer model, or an alternative model approved by the Chief Executive Officer of <u>the</u> Waikato Regional Council, as described in Schedule B.* This change in definition is in line with a number of submissions described above, including the Fonterra and Pamu Farms submissions. It is implicit in the definition that the NRP number may in fact change with new Overseer versions.

200. At this stage, Officers do not consider that it is necessary to have different definitions for commercial vegetable growing and other farm systems as requested in the WRC submission. Any such differentiation should be in the detail of Schedule B rather than the glossary definition. However, discussions about nitrogen management for commercial vegetable growing are still ongoing so this position may change during the hearing.

201. Officers agree that it is necessary to add provisions in the definition about how the NRP is determined when a farm is subdivided, or land is added to a farm. For example, if two farms, each with their own NRP, are amalgamated it would be unclear what the new NRP should be for the amalgamated farm. Should it be simply averaged on a combined areal basis or should it be recalculated for the new farming system? Should the amalgamation trigger the need for a resource consent and if so under which rule? The same issues arise when a farm is subdivided. Officers will provide firm recommendations on these matters in the end of hearing Officers Reply Report after considering evidence presented at the hearing. It may be that the default discretionary activity rule is adequate to deal with this issue.

C1.1.17. Some overall conclusions for the use of Overseer in PC1

202. Overseer is a model that is well known in the New Zealand farming industry and is used in many regions to support the management of diffuse nitrogen leaching. It is generally considered the best tool we have for modelling nitrogen leaching from most farms. There is currently considerable discussion in New Zealand about whether Overseer should be used in regulation and if so how. This discussion is reflected in many of the PC1 submissions.

203. Central Government sees Overseer as an important way of supporting the management of farm discharges to achieve objectives of the NPS-FM. The Government's May 2018 budget provided an additional $5million to "enhance Overseer". There is therefore a clear Government commitment to the development and use of this model.

204. Overseer seeks to model a very complex real-world situation. The model was primarily developed as a decision support tool. It was not designed to precisely predict how much nitrogen is leaching from a particular farm. It is very useful as a model to indicate whether a change in management practices on a particular farm is likely to increase or decrease nitrogen leaching and with a reasonable degree of assurance, by how much.

205. The Overseer model estimates the "long-term annual average leaching from the farm if the management system described remains in place" (Enfocus, 2018, p12). Because Overseer cannot tell us how much nitrogen is leaching from a particular farm on any particular day, caution should be exercised if Overseer is to be used in a way that could be described as 'compliance with a number'. It cannot tell us with precision if a farm is currently actually leaching more than its NRP. However, Overseer modelling can tell us with a reasonable degree of assurance that a particular change in farm management may increase or decrease nitrogen leaching (over time) from that farm, and by how much. This interpretation of what Overseer can and can't do is in keeping with latest guidance from the PCE and Enfocus reports.

206. PC1 uses Overseer to establish a farm NRP. The NRP is a modelled estimate of the nitrogen leaching (in kgN/ha/yr) for a particular farm during twelve months of a two year reference period, based on the farm system operating at the time. The NRP is a reference point to be used as a way of bench marking nitrogen leaching for the farm. If the farm is remodelled at a future time, based on a different set of farm inputs (such as fertiliser use, cropping and stocking rates), the modelled nitrogen output can be compared with the NRP to indicate if long term average annual nitrogen leaching is likely to increase or decrease. This is a reasonable use of the Overseer model.

207. PC1's primary use of the NRP and the Overseer model is as decision support for development of the FEP. PC1 aims to hold the line in terms of a farm's nitrogen leaching, other than for properties with a Nitrogen Reference Point greater than the 75th percentile nitrogen leaching value for the FMU in which they reside. Those farms must reduce their nitrogen losses down below the 75th percentile NRP by July 2026. Overseer is therefore used to test potential changes in the farm system, so that farm management changes that do not increase modelled farm nitrogen leaching (or that decrease nitrogen losses for the high leaching 25 percent of farms), relative to the NPR benchmark, may be adopted and included in the FEP. Farm management changes, that when modelled by Overseer, would result in modelled discharges of nitrogen greater than the NRP benchmark, should not be included in the FEP.

C1.2. Policy 1 and the overall rule framework[5]

C1.2.1. Summary of this section and recommendations

208. Plan Change 1 includes two policies (Policies 1 and 2) that provide specific direction on the management of diffuse discharges of N, P, sediment and microbial contaminants. PC1 includes a set of rules and schedules to manage farming activities, which will mean that most farming activities need to complete a FEP, implement a range of mitigations and a significant proportion will need to obtain a resource consent. This is to be achieved over the next several years, so that the FEPs and resource consents are in place by 2026.

209. The submissions to these provisions are extensive and detailed – almost all submitters are involved. The majority of submissions are in opposition to the level of control sought by PC1. Many submitters want the policies and rules substantially changed or removed as a whole.

210. Key recommendations include:

    1. Shifting the focus of the rules from management of N, to management of all four contaminants – a clear focus on maintaining or reducing levels of all four contaminants over time is recommended.

[5] This section authored by Matthew McCallum-Clark

2. Consolidating relevant parts of Policy 1, Policy 2 and Policy 6 into a revised Policy 1 that provides direction for all farming activities.
3. Changing to a simpler rule set that firstly separates the hybrid-style (land use and discharge) rules of PC1 into separate rules and secondly has a clear 'cascade' from permitted through to non-complying, depending on the ability to meet clear criteria.
4. Acknowledging that there are some activities that have low levels of losses of the four contaminants – these are difficult to define in a rule framework, but might be able to be described or thresholds set after considering the evidence.
5. Maintaining the need to collect and provide information to the WRC, including outputs from Overseer or other models.
6. Recognising that the implication of reduced reliance on a simple threshold, such as a NRP due to concerns about Overseer accuracy, has implications for the rules such that more discretion and assessment of individual applications needs to be made against all four contaminants, along with greater reliance on the quality, implementation and auditing of FEPs.
7. Not making specific recommendations on changing the timeframes for implementation, given uncertainties over when the relevant rules will be made operative.

C1.2.2. Introduction and provisions

211. This section of the report needs to be read in conjunction with other sections, which address specific elements of the policy and rule framework. This section provides more of an overview with respect to the submissions on the relevant parts of Policies 1 and 2 and the rules and schedules. Specific elements, such as the use of Overseer, land-use change, reductions from high emitters, and certified industry schemes (CIS) are addressed within their own sections of this report. However, the analysis and conclusions reached here inherently influence other aspects of the policy and rule package.

212. In addition, it is also important to consider Section B of this report, published in January, which addresses the outcomes sought to be achieved by PC1, including the objectives and Table 3.11-1. In particular, Section B addressed some overall directions sought by a large number of submitters, to withdraw the plan change, fundamentally shift its focus, delay or advance timing, or consider additional matters, and comes to broad conclusions on those submissions. The reasoning and discussion in relation to those issues is not repeated here, but the outcome of those recommendations is reflected in the recommended changes to the policy and rule framework that results.

C1.2.2.1. Relevant provisions

213. Policy 1, Policy 2 and the rule framework are the core provisions that PC1 utilises to manage diffuse discharges of N, P, sediment and microbial pathogens.

214. Policy 1 includes a broad direction to manage and require reductions in sub-catchment wide discharges of the four contaminants, through enabling activities with low levels of discharges, provided they do not increase, and requiring activities with moderate to high levels of contaminant discharge to reduce their discharges.

215. Policy 2 also requires management and reductions in sub-catchment wide diffuse discharges of the four contaminants through FEPs, CIS, establishing a NRP and identifying that the degree of reduction required should be proportionate to the amount of discharge and the amount of water quality improvement required.

216. Rule 3.11.5.1 is a permitted activity rule for properties less than 4.1 ha, or more than 4.1 ha, but very lightly stocked and not used for cropping.

217. Rule 3.11.5.2 is another permitted activity rule for activities that do not comply with Rule 3.11.5.1, and contains a range of requirements in relation to information provision, stock exclusion, a limit on increasing

any losses, a 15 kg/ha/yr maximum N loss rate and limits on cultivation or grazing on slopes greater than 15°.

218. Rule 3.11.5.4 is both a permitted and a controlled activity rule. The rule permits farming until the relevant staging date after which it is a controlled activity provided a FEP is in place and a NRP is produced. There is an inherent relationship in this rule to the FEP (Schedule 1) which implies conformance with the NRP and the requirement to meet reductions for high discharging activities.

219. Rule 11.3.5.6 is a restricted discretionary activity 'default' rule which applies to any activity which is not a permitted or controlled activity.

220. All of the above rules are "hybrid" rules where they apply to the use of land (section 9 of the RMA), and any associated diffuse discharge of N, P, sediment and microbial pathogens (section 15 of the RMA).

221. Rule 11.3.5.7 is a noncomplying activity rule that relates specifically to land use change, which is addressed elsewhere in this report

222. Rule 3.11.5.3, which is a permitted activity rule for farming under a CIS, and Rule 3.11.5.5, which is a controlled activity rule for existing CVP, are also dealt with elsewhere.

C1.2.3. Meetings with submitters

223. Informal meetings have been held between WRC s42A report writers, WRC staff and many submitters and submitter groups interested in these provisions. This has included territorial authorities; Federated Farmers, Beef and Lamb and other representative groups; dairy, deer, goat, equine, pork and other sector groups; Department of Conservation (DoC), Forest and Bird and Fish and Game, as well as with several other businesses, individuals and representative groups. These meetings helped Officers understand different points of view, and records of the meetings are available.

C1.2.4. Submissions

C1.2.4.1. Submissions as a whole

224. The significant majority of the 1000+ submissions to PC1 or Var1 support, oppose or seek changes to an element of the policy or rule framework.

225. A significant number of submissions received on the policies and rules are on common topics or themes that are addressed elsewhere in this report, including:

- Amendments to the stock exclusion requirements;
- Provision for the collective management of contaminant losses at a sub-catchment level, including the establishment of Nutrient User Groups to facilitate the sharing and transfer of nutrients;
- Deletion of the NRP, use of Overseer, and provisions that result in grandparenting;
- Inclusion of water quality monitoring above and below properties to determine source of contaminants or use of some form of 'natural capital' approach as an alternative to the NRP;
- Inclusion of all sources of contaminants, including koi carp, Canadian geese and point source discharges;
- Deletion of PC1 provisions in their entirety until additional information is available;
- Amendments to address the economic impact of managing land use activities to reduce the discharge of contaminants; and
- Inclusion of financial contributions for implementing mitigation measures.

226. The conclusions reached by the Officers on the above topics (as set out elsewhere in this report or to be published as a part of Block 3) also apply to some submissions made on the policies, rules and schedules addressed here. Submission points on these topics are not addressed here.

227. A large number of submissions are somewhat generic in nature, or raise high-level issues with the direction of PC1. Typical examples seek:

- Removal of provisions relating to the NRP
- Removal of provisions relating to the Overseer model
- Deletion of policies and rules that result in 'grandparenting' losses
- Amendment to adopt a sub-catchment based approach in conjunction with FEPs
- Amendment to remove the stock exclusion fencing requirement for slopes over 15 degrees
- Amendment to provide for a change to the stock exclusion threshold to (at least) 12 or 18 stock units per hectare
- Amend for stock exclusion the definition of a waterway to align with the "definition in the NPS-FM" or the Dairy Accord

228. These kinds of submission points are sometimes lodged against multiple policies, rules and schedules, or may only be lodged against one provision, but obviously have application across many. Most submitters also do not differentiate clearly between the policy or the rules, which are inherently related. Therefore, the assessment of submissions on the relevant parts of Policy 1 and 2 and the relevant rules are set out, then discussed together and a cohesive recommendation made, which is set out in the attached "tracked-changes" version of PC1.

229. The submission points are grouped in relation to the relevant parts of Policy 1, Policy 2 and the relevant rules. Submission topics are not repeated – for example, if an issue with the NRP is first raised in relation to Policy 2 and then raised in all of the rules, it is discussed in relation to Policy 2, but not addressed again in relation to the rules. In this case the NRP is a 'live' issue and given the interrelated nature of the policies and rules, there is clear scope to address the issue.

C1.2.4.2. Submissions on Policy 1

230. There are several hundred submissions on Policy 1, with around 60 in support seeking that the Policy is retained as notified. Many submitters support managing water quality on a sub-catchment basis, stating that this approach considers soil suitability and climate conditions. Several submitters seek that the Policy is deleted and have raised concerns that it imposes 'grandparenting' and penalises those who have farmed conservatively.

231. Several submitters seek that Policy 1 is amended to better define "low level of contaminant discharges". Fish and Game requests that the Policy is amended to include linkage with the relevant rules so it is clear that activities with "low level of contaminant discharges" are defined in the rules.

232. DoC supports Policy 1 but seeks amendments so that it directs the reduction in the discharge of contaminants (rather than "manage and require reductions"). NZ Steel seeks that Policy 1 is amended to make it clear that it is the overall effect of the discharge that is not increasing. Several submitters request amendments so that Policy 1 applies to both diffuse and point source discharges. Federated Farmers seeks that a "Most Practicable Actions" assessment framework is used to manage diffuse discharges and "Best Practicable Option" should be used to manage point source discharges.

233. Eel Enhancement Company Ltd supports the use of the NRP but seeks that Policy 1 is amended to also include limits on sediment discharges. Similarly, South Waikato District Council (South Waikato DC) seeks that the Policy is amended to incorporate an agreed, measurable and enforceable baseline for each of the four diffuse contaminant discharges from which they can be measured or benchmarked.

234. Several submitters request that Policy 1 is amended to remove grandparenting and provide additional flexibility for low intensity farmers to increase productivity. They also seek regulations for pastoral farming (high intensity farming) to reduce effects on waterways. For example, C Beverland requests that Policy 1(b) is amended to require wintering barns in highly sensitive areas.

235. To provide flexibility for low intensity land uses, several submitters have suggested that N losses are managed or allocated based on a permitted threshold for "low intensity" land uses ranging from 15-25 kg/N/ha/year[6]. G Verkerk notes that the increase in discharges by low emitters will be offset by those in the third quartile required to reduce their discharges to the median for their sub catchment.

236. Submitters also suggest a number of other alternatives to "grandparenting", including:

- Nitrogen allocation based on soil type, contour and farming type;
- Allowing farmers to apply practical options that are developed by landowners;
- Treat like land equally within each sub-catchment, and use FEPs to determine what a reference point should be; and
- Ensure the NRP is applied only to those users who need to reduce below the 75th percentile and promote good management practices.

237. Several submitters have requested amendments to Policy 1(b), which require *farming activities with moderate to high levels of contaminant discharge to water bodies to reduce their discharges,* including:

- Only requiring reduction in discharges of contaminants where the sub-catchment is at its assimilative capacity, is over-allocated or where it is scientifically proven to be necessary;
- Requiring all farming activities to apply Best Management Practices to mitigate the discharge of all four contaminants to water bodies (N, P, sediment and microbial pathogens);
- Allowing farming activities with moderate levels of contaminant discharge to continue without reducing discharges; and
- Enabling farms that operate under a CIS to continue without requiring resource consent.

238. Federated Farmers support the intent of Policy 1 but seek amendments to make it clear that all discharges to waterbodies will be assessed on a sub-catchment basis and reductions will be required where improvements in the levels of specific contaminants will contribute to the 10-year targets set in Table 3.11-1.

239. Several other submitters request that Policy 1 is amended so that the management practices and approaches correspond with the specific issues of each sub-catchment and so that the responsibility of addressing the effects on water quality is apportioned to those land uses (including point source and diffuse discharges) that cause or contribute to over allocation. Submitters also request that improvements over time are appropriate to the level of impact of the land use activity.

240. Several submitters request the inclusion of additional mitigation methods in Policy 1, such as managing critical source areas and requiring riparian planting (in addition to stock exclusion). G Anderson seeks that Policy 1 is amended to ensure that mitigation put in place is not undermined by future plan changes.

241. Save Lake Karapiro seeks that Policy 1 is amended so that where there are numerous permissions or consents within a catchment for common activities, the overall effect is regarded and addressed both individually and in the aggregate.

242. Beef and Lamb request that PC1 is amended so that land use rules and management frameworks include both land use and ancillary discharge provisions (i.e. both sections 9 and 15 of the RMA).

[6] For example, Beef and Lamb, R & P McLaughlin, and Jodean Farms

243. Several submitters state that there is a potential inconsistency between Policy 1a and Policy 4 with regard to the approach taken to activities with a low level of contaminant discharge. The submitters request that Policy 1 is amended so that it is consistent with Policy 4.

244. DairyNZ and Q Lichtwark support Policy 1 on the basis that it is an overarching policy. They state that more guidance is needed about how Objective 3 will be achieved. In their submission, they note that PC1 acknowledges that achieving the numerical attributes in Objective 3 Table 3.11-1 is likely to take longer than ten years and will relate to actions on the land rather than changes in water quality attributes. Because Objective 3 can be interpreted in different ways, the submitter considers that changes should be made at policy level to clearly set out how the outcome sought in the life of PC1 will be achieved. In particular, they consider that WRC will need to collate and analyse actions on the land to reduce pressures on water quality, which should be added as a new clause (d) to Policy 1. DairyNZ submits that this will link more clearly to Methods 3.11.4.10 and 3.11.4.11 of PC1.

245. Oji Ltd supports Policy 1, but notes there is a lack of connection between the policies requiring contaminant loss reductions and the rules. They note that Policy 1(a) is not consistent with the rules as there is no ability to prevent those small and low intensity farming activities from increasing their diffuse discharges provided they meet the permitted activity standards. They also consider there to be a disconnect between Policy 1 and the requirements to adopt Best Management Practice, GMPs or certification through a CIS.

246. Oji Ltd also submits that Policy 1(b) is inconsistent with the relevant rules. They note that for all but the highest leaching farms (75th percentile) there is no clear or specific requirement to reduce discharges. They also state that there is no recognition that the intensity of a discharge has a different environmental effect depending on where in the catchment it occurs.

C1.2.4.3. Submissions on Policy 2

247. There are over 300 submissions on Policy 2, with about 30 in support seeking that the Policy is retained as notified. Several submitters seek that the Policy is deleted on the basis that its requirements are considered to be impractical, unachievable and "reward polluters". Various submitters seek that requirements related to stock exclusion, establishing a NRP and the preparation of a FEP are deleted from Policy 2.

248. Forest and Bird oppose Policy 2 as they consider that the "tailored case-by-case" approach implies a number of factors for each individual property could be relevant and that allows for a disparity of treatment. They consider that all landowners should be treated equally. They also oppose Council delegating its function to set conditions of consent to a CFEP. They raise concerns about the appropriateness and effectiveness of the NRP.

249. WRC supports Policy 2 but submits that to assist with the management of risk, the Policy should provide further guidance (criteria or principles) on what are acceptable timeframes for the completion of mitigation actions.

250. R Boom requests that Policy 2 is amended so that it only applies to moderate and high dischargers (i.e. exclude drystock farms from the requirements set out in the policy). Spectrum Dairies Ltd Partnership seeks that Policy 2 is amended to consider the economic fallout and value loss to people leaving farming. They seek that the Policy includes logical solutions that have positive economic and environmental effects, but do not provide any examples of what this might look like.

251. P Brodie notes in his submission that consents can only apply to land, therefore 'properties' cannot be confused with 'enterprise'. The submitter states there is a problem where an enterprise has a contractual agreement over a property (lease) that cannot be reviewed within the term of the PC1. Mr Brodie does not suggest any amendments as a solution to the issue raised in the submission. The Surveying Company Ltd also requests that Policy 2 is amended to clarify whether the NRP is attached to the land or the enterprise.

Nitrogen Reference Point (Policy 2(c))

252. Several submitters request that Policy 2(c) is deleted on the basis that the establishment of a NRP allows for grandparenting of N losses. A large number of submitters do not support the use of a NRP and seek that alternatives are used. Suggested alternatives to the NRP include:

- an allocation system based on land suitability/natural capital of soils and the water quality outcomes that are to be achieved for each sub-catchment;
- remove the requirement of adhering to the NRP and use data to benchmark N losses;
- equal allocation where all landowners have the same NRP (e.g. 30kg N/ha/year);
- the bottom 25% of dischargers have a buffer to provide flexibility to move within the bottom quartile;
- permit low leaching land uses and allow increases up to a specified limit (e.g. 15-20kg N/ha/year);
- reward individual efforts and condemn detrimental practices on a case by case basis; and
- replace the reference point with a "range" for a property.

253. Forest and Bird submit that Policy 2(d) is not effects based and would disadvantage those who currently undertake good practice or have a low discharge. They also consider that it may encourage an artificial inflation of a property's NRP. One submitter requests that Policy 2 is amended to focus on collecting data (through industry groups) on NRPs. The submitter does not consider that the NRP should be used as a tool for restricting low emitting farming systems. Similarly, CNI Iwi Land Management Ltd seeks amendments to clarify that the purpose of the NRP is to establish an ability to reduce N loss, and not to grandparent N losses. Another submitter suggests that NRPs should be established for all New Zealand farms, and farmers should be able to compare results with properties of similar sizes. They note that making the NRP public would provide an incentive to improve practices and promotes transparency in the industry.

254. Some submitters also highlight limitations of Overseer for modelling some farm systems. G Treweek requests that in place of the NRP, a Reference Land-use Description should be used. The Reference Land-use Description is a summary of the farming activity at a point in time, to be checked during FEP audits. The submitter suggests that if there is a deviation from the Reference Land-use Description, Overseer should then be used to determine if the farming activity has intensified. The submitter states this approach would control intensification and allow time for Overseer to become sufficiently robust to be used in subsequent plan changes.

255. Other submitters consider that the policy framework is too restrictive for low emitters and too lenient for high emitters, which unfairly penalises those with low N discharges, when the high emitters are causing the detrimental impact. Submitters seek scope for minor increases by low emitters (including hill country farms) to be balanced against reductions achieved through implementation of best practice by high emitters. Several submitters seek that the following (or similar) is added to Policy 2(c):

> *Provide guidelines within the Farm Environment Plan to ensure that:*
> *i. Farms with Nitrogen losses lower than the 75th percentile plan and implement good practice;*
> *ii. Farms above the 75th percentile for Nitrogen losses plan and implement methods to reduce to below that value*"

256. One submitter notes that the NRP locks farmers into N discharge levels that occurred during 2014/15 and 2015/16, which they state were drought years when farm inputs were low. They request that the Policy is amended to ensure that adequate fertiliser is applied, based on soil needs. A McGovern requests that Policy 2(c) is amended to allow flexibility of stock types and seasonal changes in stock, and to allow stocking rates to vary in response to changing climatic conditions.

257. Cranleigh Agri-Business Trust seeks that Policy 2 is amended to ensure that N inputs can increase if healthy soils are built up.

258. Several submitters are concerned that the use of a NRP emphasises N at the expense of managing other contaminants, in particular, P.

Reductions to be proportional (Policy 2(d))

259. One submitter requests that Policy 2(d) be deleted. P Brodie opposes Policy 2(d), noting that it requires the measurement or modelling of the discharge of all four contaminants, in order to determine if the reduction in contaminants is proportional to the amount of discharge and the water quality improvements needed. The submitter notes there are currently no cost-effective ways of measuring or modelling discharges at the property scale with sufficient confidence. DairyNZ also seeks amendments to clause (d) on the basis that measuring or modelling the farm level discharge of sediment, P and microbial pathogens entering water is not practical. They suggest that in the future, sub-catchment plans could assist by 'breaking down the task' of achieving water quality goals. DairyNZ requests amendments that include reference to sub-catchment plans, noting these are currently only referred to in the PC1 methods. A. Loader opposes Policy 2 on the basis that it places emphasis on managing N and P from farming, and no other sources. He seeks that the Policy is amended so that any required reduction in contaminant loss is made on the basis of the total percentage of losses from farming (i.e. 61% N and 45% P).

260. Pouakani Trust and Miraka Ltd submit that the degree of reduction should be proportionate to the gap on farm between current practices and good management practices. They request the following amendments:

> *Requiring the degree of reduction in diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens to be proportionate to the ~~amount of current discharge~~ difference between current practices and the application of Best Management Practices (those ~~discharging more are~~ currently not applying mitigations expected to make greater reductions), and proportionate to the scale of water quality improvement required in the sub-catchment; and….*

261. R Okell requests that Policy 2 is amended to provide a rate of change that targets those persons or entities discharging the greatest amounts. B, J, K & J Osbourne seek that a maximum discharge level is provided for each sub-catchment based on the level of improvement required, rather than on existing discharges. A Robson suggests that the plan prohibits and prosecutes the worst practices. They seek that pollution levies are used in place of a proportional system.

262. J Reeves & A Taylor submit that Policy 4(d) discriminates against farmers already undertaking on-farm mitigation. They consider that proportionality should be based on average per hectare reductions required. In relation to these matters, they seek the following amendments to Policy 2:

> *a. ....define mitigation actions on the land ~~that will reduce~~ for diffuse discharges of nitrogen....*
> *d. .....to the scale of water quality improvement required in the sub-catchment, and proportionate to the average on-farm discharge in the sub-catchment and….*

263. Fish and Game supports the tailored approach to reducing diffuse discharges, however does not consider it to be a sufficient step towards giving effect to the Vision and Strategy. The submitter considers that farm or enterprise reductions should be based on sub-catchment allocations, where in under allocated sub-catchments, land use and discharge activities are regulated to ensure the land resource is used efficiently. In sub-catchments where contaminant discharges are near or at full allocation, activities are regulated to achieve discharge standards that progressively decline over time. To give effect to their submission, Fish and Game seek that clause (d) is amended to reference the water quality targets set in Table 3.11-1. E Henson requests that Policy 2(d) is amended so that "polluters be hit hard and soon".

264. Fonterra and Fletcher Trust submit that Policy 2 does not effectively relate to the rules that seek to implement it. They state that Policy 2(d) implies discretionary judgements will be made about the degree of contaminant reduction. The submitters request that Policy 2(d) is replaced with the following (or similar):

Requiring Farm Environment Plans to identify the areas and activities representing diffuse discharge risks and the most effective way of managing those risks on the particular property.

265. Several submitters raise concerns about the "load to come" of N and the provision for offset mitigation. Southern Pastures Limited Partnership states that due to the load-to-come in some of the upper Waikato sub-catchments, it is not clear whether the 10% water quality targets will be achieved. They state that it is not clear what this means in practical terms for farming activities in those sub-catchments or how it will be addressed. They seek that Policy 2(d) is amended, particularly to include N discharge offsets.

266. Several submitters request that Policy 2 is amended to encourage people into organic farming without the loss of equity in their farm by allowing any Assure Quality or Bio Gro registered farming operations to increase to the average leaching levels of the district.

267. The submission from WRC states, in reference to the reduction in contaminant losses that are proportionate to the "scale of water quality improvement required in the sub-catchment", that there are no sub-catchment targets for TN and TP, only main stem targets. To avoid a possible interpretation that N and P reductions are not required in the sub catchments, they request that Policy 2(d) is amended to read:

…water quality improvement required in the sub-catchment, Freshwater Management Unit (FMU) or catchment as appropriate".

C1.2.4.4. Submissions on the Rule Framework

268. Many hundreds of submissions were received on the rules, ranging from general submissions on key topic areas (such as "the sub-catchment approach" or requirements of an FEP) through to specific amendments to individual rules.

269. As noted above, if an issue is discussed above in relation to submissions on Policy 1 or Policy 2 it is generally not repeated here.

270. Several submissions were made on the rule framework as a whole, with numerous submissions on rule structure and thresholds, and the inclusion of new rules for activities that may not be covered by the existing rule framework.

Rule style and structure

271. Several submitters seek that the rule cascade is made clearer so that it can be followed and understood by laypersons using the plan. Similarly, other submitters request that the rules are amended to reflect best practice rule drafting, so that Plan users are readily able to understand whether their activity is permitted, without the need to undertake nutrient modelling or engage technical specialists. Forest and Bird raise concerns about the enforceability of these rules.

Permitted activity thresholds

272. Several submitters raise concerns about the permitted activity thresholds, in particular that the rules could permit high leaching or intensive land uses, and that a more appropriate approach to these types of activities is a consenting framework where an FEP is prepared and implemented. Other submitters seek the inclusion of a permitted N limit of varying levels, often 15-20 kg N/ha/year, to enable flexibility for low intensity land uses to adapt to market and other economic changes. If the use of a numerical N limit is not considered appropriate, submitters note that this threshold could be included as a narrative.

273. Two submitters raise concerns about Rule 3.11.5.3 being a hybrid of a controlled activity and permitted activity rule. The submitters request that either the rule is separated into two, or the threshold between the two rule classifications is made clearer.

Change in land use

274. A number of submitters request that the rules are more enabling of changes in land use, with any change to existing land use being classified as a restricted discretionary or discretionary activity. Submitters are concerned that the non-complying activity status is too restrictive and should only apply to activities that result in an increase in contaminant losses. Other submitters, including Fish and Game and Forest and Bird, support a non-complying activity rule applying to any increase in diffuse discharges. Ata Rangi has sought the inclusion of two new rules to provide for the change (intensification) of land use as restricted discretionary activities.

New rules

275. Other submitters request that a new default rule is included where an activity is not currently addressed by other rules, with the new rule being either restricted discretionary or discretionary.

276. Several submitters request the addition of a new discretionary (or restricted discretionary) activity rule for catchment collectives to collectively manage nutrient discharges from a group of properties in the same area, sub-catchment or related sub-catchments. Other submitters seek the inclusion of a new rule that enables the transfer of nutrients between properties.

277. Fish and Game request the inclusion of a new prohibited activity rule for the discharge of sediment from disturbed land into water without a buffer.

278. Waikato Environment Centre, A Livingston have sought new rules to prevent the five O's, over-fertilising, over-stocking, over-grazing, over-watering and over-draining.

279. Federated Farmers seek a new controlled activity rule for farming activities that exceed their NRP but are not a change in land use. Federated Farmers state that flexibility to increase nitrogen should be provided for lower emitting farms but where they do not exceed the 75th percentile.

Timeframes

280. Several submitters request that the timeframes set in the rules for requiring action from landowners should be amended to 10 years, rather than 2026, to take into account the time that is likely to pass prior to the plan becoming operative.

C1.2.5. Analysis

281. At the outset, Officers acknowledge that this analysis is at a slightly higher level than for many of the other sections. Matters of detail relating to such things as the use of Overseer, NRP definition and use, land use change, FEPs etc are largely dealt with elsewhere in this section. Fundamental matters of direction, such as achievement of the Vision and Strategy are dealt with in section B1 of this Report, published in January.

A focus on nitrogen?

282. A significant number of submitters oppose the "focus on N", particularly in the rule framework. While it is possibly arguable as to whether or not there is a focus on N, it is an easy assumption to make, given the use of the NRP and clear need to comply with it within the rule framework and through FEPs. The other three contaminants of concern do not, in the rules, have similar thresholds.

283. Officers consider that part of this focus on N comes about through the lack of clarity in the policy, rule and FEP framework as to what is expected. In part this comes through the overall policy positioning being split between Policies 1, 2 and 6, along with some of the key requirements sitting within Schedule 1, in relation to FEPs. In the Officers' opinion, the FEP schedule contains some of the clearest wording of PC1, about the need to prevent increased losses (adherence to the NRP); for the highest emitters to reduce N losses (meeting the 75th percentile); and the direction of travel for all four contaminants (reduce the diffuse discharges of these contaminants).

284. Officers understand the perception that arises, given the explicit use of the NRP and a N threshold within the rule framework, particularly the permitted and controlled activity rules. Given the available science, Officers consider this perception is unfortunate as, certainly in the initial 10 year period, all four contaminants ought to be subject to real and enduring reductions.

285. After considering submissions, particularly those that identify potential for conflict or overlap between different policies, Officers recommend the merging of the elements of Policy 1, Policy 2 and Policy 6 that set the overall expectations for management of diffuse discharges. As a consequence, Policy 2 is recommended to be more tightly focused on FEPs, and Policy 6 to be deleted. Overall, the Officers consider that this does not substantially change the overall outcomes, but provides more appropriate guidance for consideration of resource consents and a single overriding policy that provides the management framework for diffuse discharges of N, P, sediment and microbial contaminants. The fundamental direction of Policy 6 in relation to increased diffuse discharges of losses, as discussed further in the Land Use Change section below, is unchanged.

286. A significant number of submitters have identified that in some sub-catchments, future water quality states are already met. Notwithstanding any discussions over a N load to come, this would suggest that, at least in these sub-catchments, 'maintaining' water quality would be appropriate. Again, this may reflect an emphasis on N, as in reality for almost all catchments one or other of the four contaminants exceeds the desired water quality states in Table 3.11-1[7]. That said, Officers are cautiously supportive of this approach, on the understanding that increases in contaminant losses are not enabled and where water quality attribute states in Table 3.11-1 are not met, losses of the relevant contaminants do in fact reduce. The Officers' position on this issue will obviously need to be updated after the outcomes of expert science conferencing become available.

287. Plan Change 1 identifies, through the NRP, a clear and specific threshold in terms of N leaching. The mechanics of how that is calculated is addressed in the Overseer section of the report. The intention of the NRP is to provide an upper limit of N that may be leached per property, based on historic levels, and require the upper quartile of discharge rates to be reduced. A great many submitters have opposed this framework, with a large number criticising the "grandparenting" approach whereby low emitters are locked into a low emitting future. There is also considerable support for the rule framework and its reliance on a NRP, notably from the dairy sector.

288. The concept behind the NRP and the limitation on intensification, at least with respect to N losses, is simple and compelling. Despite arguments around the margins, Officers consider it is reasonably well accepted that it is difficult to intensify a farming operation without leading to increased N losses. Therefore, the use of N as a proxy for intensification is, in the Officers' view, reasonably justified.

289. Officers also note that the issue of "grandparenting" N losses was canvassed extensively through the first instance and Environment Court hearing for Lake Taupō Variation 5 nearly a decade ago. In that case, it was accepted that in a catchment where an overall reduction in N losses was required (similar to what we have with PC1) a grandparenting approach to N losses was appropriate. That precedent holds true for the Waikato and Waipā catchments.

290. However, the more recent issues identified with Overseer outputs, and the risks of setting a regulatory "number" to which a farm must operate, indicate adjustments to the PC1 rule framework could be appropriate. In combination with this, many submitters have, in the Officers' opinion, correctly identified that while the policy framework of PC1 addresses all four contaminants, the numeric rule thresholds are based primarily on N.

291. Officers understand case law has identified that thresholds used in rules to determine activity status should be clear, unambiguous and objectively determinable. The NRP, for all its issues, does provide such a clear

[7] There are two exceptions - Waikato River at Ohaaki, sub-catchment 2, meets all attribute states and Torepatutahi Stream at Vaile Rd Bridge, sub-catchment 17 meets all attribute states, accepting that as it has no historic data for clarity, and a clarity attribute state has not been set.

and unambiguous threshold. Other measurable parameters as a stocking rates or land area could also be used to define activity status.

292. Despite a range of discussions with industry bodies, and research into thresholds used elsewhere, Officers are doubtful there are readily defined thresholds available for any of the four contaminants, particularly if the limitations on the use of Overseer discount the usefulness of the NRP as a threshold.

293. Plan Change 1 as notified identified that the majority of farming activities that are unable to comply with the permitted activity rules, but are not intensifying (able to comply with the historic NRP) would be a controlled activity. Officers also understand that the case law around controlled activities means that a resource consent must be granted, but may be subject to conditions. The conditions placed on a controlled activity resource consent are not able to "frustrate" the resource consent to the extent that it is not able to be utilised or is effectively declined. Officers are concerned that a controlled activity status will mean that Council is unable to decline an application that clearly increases the losses of any or all of the four contaminants under a controlled activity framework. Similarly, without a clear and unambiguous threshold as to what constitutes an increase in the losses of those contaminants, a controlled activity status would appear to have some risks. Officers have nevertheless included an option for a controlled activity rule (Rule 3.11.5.2A Controlled Activity Rule – Medium intensity farming), for what are considered lower risk farming activities, and welcome evidence at the hearing on the robustness of its thresholds.

294. A more onerous activity status, and potentially more significant investigation of losses of all four contaminants in order to confirm that losses are not increasing (and preferably are reducing) will lead to increased complexity, cost and time commitments for both applicants and Council. This is both for making and processing applications and the ongoing monitoring of any resource consent granted. This is by no means an insignificant issue, and goes to the heart of questions over PC1 with respect to compliance costs, industry capacity and Council's capacity to complete the presently staged FEP and consenting process by 2026. Officers are aware that there is some discomfort within Council's implementation team about the realities of undertaking this exercise, potentially in combination with the Officers' recommended removal of a permitted activity pathway for farmers under a CIS (formerly permitted activity Rule 3.11.5.3 now recommended to be a restricted discretionary activity).

Catchment view

295. Section B of this report (published in January 2019) identified that there were a range of changes in the 2017 amendments to the NPS-FM. One of the key changes is recognition of the Māori concept of ki uta ki tai. This is expressed in the NPS's Policy C1, where it is made clear that the concept of 'from the mountains to the sea' is an important consideration for regional council planning documents. While there is a range of submissions that specifically seek additional emphasis on a sub-catchment approach and support the specific identification of sub-catchment level management of the four contaminants in Policy 1 and 2, Officers consider that the Vision and Strategy and the new direction in the NPS-FM encourage a catchment wide view. In effect, this means that while sub-catchment level management of the four contaminants is important, equally, if not more important, is the catchment wide view of achieving the water quality outcomes in the whole catchment. This is not dissimilar to the approach of WRP Variation 6 regarding water quantity, where any sub-catchment allocations have to occur within and not compromise a catchment wide allocation framework. Officers recommend that both Policy 1 and 2 be amended to specifically recognise the catchment-wide view as well as sub-catchments.

296. Another significant matter is in relation to those submitters, and there are many, who seek more flexibility for intensification or generally fewer controls on their kind of farming. If the effects of the contaminants of concern are generally considered to be cumulative for the whole catchment, and there is a need for short and long-term reductions in all contaminants, then the question arises as to where the capacity or 'head-room' for intensification is to come from. The nub of the issue would seem to be that in order to allow one farmer to discharge more contaminants, then another farmer must reduce even more. Colloquially, this might be referred to as "robbing Peter to pay Paul". While what is described by submitters

as a 'grandparenting' approach has equity issues, it would appear to the Officers that other approaches have considerable equity issues as well. It would be helpful if submitters that are seeking more flexibility for intensification could identify where they consider the additional reductions should occur and how any equity issues that raises would be resolved.

Rule structure

297. Several submissions identify that the rule framework needs clarity and simplification. In particular, some submitters question the use of rules that combine both permitted and controlled activities, or that the rules contain both land-use and discharge controls. Some submitters identify that the rules do not have a clear sequence, or cascade from one activity status to the next.

298. Officers agree that the combination of permitted and controlled activities in one rule and the combination of land use and discharge controls in some rules creates uncertainty, particularly as to what kind of activity is being authorised by a resource consent. Officers consider that separating the activities, in a way that does not alter the outcomes, but makes the rule framework simpler and more robust is beneficial.

299. On this basis, Officers recommend that all of the relevant rules be section 9 'land-use' rules, with a separate rule for the associated section 15 'discharges'. Officers are aware that this framework has been used elsewhere in the country (including the Taupō catchment under the WRP's Variation 5), and appears to be robust. In that regard the 2008 Environment Court decision on Variation 5 made a specific finding (at page 73) that "any discharge rules incorporated into RPV5 should be clearly differentiated from land use rules". Applying this differentiation in PC1 means that the resource consent authorising land use, and any associated elements including the conditions and a requirement for a FEP, 'attach to the land'. These kinds of consents are not able to be transferred from site to site. Recommended new Rule 3.11.5.8.and 3.11.5.9 for PC1 would then explicitly authorise discharges from the land under section 15(1) of the RMA, consistent with the approach directed by the Environment Court for Variation 5.

300. Officers note that Rule 3.11.5.3 is titled a "Controlled Activity Rule", but contains both a permitted activity for the interim period and a controlled activity, following a particular date. Officers suggest that these rules are separated into a permitted activity rule that applies until a certain date and then a separate rule that sets an activity status following that date. While there is an advantage in having a single rule for many farmers, separating them will avoid confusion and misinterpretation.

301. As is discussed in more detail in the analysis of Rule 3.11.5.7 (land-use change), the non-complying activity rule for "land use change" is somewhat out of character with the other rules that apply to "farming". The non-complying activity rule would purport to control "change", but does not make it clear what status the ongoing use of land may have. Officers consider that through some relatively simple rewording this ambiguity can be resolved.

302. Officers also recommend a clear and unambiguous rule "cascade" be adopted where permitted activities are stated first, there is a series of rules with increasing activity status, with a clear 'catch-all' rule that will be the default position for any activity that does not fit within other rules. The exception to this clear cascade may be the CVP rules, which may benefit from separation, given their application to a more specific activity. Once the preferred rule set is established, Officers suggest adding a simple reference table at the beginning, setting out the rules.

303. In line with the discussion in the Overseer section, and the various more recent reporting on Overseer, the recommended discretionary activity rule (Rule 3.11.5.6A) is not reliant on the provision of a NRP. This, in combination with the recommended removal of the default material from Schedule B, will enable any person who is unable to calculate a NRP, or seeks a different NRP because of their particular circumstances, to establish one through a discretionary activity resource consent process. The policy positioning is such that Officers do not consider it likely that significant or numerous increases in historic losses are likely to be authorised as a result.

304. As is discussed in the Overseer section of the report, since the notification of PC1, there have been substantial changes in the Overseer modelling system such that Officers understand a more internet or "cloud" based system is in operation and is likely to feature for future versions of the model. While there are a range of requirements in PC1 to provide information to WRC, particularly from Overseer, over time is expected that there will be an increased ability to integrate systems to provide the required information. On this basis, Officers recommend that one of the conditions of the more permissive rules in PC1 require the provision of electronic access to the farm's Overseer information, or whatever model is being used to record or model contaminant losses. This is intended to resolve issues relating to versions of Overseer or other models that do not produce paper copies of information or downloadable files.

305. Many submissions identify farming situations where the effects are considered to be at the low end of the scale, and the farmers have invested heavily in mitigations, ahead of any regulatory requirements for reduction in the losses of the four contaminants. This may include things such as waterbody fencing, riparian planting and wetlands, sediment traps and retiring land. Many submissions seek a permissive framework for these kinds of farms – so that they are not 'penalised for having done the right thing'. The Officers are very supportive of this, but are finding it difficult to clearly articulate in the rule framework exactly how this could be done. There are some changes to the permitted activity rule that may increase the scope to permit some of these kinds of farming operations, but this does not extend to recognising mitigations that are more farm-specific. Officers are hopeful that through evidence being presented, there may be some clarity as to how a rule could be constructed that would recognise and encourage the good works that have been occurring.

New rules

306. With regards to submissions seeking additional rules for catchment collectives and discharges of sediment from disturbed land, these matters will be addressed in the Block 3 report.

307. In response to Waikato Environment Centre and A Livingston's request for new rules to prevent the 5 O's, Officers consider that the proposed rule framework, as amended, will achieve the outcome sought by the submitters. Specifically, the development and implementation of the NRP, FEPs and undertaking activities at Good Farming Practice (GFP) address the submitters concerns. In addition, it is likely that adjustments to Schedule 1, on FEPs, will also help address these matters.

Timeframes

308. Plan Change 1 includes a staged approach where land uses in sub- catchments that are furthest from desired water quality states are first to go through a consenting and FEP process, with the entirety of the Waikato and Waipā catchments to be completed by 2026.

309. Recognising some delays, Variation 1 sought to change the relevant dates for providing information, and resource consent and FEP processes, by maintaining the staged approach but delaying the Priority 1 and Priority 2 tranches. The completion date of 2026 was not changed. Some dates, possibly inadvertently, were not changed, such as the date for calculating the 75th percentile.

310. At the outset, Officers suggest that the dates set were overly optimistic, and possibly unhelpful given the provisions of the RMA that essentially permit many existing activities to continue until six months after PC1 becomes operative. Given that operative status may be still some years away, the staging process and 2026 completion date may be unrealistic, given the resources that can be applied to the task. At this point, Officers do not suggest a new set of dates or recommend a change to the 2026 completion date. However, these are critical issues for the Hearing Panel to consider. Some matters that concern the Officers include:

    1. the whole framework of the PC1 short-term water quality states is based around 2026. Deviating from this essentially means acceptance of poor water quality states for the catchment for a longer period;
    2. Officers understand that during the development of PC1 there was an expectation that CIS would carry much of the burden of educating farmers and assisting with FEP's and their implementation.

Given the nature of the submissions and some of the policy issues discussed elsewhere, Officers question whether those assumptions about the benefits of CISs are either realistic or worth the risk.

3. the simple numeric limit of a NRP provides a relatively simple threshold for activity status and compliance. Given the issues with Overseer that have been more thoroughly researched and identified of late, the lack of a simple threshold may mean that more analysis, interpretation and judgement is required for individual resource consent applications than was originally envisaged.

311. Officers are concerned that given what could be more realistic operative dates for PC1, the staging process may become somewhat irrelevant, and resourcing the FEP development and resource consent process with appropriately qualified and skilled people will be challenging, to say the least.

312. If the Hearing Panel wishes to maintain a series of dates in PC1, it is the Officers' recommendation that they be amended to state a simple timeframe after PC1 becomes operative. For example, "the date 6 months after the date that PC1 is made operative" or "the date three years after the date that PC1 is made operative". In addition, there may be a need to provide a time gap for the provision of NRP information, calculation of the 75th percentile value and then to provide an opportunity for farmers above that level to get information on mitigations before submitting a resource consent application and FEP. As the possible rule framework becomes more certain, and answers to questions about FEPs and capacity to implement PC1 are identified through evidence, Officers will present a more complete and time-framed staging process in the final recommendations contained in the end of hearing Reply Report.

313. Should the Panel decide to maintain a staged approach, Officers note the issues arising for landowners who straddle sub-catchment boundaries with different priorities and timeframes. A specific rule to accommodate this may be required, so that the whole property is dealt with once, rather than split into two processes. While such a rule is not included in the tracked changes recommendations at this point in time, Officers are happy to provide such wording in the reply version at the end of the hearing, if the Panel indicates this would be helpful.

C1.3. Policy 2 and Farm Environment Plans[8]

C1.3.1. Summary of this section and recommendations

314. Farm Environment Plans are a key component of PC1. They are intended to guide the adoption of a range of farm-specific actions to reduce contaminant losses. In parallel, there is progress, across the country on better defining systems and outcomes for FEPs.

315. Plan Change 1 includes independently prepared and certified FEPs as a requirement for almost all farms in most of the rules, and sets out in detail (in Schedule 1) the content of FEPs. The intended outcomes from FEPs and monitoring of implementation are not clearly specified.

316. The submissions are extensive and wide ranging, across the full spectrum of deletion of the whole framework, through substantial changes to both philosophical approaches to FEPs and detailed content. WRC has been progressing work on how FEPs are best managed, and this has led to some significant changes in approach

317. Key recommendations include:

1. Shifting the focus of Policy 2 to be a specific policy on FEPs.
2. Maintaining, and strengthening, FEPs as a core methodology in PC1 to deliver reductions across all of the four contaminants.

[8] This section authored by Matthew McCallum-Clark

3. Identifying that the more widely recognised 'good farming practices' framework is an important foundation for FEPs, in terms of guiding their development, providing a more outcomes focused approach, and checking on implementation.
4. Requiring audits of FEPs and their implementation to give confidence to the Council, the community and farmers that improvements in farm practices are being made.
5. Not making any recommendations on Schedule 1 at this time, so that it can be redrafted by experts.

C1.3.2. Introduction and Provisions

318. This section of the S42A report focusses on FEPs. The policy basis for FEPs is primarily through Policy 2. Policy 2 provides for a tailored approach to reducing diffuse discharges from farming activities. FEPs are a key element to this approach as they allow farm specific approaches to the management of diffuse discharges. Policy 2 also provides for the establishment of NRPs and mentions stock exclusion requirements. These matters are discussed fully in other sections of the S42A report.

319. Schedule 1 describes requirements for FEPs. The contents of Schedule 1 are to be discussed in an expert caucusing session. The detail of Schedule 1 is therefore not discussed in this section. Instead the section primarily addresses the overall policy approach to FEPs in PC1.

320. Plan Change 1 requires a FEP to be prepared for most farmed properties over 20ha. For farming properties (excluding CVP) not covered by other permitted activity rules, Rule 3.11.5.3 and Rule 3.11.5.4 require property owners or enterprises to develop and implement a FEP either through a Certified Industry Scheme, or through a resource consent.

321. Policy 2 sets out some guidance for the content of FEPs, including through identifying their overall purpose to *manage and require reductions in sub-catchment-wide diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens from farming activities*, and stating that FEPs are to incorporate a risk-based approach to defining mitigation actions. Further, Policy 2 expresses the need for 'equivalency' between FEPs developed under a Certified Industry Scheme and those developed under a resource consent. The need for higher emitters to 'do more' is acknowledged.

322. Rules 3.11.5.3, 3.11.5.4, and 3.11.5.5 all refer to Schedule 1, which sets out the content for a FEP. Consent applications under Rule 3.11.5.6 as notified needed to consider the need for and content of a FEP as a matter of discretion.

323. Schedule 1 describes the required content for a FEP. The FEP should identify the sources of sediment, nitrogen, phosphorus and microbial pathogens, and identify a plan of action to reduce the risks of contaminant losses from those sources and timeframes for those actions to be completed that are tailored to each property.

324. FEPs are required to be certified as meeting the requirements of Schedule 1 by CFEP. The definition of a CFEP states the minimum qualifications and experience required for a person to be listed as a CFEP.

325. The dates by which FEPs are required vary based on sub-catchment Priority. Priority 1 sub-catchment FEPs are generally due on 1 March 2022, Priority 2 by March 2025, and Priority 3 by 1 July 2026 (timeframes stated in Rules 3.11.5.3 and 3.11.5.4).

326. A significant number of submissions received with respect to Policy 2 and FEP provisions are on topics or themes that are addressed elsewhere in this report, including:

- Stock exclusion requirements;
- Sub-catchment management and other approaches;
- NRP;

- Methods to address koi carp, Canadian geese and point source discharges;
- Economic impacts of PC1

327. Submissions on the above topics that include requested amendments to the wording of Policy 2 and FEP provisions are considered in the analyses below.

328. Over 300 submissions address FEPs, the submissions are discussed under the following topics:

1. General comments about FEP framework
2. The relevant parts of Policy 2
3. What FEPs are intended to achieve
4. How directive FEP requirements should be

C1.3.2.1. FEP Framework as a whole

329. Many submitters consider the PC1 framework as a whole is too bureaucratic and that more emphasis should be placed on education and encouragement. With respect to FEPs, R Klos and others oppose the need to use CFEPs and seek a more flexible, farmer-led system.

330. Some of the general themes in submissions, relevant to FEPs, include the complexity of FEP requirements (Schedule 1), the inability of farmers to complete their own FEPs, costs of FEP preparation and implementation, and unrealistic timeframes to prepare and implement FEPs. Many submissions seek the deletion of FEP requirements from PC1.

331. Fish and Game and others consider that FEPs should be placed into a more appropriate and transparent framework in terms of review and accountability. Several submitters consider that there is a need for clearer direction about what FEPs are intended to achieve, and clearer guidance on how FEPs are to be audited.

C1.3.2.2. Parts of Policy 2 relevant to FEPs

332. There are 316 submissions on Policy 2, with 28 in support seeking that the Policy is retained as notified. Several submitters seek that the Policy is deleted on the basis that the requirements of the Policy are considered to be impractical, unachievable and "reward polluters". Various submitters seek that requirements related to stock exclusion, establishing a NRP and the preparation of a FEP are deleted from Policy 2. These elements are dealt with elsewhere.

333. Forest and Bird oppose Policy 2 as they consider that the "tailored case-by-case" approach implies a number of factors are relevant and allows for a disparity of treatment. They consider that all landowners should be treated equally. They also oppose WRC 'delegating its functions' to set conditions of consent to a CFEP or through a CIS. Forest and Bird request a range of changes, including deletion of references to FEPs and encouragement of good management practices and best management practices where these are insufficient.

334. WRC supports Policy 2 but submits that to assist with the management of risk, the Policy should provide further guidance (criteria or principles) on what are acceptable timeframes for the completion of mitigation actions. Similar to submissions on Policy 1, submitters seek that the provisions are enabling of groups to take responsibility for contaminant reduction through both catchment and paddock scale mitigation, and sub-catchment-scale FEP frameworks.

335. Beef and Lamb, through their submissions on the rules, R Boom and others requests that Policy 2 is amended so that it only applies to moderate and high dischargers (i.e. essentially exclude lower intensity drystock farms from the requirements), presumably including FEPs.

336. Beef and Lamb also support a tailored farm specific approach to managing environmental impacts, and that mitigation should be based on the sub-catchment water quality. They seek that Policy 2 is amended so that management approaches are tailored to managing water quality on a sub-catchment basis noting that reductions may not always be required.

337. Federated Farmers request amendments to Policy 2 to provide for "the Most Practicable Actions" framework put forward in their submission.

C1.3.2.3. What FEPs are intended to achieve

338. A number of submitters, including Federated Farmers and DoC, seek a more clearly defined purpose or goal for FEPs. For example, Federated Farmers submits that there is no purpose in Schedule 1, other than that the discharge of all four contaminants must be minimised.

339. Several submitters have stated that PC1 does not contain specific policies related to FEPs. Federated Farmers have sought two substantial new policies to guide preparation and use of FEPs. While covering a range matters, these submissions provide more guidance as to the intention behind FEPs:

> ***Policy 2A: Farm Environment Plans***
> *Manage diffuse discharges of nitrogen, phosphorous, sediment and microbial pathogens from farming enterprises by requiring the preparation of Farm Environment Plans that:*
> *a. are effective in managing diffuse discharges on farms; and*
> *b. are practical to implement; and*
> *c. are consistent in assessing risks from diffuse discharges in the manner set out in Schedule 1 or 1A; and*
> *d. set out a range of prioritised, tailored and practical mitigation actions that allows each farm to have tailored actions designed to fit the specific circumstances of the farming enterprise including soil, slope, climate and resources; and*
> *e. recognise and provide for existing programmes of actions in place to manage diffuse discharges from the farm; and*
> *f. are proportional in the mitigation of diffuse discharges of nitrogen, phosphorous, sediment and microbial pathogens from the farming enterprise based on:*
> *i. the risk of contaminant loss from a property taking into account the scale and significance of the risk from the discharge of each contaminant from the farming enterprise to the likely achievement of the short term targets^ in Objective 3 or the progression towards the outcomes anticipated by the Vision & Strategy referred to in Objective 1;*
> *ii. while recognising that flexibility in the delivery and nature of the tailored actions is necessary to accommodate changes to farming systems and address environmental risks bought about by factors such as seasonal fluctuations, unforeseeable events, health and safety obligations and animal welfare requirements.*
>
> ***Policy 2B: Review and amendment of Certified Farm Environment Plans***
> *Provide for review and amendment of a Certified Farm Environment Plan for a farming enterprise:*
> *a. recognising that flexibility is required to allow farm enterprises:*
> *i. to make changes to Certified Farm Environment Plan actions and/or management measures (including changes to timing or priority) that may not be provided for by a Certified Farm Environment Plan but are necessary to respond to changing circumstances, seasonal fluctuations, unforeseeable events, health and safety, and animal welfare requirements*
> *ii. while adopting the Most Practicable Action to manage diffuse discharges of nitrogen, phosphorous, sediment and microbial pathogens associated with the farming enterprise in order to assist with achieving the short term targets^ in Objective 3 or the progression towards the outcomes anticipated by the Vision & Strategy and values^ referred to in Objective 1; and*

b. ensuring that amendments to a Certified Farm Environment Plan can be actioned without the need to lodge an application for a change to consent condition where the farming enterprise operates by way of resource consent under any of Rules 3.11.5.2A to 3.11.5.7.

340. Ravensdown supports the overall intent of Policy 2 but states that it uses undefined terms and is poorly worded and structured. The submitter suggests a range of amendments, including the deletion of references to a 'risk based approach', and introduces the concept of "Good Management Practice". Many other submitters make reference to requiring good management practices, best management practices or similar.

341. Forest and Bird seek clear and specific objectives for land use/farm management that FEPs can be assessed against. The submitter states that FEPs should include additional detail about irrigation management, such as identification of areas that will be irrigated and any soil moisture monitoring to be undertaken. FEPs should also identify any areas of significant indigenous biodiversity, outstanding water bodies and sensitive receiving environments on or adjacent to the property.

342. Several submitters support the FEP adopting a risk-based approach to managing contaminant discharges.

343. Fonterra submits that the Policy does not relate well to the rules. They note that Policy 2(a) suggests that the mitigation actions to reduce nitrogen discharges will be defined and specified in the FEP. The submitter does not consider such an approach to be practical and considers that the Policy needs to differentiate between the management of phosphorus, sediment and *E.coli* and the management of nitrogen.

344. DairyNZ submits that Policy 2 could be improved through clearer direction about expectations regarding diffuse contaminant reductions in the FEP approach of Rules 3.11.5.3 and 3.11.5.4. and related schedules. In support of their submission, they seek that clause (a) is amended so that it is more generally applicable and clear about the overall approach, with requested amendments to the remaining clauses of the policy as follows:

a. Taking a tailored, risk based approach to define mitigation actions on the land ~~that will reduce~~ for diffuse discharges of nitrogen…

d. Requiring the degree of reduction in diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens to be proportionate to the ~~amount~~ risk of current discharge leaving a property from overland flow or leaching below the root zone, as identified in farm environment plans ~~entering waterbodies~~ (those discharging more are expected to make greater reductions), and proportionate to the scale of water quality improvement required in the sub-catchment plan; and...

e: Where sub-catchment plans do not exist, individual Farm Environment Plans shall ensure that that the risk of diffuse phosphorus, nitrogen, sediment, and microbial pathogens entering waterbodies is identified by suitably qualified and experienced people, and time-bound and monitored actions are put in place to address risks of phosphorus, sediment and microbial contaminants. For diffuse nitrogen discharges, Farm Environment Plans will:

i. ensure that nitrogen losses stay within a five year rolling average, and

ii. for farms above the 75th percentile value, nitrogen losses decrease to that value, and

iii. for all other farms, nitrogen losses do not exceed the Nitrogen Reference Point."

C1.3.2.4. How directive FEP requirements should be

345. Many submitters question the level of detail required to be included in FEPs. Some submitters raise concern about the complexity of FEPs and lack of flexibility. Other submitters question the adequacy of the requirements in Schedule 1 and the outcomes FEPs are intended to achieve. This includes requests that FEPs establish goals, actions and timeframes for completion of those actions to achieve the goals.

346. Many submitters seek more direction on 'minimum standards' and actions that should be included in FEPS. F4PC for example suggests that FEPs have provisions to encourage:

- Fencing of swamps
- Establishment of silt traps and plantings to filter sediment
- Planting of shade trees away from waterways to discourage stock camps and nutrient build up near water
- Use of temporary electric fencing where and when necessary
- Planting of poplar poles on erosion prone slopes
- Planting of pines where appropriate
- Provision of reticulated water for stock

347. F4PC also states that FEPs could discourage intensive grazing and farming of older cattle on slopes in winter or in wet conditions. DoC seeks provisions to recognise the potential role of wetlands on farms. Some submitters suggest the planting of deciduous trees to reduce contaminant losses.

348. Several submitters, such as P & M Kidd, request additional certainty around what will be required in FEPs.

349. A number of submitters state that there needs to be a mechanism to confirm FEP commitments are actually being undertaken, and that opportunities are taken for continuous improvement. The need for auditing and monitoring are mentioned in several submissions.

350. Federated Farmers have detailed an additional schedule containing their views on the requirements for a 'simplified' FEP, to be used for lower-risk farming activities. Officers observe that this schedule appears to be based more strongly on minimum standards and actions, with less discretion given to individual farmers.

351. Federated Farmers also seek limitations on the external review of FEPs and the provision of a 'dispute resolution' process, based on mediation in the first instance.

C1.3.2.5. Analysis

352. Officers agree that changes are needed to Policy 2 to improve the guidance relating to FEPs. To avoid Policy 2 becoming confusing and overly complex, other matters in Policy 2, particularly those that address the NRP and stock exclusion, are recommended to be transferred to Policy 1.

Submissions on the FEP framework as a whole

353. FEPs are a substantial and critical component of PC1. The investigation and modelling for PC1 identified that a number of practices could be implemented at relatively low-cost, which would result in reduced contaminant losses. Further, the modelling was based on a range of practices that were assumed to be occurring across the catchment or which would largely be put in place by 2026, but which in many cases are not.

354. FEPs have been identified by farming sector organisations, as well as other regional councils and research institutes, as an available and effective tool to help quantify improvements in farming practice, guide farmers so that the "right" actions are undertaken, and provide confidence to external stakeholders that farmers are not causing unnecessary or excessive losses of contaminants, primarily through external auditing and reporting.

355. Guidance and literature about FEPs has been developing in New Zealand since PC1 was notified[9]. However, there are still a range of different approaches to FEPs across different regions and used by different farming sectors. There may now be some increased understanding of what works best, and the issues that can arise when incorporating requirements for FEPs into a regulatory system.

[9] Such as the farming sector/Government Good Farming Practice: Action Plan for Water Quality 2018 and other information on many regional council and farming sector websites

356. As Officers understand it, the Collaborative Stakeholder Group (CSG) chose a framework that would provide relatively specific and directive guidance for FEPs, ensuring they are based on a farm specific risk assessment in terms of contaminant discharges, and contain clear mitigation actions and timeframes. The CSG also considered that it was important to have high quality FEPs from the outset, hence the CFEP framework.

357. Officers understand that the development of a FEP will be a difficult and challenging exercise for some farmers, while being relatively simple for others. In addition, the FEP development and implementation costs and effort will likely be substantial for many farmers. That said, with the education and information programs run by many farming sector organisations, regional councils and central government, many of the actions that may be included in FEPs would be familiar to farmers. Indeed, anecdotal evidence would suggest that many farmers already have a range of such initiatives in place.

358. Officers consider that FEPs should continue to be a key part of PC1, and in fact be strengthened, as they are an effective means of encouraging actions to reduce diffuse discharges. While it is recognised that there is a cost in developing and implementing FEPs, Officers are unaware of a better and less costly way of achieving the same ends. There do not appear to be viable alternatives set out in the submissions. Therefore, Officers do not support submissions that request the FEP framework be deleted.

What FEPs are intended to achieve

359. A number of submitters have stated that the intent of FEPs in PC1 is unclear. A simple reliance on the objectives of PC1 is not particularly helpful, and while the beginning of Schedule 1 has some high-level comments, there is little guidance as to what FEPs are intended to achieve. In some parts of the country, where FEP's are also used in regulation, there are clear outcomes or objectives set for FEPs. Offices are of the view that PC1 should contain clear outcome statements to guide the use of FEPs.

360. WRC has identified a number of practical difficulties with the current PC1 FEP framework, including:

- If FEPs identify specific actions and timeframes, especially when included as part of a resource consent application, farmers may need to apply for a change to consent so that they can change farm practices in response to changing conditions, new technologies or improved practices;
- the lack of clarity about what criteria a CFEP should use for approving FEPs; and
- it is not clear what FEPs are intended to achieve

361. WRC has continued to refine its understanding of FEP practice since PC1 was notified. It is evident that further improvements in both on-farm practice and FEP practice will occur over the life of the PC1, as changes in farming systems, knowledge levels and attitudes occur. Therefore, Officers consider that FEPs should be flexible, have more of a focus on outcomes, and include methods for ensuring implementation has occurred and is effective.

362. On this basis, Officers consider that there should be a shift towards FEPs taking a "Good Farming Practice" (GFP) approach. This is considered beneficial for several reasons. Firstly, the need for farmers to consistently adopt GFP is increasingly recognised in different regions and increasingly at the national level. The adjustment in the name from Good Management Practice to Good Farming Practice is a helpful clarification. Secondly, it recognises that what is "good" will change over time with increasing community expectations. Thirdly, as GFP is being used increasingly consistently across the country, there is the opportunity to share knowledge and resources more effectively. Fourthly, the regulatory burden is reduced, as an audit process as the means by which the appropriateness of actions are determined, rather than a re-approval process. Finally, because GFP is outcomes focused, there is clarity about what is intended to be achieved by it. WRC's PC1 implementation team have provided a useful summary of how FEPs and the GFP framework could be used. A paper titled "As an Approach to Reducing Contaminant Losses from Farms in The Waikato And Waipā Catchment Under PPC1" authored by R Dragten is attached for the benefit of the Hearing Panel. Mr Dragten can be made available to answer any questions the Panel members may have arising from his Paper.

363. Officers support the change to a Good Farming Practice framework, accepting that there remains a number of uncertainties with respect to specific actions and expectations.

How directive FEP requirements should be

364. Officers question whether PC1 needs to be more directive in terms of:

- minimum standards that should apply to all farming activities; and
- the process that should be used to develop a FEP.

365. On the first point, it is noted that a number of submissions seek some standardised 'minimum practices'. For example, Federated Farmers seeks a list of actions for lower risk activities, through a simplified FEP. Some minimum standards are set out elsewhere in PC1, such as the minimum requirements for stock exclusion in Schedule C.

366. Minimum standards can be an attractive option, where the risks and mitigation actions are well known, and a degree of uniformity is desirable. The difficulty is that there will always be particular circumstances or properties where the minimum standard is inappropriate or leads to unintended consequences. Officers are open to the idea of increased minimum standards, particularly if other management tools in PC1, such as specific requirements for nutrient management, become less available, or are considered by the Hearing Panel to be inappropriate or in adequate. Further, if the Hearing Panel is concerned that the Good Farming Practice framework is not sufficiently certain, then minimum standards would appear to be a useful backstop.

367. On the second point, a number of submitters have supported the risk-based approach in Policy 2 and in Schedule 1, while others have identified a lack of certainty around what this actually means. Officers have recommended clarification of this, primarily through changes to Policy 2, which is recommended to place greater emphasis on the risk-based approach, and require greater action from farmers who are undertaking high-risk activities, operating in higher risk environments or are further from GFP.

368. While it is possible, if not likely, that farmers will prepare their own FEPs, quality control is an important consideration. To give further certainty that FEPs are of high quality, and are being implemented adequately, Officers support the submissions that seek a mechanism by which actions can be checked, improvements made and Council, the community, and the farmer can be confident that appropriate actions are being undertaken in a timely manner. On this basis, additions to Policy 2 are recommended to provide clarity that auditing of FEPs and on-the-farm actions will be required.

Policy 2

369. The reasoning for a number of adjustments to the FEP framework have been set out above. It is recommended that Policy 2 be refocused so that it provides clarity and direction in relation to FEPs. The other components of Policy 2 are recommended to be shifted to Policy 1. FEP's are, as explained above, a significant component of the recommendations on PC1.There is considerable reliance on high-quality FEPs that implement of Good Farming Practice, with timely and robust implementation, in order to achieve the outcomes of PC1 and be a first (and significant) step towards giving effect to the Vision and Strategy. Therefore, Officers consider it appropriate that specific guidance is set out in the policies of PC1, so that the content and framework for FEP's is clear.

AS AN APPROACH TO REDUCING CONTAMINANT LOSSES FROM FARMS IN THE WAIKATO AND WAIPA CATCHMENT UNDER PPC1

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1. Introduction

The HRWO Implementation project team are tasked with implementing Proposed Plan Change 1 (PPC1). The project team considers that there are considerable implementation challenges to implement the rules and policies as they are currently proposed in PPC1. These challenges have been set out in previous discussion papers.

This position paper sets out a conceptual approach to amend PPC1 to explicitly promote Good Farming Practice (GFP[10]) approach as a way of achieving behaviour change on farm and achieve the objectives of PPC1. We would see this happening in tandem with a de-emphasis of the current reliance on Overseer N estimates as the primary measure of compliance. The implementation project team considers that, compared to the current PPC1 FEP approach, a GFP approach is:

1. more consistent with current national direction, and
2. easier and less bureaucratic to implement, and
3. more conducive to encouraging continuous improvement in farmer practice over time, and
4. more accommodating of the changes that will inevitably need to be made to FEPs over time; and
5. more likely to achieve the change in on-farm practice (management and infrastructure) that is required to deliver the objectives of PPC1.

The question remains as to whether broadscale adoption of GFP would be sufficient to achieve the water quality objectives of the plan change. Advice would need to be sought from the Councils technical advisors to confirm this. However, implementers consider that a GFP approach is more likely to be successful at delivering broad scale and effective mitigation actions than the current PPC1 rule framework.

2. Effect of adopting GFP on PPC1

Objectives

The plan objectives may need adjusting to state that the plan seeks to achieve the 10-year WQ targets by getting all farmers moving on a trajectory towards GFP.

Policies

It is likely that some of the policies may need adjusting to seek the adoption of catchment wide GFP as a method of achieving the objectives.

Rules

Adopting a GFP approach would require consequential wording changes rules 3.11.5.3 – 3.11.5.6, in either the conditions or in the matters of control to reflect the subtle shift away from actions and timeframes, to achieving GFP. Similarly rules that set out how FEPs are changed would need reviewing.

i. Registration and NRP

Adopting GFP is not expected to have any impact on the requirement to register and initially benchmark a property's N loss by calculating an NRP.

The GFP approach does appear to offer a solution to the concern the Council raised in its submission that PPC1 appears to promote a quantitative approach to compliance with NRPs. Under a GFP approach as outlined below, compliance with an NRP would become more qualitative which is more consistent with current recognition that Overseer is best used as a relative comparison tool, rather than a predictor of absolute losses[11]. Under a GFP approach, the compliance assessment becomes "how confident am I that

[10] The term Good Farming Practice (GFP), coined in the document Good Farming Practice Action Plan for Water Quality 2018, has evolved from the term Good Management Practices (GMP) originally coined in the 2015 document "Industry Agreed Good Management Practices relating to Water Quality". The terms GFP and GMP are effectively equivalent (with minor wording variations) and describe farming in a way that minimises effects on water quality.

[11] For example, as noted in the recent report entitled Using Overseer in Water Management Planning. Gerard Willis, Enfocus Limited, September 2018, commissioned by Overseer Limited

the current farm practices are equivalent in terms of N loss to the farm practices at the time of benchmarking". The overseer assessment, along with farm records and the like would be used as evidence to support the level of confidence decision, rather as the compliance threshold themselves.

ii. Farm Environment Plans

Conceptually, under a GFP approach, the following would describe how a farmer would be required to operate.

1. The objective of the FEP would be to show that the farming activities are consistent with GFP.
2. The process for developing an FEP would be
    a. Farmers would work with a CFEP to benchmark their farm against the 21 industry-agreed GFP Principles.
    b. For each GFP, the CFEP would make a judgement as to how confident the CFEP was that current farming practice was consistent with GFP Principles. (Each GFP principle would be assigned a rating of high, medium or low level of confidence).
    c. The CFEP would record reasons for their judgement for each GFP
    d. Where the CFEP is not able to assign a high level of confidence that current farming is at GFP, in addition to their reasons in c) above, the CFEP would also identify practices, actions and timeframes necessary to achieve GFP.
3. The farmer would submit their consent application, along with the FEP containing
    a. the benchmark GFP assessment,
    b. Proposed practices/actions to achieve GFP where it is not currently being met.
4. Once granted the consent would include conditions requiring the farmer to:
    a. Maintain an FEP showing how GFP is being met .
    b. Include an objective in their FEP which relates to farming in a manner consistent with their NRP (or the 75%ile, or relevant input controls (if PPC1 adopts this approach) as appropriate)
    c. Farm in a manner consistent with their FEP and so as to maintain an A or B audit grading
    d. Be independently audited:
        (i) Initially, within 12 months of their consent being granted
        (ii) Subsequently, at periods determined by the grade of the initial audit.
            A. Within 3 years
            B. Within 2 years
            C. Within 1 year
            D. Within 6 months
5. The FEP could be changed by the farmer at any time. The farmer would need to provide the updated FEP to Council, but there would be no approval process.
6. The farmer would engage an auditor to undertake the required audits of their farm practice against GFP. The audits would be undertaken by a different person than the professional that helped them develop their FEP.
7. The audit would assess the information and evidence able to be provided by the farmer and decide how confident they were that farming practice was consistent with GFP. This would include an assessment of confidence that the farm operation was meeting its nitrogen obligations (such as farming at an intensity consistent with the farms NRP, based on the available records. The auditor would assign a level of confidence for each GFP of High, Medium or Low.
8. The audit would receive an overall grade of A to D, depending on the number of Highs, Mediums or Lows. The grading system could be:
        A. All Highs
        B. Mix of Highs and Mediums, and a robust plan in place to address issues
        C. Mix of Highs and Mediums, but no plan in place to address issues

D. The Auditor has a low level of confidence that farming practice is consistent with 1 or more GFPs.

9. Auditors would not have responsibility for reporting non-compliance to council, other than through their Audit report processes. Auditors would be expected to record contaminant loss issues in their audit reports, which would be expected to lead to "D" audit grades
10. The Council will become directly involved in the farm performance if audit grades indicate continued poor performance, or if performance is not improving. For example, the Council may choose to accompany the auditor on a farm visit after two successive "D" audit grades, and if performance does not improve, may initiate enforcement action.
11. The Council will continue to detect non-compliance through its risk-based compliance programmes, and because of incident reports from members of the public.

Audit programme

To a large extent, the FEP process outlined in 2.3 above reflects the process established by Environment Canterbury in the Canterbury region to implement FEPs in that region. ECAN has also developed detailed audit guidelines and an auditor certification programme.

The adoption of GFP as an objective requires comprehensive auditing to ensure change actually occurs on farm. It is proposed that Waikato Regional Council establish a similar auditing programme in the Waikato, which would require certification of auditors. This would need to be clearly identified in PPC1.

There may be an opportunity to collaborate with ECAN in delivering the auditor certification and quality management system over time, which is likely to be more efficient than WRC having to design and manage its own auditor system.

Effect on Schedule 1

Schedule 1 of PPC1 includes a large amount of detail designed to guide the farm environment planner as to how to decide what needs to be done on a particular farm. The adoption of GFP as the objective of the FEP would allow a large amount of that detail to be removed from the schedule, which instead could be incorporated into a guidance manual for CFEPs and auditors. This approach has the benefit of greatly reducing the complexity of the current schedule 1, while enabling future procedural revisions of the FEP process to be undertaken and refined without requiring a plan change process. The implementation team suggest paring back Schedule 1 to simply establish GFP as the objective for the FEPs, and to establish the compliance audit process, and some informational requirements for each FEP. The Schedule could also spell out specific environmental bottom lines if required, subject to further consultation with industry. These could include minimum performance standards required to be operating at GFP.

Accounting framework

Assessing the effectiveness of PPC1 relies on the FEP process to gather the information required to

a. Track changes in farming practice over time
b. Prepare for the next plan change which may need to require additional measures to achieve the 80-year targets.

Under the proposed GFP approach, the initial benchmarking could be used to identify both those actions that have already been completed, and the planned actions necessary to achieve GFP. Once the consents are all granted, the audit process will identify those planned actions that have been completed, additional or alternative actions that the farmer may have undertaken to reach GFP, and any further actions that may be required. The accounting framework therefore will need to be able to differentiate between completed mitigations and proposed mitigations yet to be completed.

Certified Industry Scheme

The GFP model described in this paper assumes the need for a resource consent. Further thought would need to be given to how this process could be redesigned to meet the needs of the industry scheme proposal, if that remains in the policy mix as a permitted activity. The key driver in this situation would be to retain the expectation of equivalence of performance expectations on all farmers, irrespective of whether they are authorised as a permitted activity under an industry scheme, or by obtaining a separate resource consent.

3. Where to from here

This position paper attempts to outline the high-level concepts of how incorporating GFP could work under PPC1. There will be technical issues to be worked out, and tweaks required to what is set out in this position paper to make the system work. However, this paper is provided as a high-level conceptual outline of how GFP could work, and why the implementation team think it provides considerable advantages over the current FEP process set out in PPC1.

The implementation project team suggests working with the policy team over the coming weeks to refine how GFP could work, and what specific changes might be required to the PPC1 document to achieve this.

C1.4. Reductions (75th percentile)[12]

C1.4.1. Summary of this section and recommendations

370. Plan Change 1 includes a number of provisions that details required reductions in nitrogen discharges by emitters with losses in the top quartile. Policy 8 sets out that those farmers with losses above the 75th percentile nitrogen leaching value will be prioritised for submitting FEPs. This is implemented through rules 3.11.5.3 and 3.11.5.4. Schedule 1 sets out the requirements of FEPs and includes the need for those farmers in the top quartile to describe the actions, timeframes and other measures to be undertaken to reduce their losses to below the 75th percentile nitrogen leaching value by 2026.

371. A large number of submissions were received on the required reductions. Submitters have sought the deletion or extension of reductions, greater clarity on the relationship between the 75th percentile nitrogen leaching value and the rules and amendments to the definition. Many submitters are concerned about the calculation of the value and its reliance on Overseer data, while others consider the implementation of reductions will significantly affect productivity. Implementation challenges regarding the availability of experts to prepare FEPs and determine actions to reduce nitrogen losses are also concerns.

372. Key recommendations include:

1. Maintaining, and strengthening, provisions that require those properties with the highest losses to reduce the most and recognising the need for all those with average losses to reduce, possibly beyond the reductions in losses derived from adopting GFP.
2. If Overseer-based NRP numbers are considered robust enough, clarifying the definition and use of the 75th percentile.
3. Making Policy 1 more explicit about expectations for reductions from those with above average losses, and particularly those above the 75th percentile.

C1.4.2. Introduction and provisions

373. A key mechanism of PC1 to achieve the objectives, particularly Objective 3, is the requirement for determining the 75th percentile nitrogen leaching value based on the NRPs from dairy farms in each FMU and for those farmers (all farmers, except CVP) above this value to reduce their discharges to below the 75th percentile value by 1 July 2026. The 75th percentile nitrogen leaching value is currently not known and will be calculated following the submission of NRPs to Council as required by Schedule B.

374. The Glossary of Terms defines the 75th percentile nitrogen leaching value as:

> *The 75th percentile value (units of kg N/ha/year) of all of the Nitrogen Reference Point values for dairy farming properties and enterprises within each Freshwater Management Unit^ and which are received by the Waikato Regional Council by 31 March 2019.*

375. PC1 describes the required 75th percentile reductions in Policy 8, Rules 3.11.5.3 and 3.11.5.4 and Schedule 1. Policy 8 sets out the prioritised implementation of PC1 and states that those farmers with nitrogen leaching losses greater than the 75th percentile nitrogen leaching value will be prioritised for submitting FEPs. This prioritisation is detailed in Rules 3.11.5.3 and 3.11.5.4 which requires FEPs from those dischargers to be amongst the first group of landowners to provide the plans to Council. Schedule 1 of PC1 details the requirements of FEPs. For dischargers with nitrogen losses above the 75th percentile nitrogen leaching value, the FEP must contain *actions, timeframes and other measures to ensure the diffuse discharge of nitrogen is reduced so that it does not exceed the 75th percentile nitrogen leaching value by 1 July 2026.*

[12] This section authored by Adele Dawson and Matthew McCallum-Clark

C1.4.3. Submissions and Analysis

376. There were a large number of submissions received regarding the nitrogen reductions required by PC1. Submissions on this matter were received across the PC1 provisions and for the purposes of this assessment, these submissions have been grouped and assessed together. Many submissions were in support and sought no changes but there were also many submissions opposed to the 75th percentile nitrogen leaching value. Submitters opposed to the reductions or seeking amendments to the provisions can be grouped into the following topics:

- 75th percentile nitrogen leaching value definition;
- Deletion, extension or amendment of the 75th percentile nitrogen leaching value reductions; and
- Linkage between the 75th percentile nitrogen leaching value and the rules.

377. Submissions within each of these topics are analysed below.

C1.4.3.1. 75th percentile nitrogen leaching value definition

Calculation of 75th percentile nitrogen leaching value

378. Several submitters seek clarity regarding how the 75th percentile nitrogen leaching value will be calculated.

379. Matamata-Piako DC and South Waikato DC seek amendments to PC1 to clarify the basis for determining the 75th percentile leaching value. The DCs are unclear if it is based on the number of property owners above the 75th percentile or based on the total land area.

380. WRC support the definition but seek amendments to clearly articulate the approach to calculating the 75th percentile nitrogen leaching value. The proposed change is to amend the definition to specify that the calculation is based on the ordinal ranking of dairy farm discharges where the threshold is calculated once, at a single point in time, and any farms above the 75th percentile will need to reduce. The 75th percentile will also only be calculated for river FMUs as there are not sufficient numbers of dairy farms in the lake FMUs. WRC also seeks provision for the new online version of Overseer, Overseer FM. WRC seek that PC1 is amended to accommodate the change in Overseer and provide flexibility as it continues to evolve.

381. Federated Farmers seek amendments to the definition to require that farmers on leaky soils or where there is high rainfall are not penalised and to clarify that the 75th percentile is only calculated in the river FMUs.

382. C and S Guyton Farms Limited raise a concern regarding updates to the Overseer model and how the 75th percentile nitrogen leaching value will change. They consider as a low cost, low stocked farm it will be difficult to lower discharges further.

383. Fonterra also consider that clarification should be provided whether the 75th percentile will be recalculated on the basis of subsequent versions of the Overseer model. Fonterra accept that the 75th percentile may need to remain fixed during the life of PC1.

384. Officers agree that amendments to the definition are necessary. The 75th percentile nitrogen leaching value will only be calculated for the river FMUs as it is not possible to do so for the lake FMUs as there is an insufficient number of farms. It has been clarified that the NRPs for those dairy farms in lake FMUs will be used in to calculate the 75th percentile nitrogen leaching value for the river FMU each lake falls in. Officers therefore agree with the submissions of WRC and Federated Farmers and recommend that the definition is amended to only refer to the river FMUs.

385. In relation to the questions raised as to whether the 75th percentile nitrogen leaching value is based on properties or land area, the requested amendments from WRC should address this matter. Officers recommend that the definition is amended to provide further clarity on how the 75th percentile is calculated. The method as described by WRC indicates that the 75th percentile value will be calculated once when the NRPs are provided and will not be revised following any updates to Overseer as this would be

impractical to implement. In addition, to provide further clarity to farmers it is expected that consents will specify the nitrogen reductions required to be achieved by 2026.

386. Officers acknowledge that limitations of Overseer may inadvertently result in a farm being identified as having losses greater or lesser than the 75th percentile nitrogen leaching value but that in all actuality this is not the case. By not re-calculating the value with updates to the Overseer model, these errors would not be addressed. However, by providing for the re-calculation of 75th percentile nitrogen leaching value over time, properties may move in and out of the top quartile depending on their losses and the changing 75th percentile value, which would generate confusion and uncertainty.

387. As discussed in earlier in this Section of the report, uncertainty of, and in particular updates to, the Overseer model do pose implementation challenges when using a fixed number or fixed statistic such as this. The benefit of Overseer is most significant when comparing losses on a time scale basis for an individual property or land area, not between properties and the use of the 75th percentile nitrogen leaching value is designed to compare loss rates from properties within an FMU. Reductions in contaminant losses is a fundamental component of PC1 and it is proposed that the highest emitters are those that are required to take the most significant action to reduce discharges. Officers acknowledge that the use of the 75th percentile nitrogen leaching value to identify those highest emitters is not 100% accurate due to the reliance on Overseer outputs, however it is still likely to provide a reasonable basis for identifying the highest dischargers. Officers consider that the 75th percentile nitrogen leaching value would be calculated at one time as a means of setting the 'high emitter' threshold. The Overseer loss rates for individual farms could then calculated and re-calculated as actions are undertaken to reduce losses. In the event of an update to the Overseer model, an individual farm loss rate or 'baseline' could be re-calculated to enable future comparisons, however this re-calculation of the baseline would not change the need for reductions to occur if the farm was initially over the 75th percentile nitrogen leaching value. If the Panel do not accept that NRPs are sufficiently robust or the methodology of calculating the 75th percentile nitrogen leaching value is appropriate, an alternative approach to determine which farms should be required to make substantial reductions in nitrogen losses will be necessary, which may need to be through some form of input controls. This could entail a cap on stocking rates or a cap on annual fertiliser application. This would be a significant departure from the notified provisions.

388. Regarding the inclusion of a specific date by which data must be supplied to WRC, Officers do consider that this is a risk, in that if some key data is not supplied, the results may be skewed. The recommended revised wording of the definition would enable estimation of missing values.

389. In response to Federated Farmers concerns about the 75th percentile nitrogen leaching value penalising farmers due to biophysical characteristics, as noted above, innovative solutions may be available to reduce losses without significantly affecting profitability. However, high intensity farming on leaky soils or where there is higher rainfall does result in greater nitrogen losses and therefore those farms could be larger contributors to the overall degradation of the Waikato River system. Officers do consider that those larger contributors should be required to take the most significant action and this may involve rethinking appropriate land uses or farming intensities on such properties. Without taking this approach, achieving the short term and long-term water quality objectives would be difficult and the Vision and Strategy would not be achieved.

Timeframe to complete 75th percentile nitrogen leaching value calculation and advising farmers

390. A second common concern raised is when the calculation will be completed and how farmers will be advised of the leaching value to determine if they are above the 75th percentile. Several submitters seek amendments to the definition to specify the date when the 75th percentile will be available and that it will be published on the WRC website.[13] Officers consider that it is not appropriate to include a date in a definition by which an action should take place.

[13] Fonterra, DairyNZ, A McGovern, Waipapa Farms and Carlyle Holdings Ltd, Wairakei Pastoral Ltd

391. Wairakei Pastoral Ltd support the definition but seek amendments to specify that this is interpreted only on an aggregate basis when deciding any resource consent application regarding the subject land area pertaining to the relevant application. Officers have reviewed this submission and are unclear about the submitter's request. Further clarification is welcomed at the hearing.

C1.4.3.2. Deletion, extension or amendment of the 75th percentile nitrogen leaching value reductions

392. Most submissions regarding the proposed reductions seek either the deletion, extension or amendments to the proposed 75th percentile nitrogen leaching value. There are several submitters that support the proposed reductions and seek the provisions are retained as notified. These submissions are only discussed where a change has been recommended.

Deletion of 75th percentile nitrogen leaching value

393. A number of submitters seek the deletion of the 75th percentile nitrogen leaching value from PC1 for varied reasons which include:

- Actions to reduce contaminant losses should be borne by all dischargers across the region by undertaking GMP;[14]
- Specified nitrogen targets and timeframes for different sub-catchments should replace the 75th percentile nitrogen leaching value and reductions;[15]
- The calculation penalises farmers and is misleading due to physical characteristics of properties such as where there is high rainfall or leaky soils. It may result in missed opportunities where significant gains can be made by improving farming practices and penalise those farmers with higher losses but who are undertaking GMP;[16]
- The 75th percentile nitrogen leaching value is arbitrary. Those farmers who are required to reduce losses should be determined once FEPs and catchment data is available to enable a more accurate statistical assessment;[17]
- The reductions required will affect farm profitability, restrict productivity and impact farming systems adopted;[18]
- The timeframes are too short to allow farmers to identify whether they need to reduce and engage a consultant to prepare an FEP and actions to be undertaken to reduce losses;[19] and
- The 75th percentile nitrogen leaching value is uncertain and unreasonable as it is not possible for a farmer to ascertain if they require consent until it is calculated.[20]

394. Officers consider that it is not appropriate to remove the requirement for reductions from PC1 as this would not result in moving towards achieving the Vision and Strategy. The s32 report for PC1 describes that the 75th percentile nitrogen leaching value and the associated reductions are an important step in the first stage of the process to improving water quality. It goes on to state that this approach provides a degree of confidence to the community there will be reductions in nitrogen discharges across the sub-catchments.

395. The s32 report acknowledges that the reductions required could create tension where not all landowners are being required to act during this first stage. Some submitters consider PC1 does not go far enough, in that not all farmers are required to take steps to reduce their contaminant losses. The 75th percentile nitrogen leaching value and reductions to the 75th percentile target the highest emitters. Officers further recommend that those below the 75th percentile are also required to adopt improved farm practices to reduce losses, possibly including specific targets below the 75th percentile. Officers consider that by

[14] Miraka Limited, Pouakini Trust, Wairarapa Moana Incorporated
[15] Fish and Game
[16] Wairarapa Moana Incorporated, Perrin Ag Consultants Ltd, M Parker
[17] H Clarke
[18] D Dixon, J and M Hodge, N and C Prendergast, C and J Rombouts, B Hathaway, J Hathaway, Win Dee Farms (2007) Ltd
[19] N and C Prendergast
[20] Oji Ltd

widening the group of farmers required to make reductions, further environmental gains can be made but that the general principle of the highest emitters making the highest reductions should be retained.

396. DoC seek that the NRP and 75th percentile nitrogen leaching value are removed from PC1 and that specified nitrogen targets and timeframes for different sub-catchments are inserted instead. As discussed in the s32 Report and in this s42A report in relation to sub-catchment planning, additional information is to be collected for future plan changes in order to understand the steps necessary to achieve the water quality targets in an 80-year timeframe. Future plan changes are intended to adopt a broader allocation system that may involve property level limits. Officers consider that it is not possible currently to implement the nitrogen targets and timeframes DoC seek for individual sub-catchments.

397. Wairarapa Moana Inc., Perrin Ag and M Parker consider that the calculation of the 75th percentile nitrogen leaching value may not identify farms where practices could be easily improved and unfairly penalises farmers with certain biophysical farm properties. Overall Officers consider that it is fair that those contributing the most to the issue also contribute more to the solution even where physical constraints such as light soils or high rainfall may 'penalise' those farmers. Officers acknowledge that the 75th percentile alone may not identify all farms where poor management practices can more simply be remedied. The Hearing Panel may wish to consider providing clarity that the required reductions are 'beyond' those that might be obtained by adopting GFP. If so, the Officers will recommend appropriate wording in the end of hearing Reply Report. However, given other changes to the management framework recommended, particularly the requirement for GFP, even those farms that are below the 75th percentile will be required to actively manage their losses. Poor practices will be identified, strategies put in place to remedy them and implementation following the certification of the FEP by the CFEP.

398. H Clarke considers that the 75th percentile is an arbitrary number and should be reassessed once all NRPs are known to enable a more accurate statistical assessment. The s32 report outlines that the 75th percentile was chosen based on the judgement of the CSG about the range of nitrogen leaching amongst dairy farmers. It was acknowledged to include dairy farms with high nitrogen inputs, who may not be utilising inputs efficiently and are therefore leaching high levels of nitrogen as well as a group of dairy farms whose management decisions combined with biophysical characteristics are leading to high nitrogen losses. Officers acknowledge that the 75th percentile value is somewhat arbitrary but consider that it likely reflects those high emitters. After hearing evidence, the Panel may be of the view that the percentile should be different, or address all 'above average' emitters. Alternatively, the Panel may consider a different means of identifying farmers required to make reductions is appropriate. Again, if that is the case, the Officers will recommend appropriate wording in the end of hearing Reply Report. Officers do consider however that the requirement for reductions in losses in a fundamental component of PC1 and should be strongly reflected in the provisions.

399. Several submitters raised concerns regarding the potential impacts on farm productivity and profitability and follow on effects for the wider rural community. Officers acknowledge that reducing nitrogen leaching may create additional costs for farmers or reduce profits. However, the potential costs for farmers have been considered against the requirement to improve water quality and achieve the Vision and Strategy and the future social, environmental and cultural costs of not acting. Officers consider the most fair and reasonable methods have been adopted during this first stage of the process. The s32 report describes the modelling of the policy options adopted (including high emitting farms reducing down to below the 75th percentile) will result in a 2% decline in the dairy sector profitability where there is no development of iwi land. Individual farms could be impacted more than this. However, with innovative solutions it may be possible to maintain profitability or at least minimise the impact on profitability whilst reducing nitrogen losses. PC1 does not specify the actions that are required to be undertaken therefore the level of cost borne by individual farmers is dependent upon what steps are chosen to reduce their losses.

400. N and C Prendergast are concerned about the timeframes imposed to complete FEPs and reduce losses to the 75th percentile. The recommended changes to PC1 requires that a NRP is to be provided to WRC by 30 November 2020 following which the 75th percentile nitrogen leaching value will be calculated. Those

farmers above the 75th percentile nitrogen leaching value will then be required to submit FEPs by the later of 1 March 2021, or 6 months after the plan becomes operative (not in CIS) or the later of 1 March 2022, or 6 months after the plan becomes operative (within CIS). All necessary actions to reduce their losses to below the 75th percentile are still required by 1 July 2026. Officers agree that it may be difficult for farmers to complete FEPs, identify actions necessary to reduce losses and lodge resource consents within the proposed timeframes, but that preparations for FEPs and implementing GFP can begin now.

401. Officers consider that it is likely the 75th percentile reductions will apply largely to the dairy sector where most farmers have milk supply agreements which may already require annual Overseer reporting. It is therefore expected that those farmers will already have the information necessary to calculate their NRP. Additionally, the dairy sector is likely to already have an indication of what nitrogen leaching levels are highest therefore those farmers can begin preparing for how they will reduce their losses. For non-dairy farmers, PC1 has strongly signalled the need to calculate a NRP and prepare a FEP therefore the information necessary to determine the NRP should be available. However, Officers do agree that the time available to engage a CFEP to prepare the FEP and lodge a consent as currently proposed is unreasonably short (10 months) when the plan is not yet operative. Officers have highlighted the need to change the compliance date regime in PC1, and acknowledge possible implementation pressures on farmers and Council to prepare, lodge and process resource consents and to implement farm management or farm infrastructure actions to reduce nitrogen losses. Similarly, there is a need to stage the requirement for registration and NRPs, so that the 75th percentile nitrogen leaching value can be calculated and then those affected farmers have an opportunity to consider the implications before seeking approval of a FEP.

402. Oji Ltd states the 75th percentile nitrogen leaching value is uncertain and unreasonable as it is not possible for a farmer to ascertain if they require consent until it is calculated. Officers do not agree with this view. Pastoral farms that are not low intensity or very small will be subject to Rules 3.11.5.3 to Rule 3.11.5.7. Having nitrogen losses greater than the 75th percentile nitrogen leaching value does not in itself result in the use of land requiring consent, it only affects the date by which FEPs are required to be submitted based on the proposed rules.

403. Further discussion is provided below regarding how the 75th percentile nitrogen leaching value is calculated and who is required to reduce nitrogen losses.

Extension of 75th percentile nitrogen leaching value to other dischargers

404. J Reeves and A Taylor and FarmRight seek that the 75th percentile calculation and required reductions are extended to include all enterprises, including CVP, other farm grazing and point source dischargers. J Reeves and A Taylor state that it is inequitable to only refer to dairy farms and no industry should receive special treatment or have allowances made.

405. The required reductions by high emitters to the 75th percentile nitrogen leaching value apply to all farming systems, excluding CVP. Officers consider that applying the 75th percentile reductions in this manner is a reasonable approach. While CVP also has high N losses, applying a 75th percentile would effectively eliminate the possibility of growing high N leaching crops. It was therefore preferred that a reduction was required across the whole CVP sector. Regarding point source discharges, as discussed in Part C6, point source discharges and diffuse discharges need different management and Officers consider that the approach taken in PC1 is equitable across sectors.

Amendment of 75th percentile nitrogen leaching value

406. Several submitters[21] seek that the prioritisation of providing FEPs to WRC and actions to reduce nitrogen leaching should apply to farmers with nitrogen leaching losses greater than the 50th percentile. ACRE, R Boom and M Wallace state that this will enable minor dischargers to increase their leaching whilst still achieving a faster overall reduction.

[21] Beef and Lamb, ACRE, M Wallace, R Boom

407. C and G Tierney and Sinclair Family Trust support the 75th percentile reductions but consider that those farmers with nitrogen losses between the 50th and 75th percentiles should also be encouraged to reduce losses. The submitters seek amendments to Rule 3.11.5.4 to require those farmers to implement actions to work towards industry GMP by 1 July 2026. The submitters also seek that farmers between the 25th and 49th percentile adopt GMP to maintain losses at or below their NRP.

408. Officers agree that it is not only those farmers above the 75th percentile nitrogen leaching value that should be required to reduce their losses. In general, the highest emitters should be those who are required to make reductions, but GFP should be the minimum required for all farmers. Changes to PC1 to reflect this have already been recommended in this report (see Policy 1). Officers agree with submitters that those farmers that fall above the 50th percentile but below the 75th percentile should also be encouraged to reduce their losses where they can. Officers therefore recommend that instead of amending the rules as requested, this direction is instead provided in Policy 1. The level of reductions required should not be as stringent as for the highest emitters therefore Officers do not consider it necessary to require this group of farmers to reduce to the 50th percentile, however reductions should be possible year on year until 2026. Officers recommend a new sub-clause of Policy 1 as follows:

> *b1. Calculating the 75th percentile and 50th percentile nitrogen leaching values and requiring farmers with a Nitrogen Reference Point greater than the 75th percentile to reduce nitrogen loss to below the 75th percentile and farmers with a Nitrogen Reference Point between the 50th and 75th percentile to demonstrate real and enduring reductions of nitrogen leaching; and*

409. When considered as a whole, Policy 1 as recommended requires at least the operation of farming activities at GFP and clearly directs dairy farmers with nitrogen leaching greater than the 50th percentile to reduce their losses with the severity of reduction being dictated by the level of leaching.

410. A second common issue is the timeframe required for farmers above the 75th percentile nitrogen leaching value to submit FEPs and make the required reductions:

- Federated Farmers support the requirement for reductions but seek that the date for achieving those reductions is extended to 1 March 2028 to provide more time to adopt mitigations.
- R Hathaway, H Hathaway and D Sullivan seeks that amendments to PC1 are made to allow FEPs to be submitted by 2021. The submitters state farmers will only have 1 year to engage consultants to prepare the FEP and determine how they will reduce losses to below the 75th percentile. The submitters are concerned about the availability of suitable professionals to achieve this within the proposed timeframes.
- N Collins seeks for greater reductions to be achieved over a shorter time.
- DoC opposes the definition and seeks a shorter timeframe for completing the 75th percentile calculation or an additional 18-month period for compliance to account for the delay created by Var1.
- Fish and Game opposes the definition of the 75th percentile and seeks that the timeframe is aligned with Schedule B(e) or 'original' timeframe where possible.

411. Variation 1 to Plan Change 1 amended the timeframes for providing the NRP and FEPs but the definition of 75th percentile nitrogen leaching value was not changed to reflect this. The definition currently requires the submission of NRPs by 30 November 2019. Fish and Game have submitted seeking the timeframe is aligned with the changes Variation 1 proposed for Schedule B (30 November 2020) if it is not possible to retain the original timeframes of 30 November 2019. Officers consider that the definition of 75th percentile nitrogen leaching value should be amended to reflect the change in date when the NRP is required in accordance with Schedule B.

412. Officers consider the timeframes for providing the NRP and FEPs are highly dependent on the number of farms required to obtain resource consents and when the PC1 Schedule 1 process concludes. As discussed above, the notification of PC1 has clearly indicated farmers will be required to determine NRPs and

therefore information necessary to do so should be available. Further, Officers acknowledge that there is growing encouragement for FEPs and the GFP framework across the country, so there are few impediments to undertaking these actions in advance of regulatory requirements. Overall, as stated above, Officers are hesitant to recommend a further set of dates at this time, but will do so in the end of hearing Reply Report having considered the evidence presented to the Hearing Panel.

413. B Waterworth, S Waterworth and J Waterworth support the provisions and state that the 75th percentile must include the dairy sector. As proposed the 75th percentile nitrogen leaching value reductions apply to all farming systems excluding CVP and Officers recommend this approach is retained.

414. Primary Land Users Group (PLUG) seek amendments to PC1 to clarify that the 75th percentile nitrogen leaching value is based on nitrogen leaching rates determined on dairy farms using the Overseer model. The definition of the 75th percentile nitrogen leaching value refers to this being based on all NRPs. The definition of NRP refers to this being determined using Overseer or another approved model. On this basis Officers do not consider it is necessary to amend the definition of 75th percentile nitrogen leaching value as sought.

415. P Leslie contends the provisions will impose significant costs on farming activities. P Leslie states that applying the 75th percentile to all farmers will have a larger impact on small nitrogen emitters as a reduction of 75 percent will be more significant to them overall. The requirement to reduce nitrogen losses only applies to those farmers above the 75th percentile nitrogen leaching value, it is not a requirement for all farmers to reduce by 75 percent. For reasons outlined above, Officers consider it is a reasonable approach for those higher emitters to reduce their losses.

416. FANZ support the provisions but have raised a concern regarding the use of the 75th percentile nitrogen leaching value as a loss limit. FANZ and Ravensdown have sought amendments to the matters of control of Rule 3.11.5.4 to specify that the use of this tool is a temporary measure until a nitrogen loss allocation system is introduced. The changes requested by FANZ and Ravensdown to Rule 3.11.5.4 are as follows:

> *iv. Where the Nitrogen Reference Point exceeds the 75th percentile nitrogen leaching value, actions, timeframes and other measures to ~~ensure~~ reduce the diffuse losses ~~discharge~~ of nitrogen using best practicable options in keeping with industry agreed good management practice, prior to a nitrogen loss allocation system being decided and introduced ~~is reduced so that it does not exceed the 75th percentile nitrogen leaching value by 1 July 2026~~.*

417. Officers consider that the amendments suggested by Ravensdown and FANZ are not necessary. Recommendations have been made to replace Rule 3.11.5.4 with a restricted discretionary rule. The matter of control addressed by FANZ has been replaced and relevant matters of discretion proposed.

418. Officers are of the opinion that the term GFP is preferred to Best Practicable Option (BPO) as GFP is an increasingly standardised concept across the country, and will be clearly be articulated on the WRC website. In relation to the 75th percentile nitrogen leaching value being a temporary tool, Objective 3 and Policies 5 and 7 make it clear there is a short-term goal of reducing contaminant discharges and further steps will be necessary. On this basis and due to the changes recommended to Rule 3.11.5.4, Officers consider it is unnecessary to highlight the temporary nature of the 75th percentile reductions.

419. P and M Kidd oppose the 75th percentile nitrogen leaching value definition as geographic variation means that GMP vary within each FMU and these variations and differences in management practices will be not taken into consideration. P and M Kidd seek that the definition is amended so that the 75th percentile nitrogen leaching value has a more relevant basis such as sub-catchments or so that a body with discretionary powers can advise on this issue. Officers consider that it is not appropriate to provide for a body with discretionary powers to determine which farmers are required to reduce their losses as that is Council's role. Whilst there is geographic variation within FMUs, in the end, the environment is agnostic to the source of the contaminants.

C1.4.3.3. Linkage between the 75th percentile nitrogen leaching value and the rules

420. Federated Farmers seek an amendment to Rules 3.11.5.3 and 3.11.5.4 to insert an additional condition that specifies farmers above the 75th percentile nitrogen leaching value are required to undertake actions to reduce their losses so that they do not exceed the 75th percentile by 1 July 2028. Federated Farmers state that reducing below the 75th percentile should be a standard/term of the rule rather than a matter of control as this is consistent with the approach in other rules and the hierarchy in the rules.

421. Officers agree that the actions necessary for an individual farmer to reduce their nitrogen loss should be clear and certain. Changes have been recommended to Rule 3.11.5.4 that require farmers not in a CIS to obtain a consent as a restricted discretionary activity. However, as addressed in the Overseer section of this report, setting what is effectively a numeric Overseer-based threshold that would determine activity status has been identified as generally being an unsuitable use of Overseer.

422. Officers do however consider that to inform the consent process, amendments to Policy 1 and 2 would provide a stronger message regarding the need for individual FEPs to set out actions and timeframes. Officers are of the view that incorporating such amendments ensures there is no uncertainty as to the requirement for FEPS to identify how each landowner will reduce their losses and that the actions identified are to be commensurate to the level of the discharge.

423. As discussed elsewhere in this report, Officers consider the timeframe of completing reductions by 1 July 2026 should be retained.

C1.5. Land use change[22]

C1.5.1. Summary of this section and recommendations

424. Plan Change 1 includes Policy 6 and Rule 3.11.5.7 that make significant intensification of land use ("land use change") a non-complying activity and provides policy direction that only applications that reduce contaminant losses will be granted. This rule is an 'interim rule' that provides a firm limit on intensification.

425. There are many hundreds of submissions on this rule, largely in opposition. Most submissions seek an ability to further intensify and change land use and oppose the way it locks low-discharging activities into a low-discharging future with no land development opportunity.

426. Key recommendations include:

1. Substantial wording changes, but maintaining the fundamental element of significant land use intensification being a non-complying activity.
2. Including the key components of Policy 6 into Policy 1, to provide certainty to all applicants that contaminant losses are expected to decrease (and consequently deleting Policy 6).
3. Recommending the removal of the 2026 end-date and non-notification clause associated with the rule.

C1.5.2. Introduction and provisions

427. This section of the Section 42A report relates to PC1 provisions that control land use change, specifically, Policy 6 and Rule 3.11.5.7, as well as the applicable schedules and definitions associated with these provisions.

[22] This section authored by Matthew McCallum-Clark and Ruth Lourey

428. For the purposes of this assessment, issues raised by submitters relating to the land use change provisions have been assessed in the following topics:

- Deletion of controls on land use change
- Alternative approaches to managing land use change
- Policy 6
- Rule 3.11.5.7 – Activity status
- Rule 3.11.5.7 – Clarity and consistency
- Rule 3.11.5.7 – Other matters

429. Some submissions on Policy 6 and Rule 3.11.5.7 raise issues relating to Māori owned land and CVP, and are addressed in Sections D1 and E1 of the Section 42A Report (to be published at a later date).

430. It is also important to consider some of the wider issues with respect to land use change, which have been addressed in the overall direction in Section B1 of this Section 42A Report.

C1.5.2.1. Context

431. Activities undertaken on land may result in diffuse discharges of contaminants to underlying groundwater or to surface water. Changing land use, particularly to more intensive land uses, can increase the quantity of contaminants discharged.

432. Objective 1 of PC1 seeks the long-term restoration and protection of water quality in the catchment and Objective 3 seeks short term improvements in water quality as a first stage of restoration and protection.

433. To achieve the objectives of PC1, most land use changes that are likely to result in significantly increased contaminant discharges are managed through a non-complying activity resource consent process. Some provision has been made to enable flexibility of land use change for Māori land that has not been able to be developed due to historic and legal impediments.[23] The controls on changes of land use are intended to be interim until a future plan change introduces a new approach for allocating discharges of contaminants.

C1.5.2.2. Overview of provisions

434. The two key provisions of PC1 relevant to land use change are Policy 6 and Rule 3.11.5.7.

435. Policy 6 states:

> *Restricting land use change/Te Kauapapa Here 6: Te here i te panonitanga ā-whakamahinga whenua*
>
> *Except as provided for in Policy 16, land use change consent applications that demonstrate an increase in the diffuse discharge of nitrogen, phosphorus, sediment or microbial pathogens will generally not be granted.*
>
> *Land use change consent applications that demonstrate clear and enduring decreases in existing diffuse discharges of nitrogen, phosphorus, sediment or microbial pathogens will generally be granted.*

436. Rule 3.11.5.7 states:

> *Notwithstanding any other rule in this Plan, any of the following changes in the use of land from that which was occurring at 22 October 2016 within a property or enterprise located in the Waikato and Waipā catchments, where prior to 1 July 2026 the change exceeds a total of 4.1 hectares:*
> *1. Woody vegetation to farming activities; or*
> *2. Any livestock grazing other than dairy farming to dairy farming; or*

[23] Objective 5 and Policy 16 of PC1.

3. *Arable cropping to dairy farming; or*
4. *Any land use to commercial vegetable production except as provided for under standard and term g. of Rule 3.11.5.5*

is a non-complying activity (requiring resource consent) until 1 July 2026.

437. The specific changes in land use identified in Rule 3.11.5.7 were selected as they represent the highest risk of increasing contaminant discharges. The non-complying activity status indicates that any increase in land use intensification requires a high level of scrutiny.

438. Rule 3.11.5.7 took immediate legal effect upon the notification of PC1. This was a measure to immediately control land use change to prevent a 'gold rush' of applications which could compromise the achievement of the objectives of PC1. As the rule is intended to be an interim measure, in PC1 it applies only until 1 July 2026. It was intended by this time new rules will have been developed.

C1.5.3. Submissions

439. Overall the land use change provisions in PC1 are generally opposed through submissions. Approximately 300 submissions were received on Policy 6 – Restricting land use change (over 200 in opposition, around 70 in support, and the rest not stated).

440. Over 500 submissions were received on Rule 3.11.5.7 Non-Complying Activity Rule - Land Use Change with over 400 in opposition.

441. The following sections describe and respond to issues raised by submitters about Policy 6 and Rule 3.11.5.7., under the topics (also identified above):

- Deletion of controls on land use change
- Alternative approaches to managing land use change
- Policy 6
- Rule 3.11.5.7 – Activity status
- Rule 3.11.5.7 – Clarity and consistency
- Rule 3.11.5.7 – Other matters

C1.5.4. Deletion of controls on land use change

C1.5.4.1. Submissions

442. A large number of submissions have sought the deletion of Policy 6 and Rule 3.11.5.7. Reasons are broad and varied, but generally fall into several categories:

- Reduced flexibility for farmers to respond to external economic conditions, climate and technological innovations. These restrictions are considered to result in economic impacts for individual landowners, potentially jeopardising the viability of farming operations and having wider financial implications for the rural economy and rural communities (such as J Buchanan, Firthview and Homestead Oaks Ltd.
- Other provisions of PC1 already address the risks of increasing contaminant losses from land use change (such as Waikato DC, S Garland and W Graham)
- Targeting specific land uses imposes greater costs on some land owners than others, which submitters consider is inequitable. (such as B Townshend, Bellview Plains Ltd and P Laurich)
- Potential for provisions to affect the value of farm land and the ability to sell land (such as P Elliot and R and M Main)

- Reduced ability for famers to rotate between CVP, arable land use and grazing systems (such as T A Reynolds Ltd)
- There is uncertainty in the consent process, significant costs of consenting for no 'real' benefit (such as M Cooper and M and R Coleman).

443. Although there was considerable opposition to Policy 6 and Rule 3.11.5.7, several submitters have sought the retention of these provisions. Submissions received in support note:

- The provisions will avoid an increase in land use conversion to more intensive uses, and improve waterway health (such as S Rutherford and H McMullin, Sinclair Family Trust, and Mercury NZ Limited)
- 'Holding the line' is the most practical way to prevent further increases in the discharge of diffuse contaminants in the short-term (such as Maniapoto Māori Trust Board, Maungatautari Marae, and P McLean)

C1.5.4.2. Analysis

444. Restricting land use change that may result in greater discharges of contaminants is a critical measure of PC1 to control the discharge of diffuse contaminants. PC1 seeks to manage farming practices and land use activities to reduce cumulative discharges of contaminants in order to meet the water quality attributes and targets in Table 3.11-1, and to achieve the Vision and Strategy. PC1 rules are intended to ensure that land use activities with greater potential to increase contaminant discharge will be subjected to greater scrutiny.

445. Officers agree that Policy 6 and Rule 3.11.5.7 do place an additional restriction on farmers wishing to change land use to a more intensive form which could increase contaminant discharges. This may have some effect on the value of farm land across the region. It may also reduce farmers' ability to rotate between CVP, arable land use and grazing systems. Some farmers will face greater consent costs. However the changes are considered necessary to prevent increased contamination of the region's water bodies, and to achieve the Vision and Strategy. Officers do not agree that this is an additional cost for farmers with no benefit. The benefit is greater certainty that the PC1 objectives are achieved.

446. It should be noted that the provisions are not intended to prevent land use change *per se*, but to ensure greater scrutiny of proposals to change land use to more intensive forms to ensure the change does not increase contaminant discharges. A non-complying consent could be granted for such land use change if it can be shown that the change does not increase discharges[24].

447. In relation to submitter comments that the other provisions of PC1 already address potential effects of land use changes, the Officers do not agree with this view. Other provisions relate to farming where there is not significant land use intensification, and most are reliant on compliance with an NRP and the preparation of a FEP. It should also be noted that Rule 3.11.5.7 as drafted applies between 22 October 2016 and 1 July 2026 whereas the majority of existing farming activities are permitted until at least 2022. To limit any further degradation of water quality and prevent an influx of requests to change land use, it is necessary to constrain land use change.

C1.5.5. Alternative approaches to managing land use change

C1.5.5.1. Submissions

448. Many submissions have been received in opposition to Policy 6 and Rule 3.11.5.7 and have sought alternative approaches to managing land use changes. These approaches include:

[24] Officers understand that two applications have been granted under this rule to date.

- Managing land use change through FEPs;
- Requiring the adoption of Best Management Practices of the BPO;
- Adopting a sub-catchment approach or managing activities based on land use capability;
- Amending the land use activities subject to Rule 3.11.5.7; and
- Controlling discharges to land rather than controlling land uses.

Managing land use change through FEPs

449. The most common alternative put forward is to incorporate the assessment of the appropriateness of land use change into the FEP approach. Submitters state that this would enable an assessment of the land use capability of the property, or a risk based assessment to determine if a proposed change in land use is suitable, and would not compromise the overall achievement of the PC1 objectives.

450. For example, A Wildman seeks that the FEP process assesses land use change proposals to ensure best practice is adopted to mitigate contaminant loss. S Carter seeks a rule that enables land use change, provided a FEP demonstrates that the loss of contaminants will be no greater than that of operations of a similar nature in that area.

451. P Walter, C Doran, A Walter and S Walter submit that FEPs should be used to determine whether the land use change is suitable based on topography and current land use.

452. Others seek a simpler approach, such as Trinity Lands Ltd which suggests replacement of Policy 6 as follows:

> *Land use change will be a Permitted Activity subject to Farm Environment Plans that can demonstrate the environment is not negatively impacted by this change.*

453. The Waitomo Catchment Trust Board seek the deletion of Rule 3.11.5.7 and want land use change to be provided for in FEPs. They want amendments so that low dischargers can increase production to offset rising costs and want existing mitigations to be taken into account when applying for resource consent.

Requiring the adoption of Best Management Practices of the Best Practice Option

454. Several submitters, including PLUG, propose the replacement of the land use change provisions with an approach based on Best Management Practice. For example, Pukerimu Farms Ltd seeks that Rule 3.11.5.7 is replaced with Best Management Practice Rules that apply fairly to all farmers regardless of their land use practices.

455. Hancock Forest Management Ltd (HFM) seek BPO based rules that require those causing the adverse effects associated with their activities to avoid, remedy or mitigate those effects.

Adopting a sub-catchment approach or managing activities based on land use capability

456. The use of sub-catchment limits is also proposed in a number of submissions. For example, Cranleigh Agri-Business Trust seeks the replacement of Rule 3.11.5.7 with a rule that enables land use change to occur with reference to established sub-catchment limits, but does not provide further direction on this alternative approach. Cranleigh Agri-Business Trust considers a region-wide rule too 'heavy-handed' and considers that where land is leased it will be difficult to establish if land use intensification has occurred.

457. B Cameron requests the deletion of Rule 3.11.5.7 and seeks that PC1 addresses contaminants on a sub-catchment basis targeting the sub-catchments with poorest water quality.

458. Beef and Lamb request that where land use change occurs in a way that does not exceed the sustainable nitrogen discharge threshold (or limit) for the sub-catchment or defined stocking rate limits, then Rule 3.11.5.7 should not apply.

459. There are a number of submitters who propose the replacement of the land use provisions with an approach based on land use capability. For example, M Coup seeks that Rule 3.11.5.7 is deleted and replaced with a land use capability approach.

460. The NZ Deer Farmers seek that Rule 3.11.5.7 does not apply to land use change where the discharge is within the land's natural capability.

461. A Chick seeks that land use change proposals are assessed based on matters such as land capability, and N Anselmi states that land use capability should be considered when assessing changes in land use to determine if it fits with land contour and soil type.

462. M Taylor and C Mellow request that Rule 3.11.5.7 be determined on a sub-catchment and farm by farm basis, and that the possibility for land use change is based on land class rather than current land use.

Amending the land use activities subject to Rule 3.11.5.7

463. A few submitters state that rather than a "blunt tool" that affects all farming operations, Rule 3.11.5.7 should be amended to focus on new large-scale land conversions on land where contaminants cannot be mitigated. For example, R Briggs requests that changing forestry land to dairy is not permitted and that dairy conversions are strictly controlled to meet environmental expectations.

464. J and A Gaston seek that Rule 3.11.5.7 and Policy 6 are replaced with provisions that specifically address intensification of dairy farming. Land use change involving non-dairy operations should be considered on merit based on sub-catchment criteria, and via a less restricting activity class rule (such as discretionary activity).

465. P Young seeks an amendment to Rule 3.11.5.7 to enable drystock units to convert to dairy operations.

Controlling discharges to land rather than land uses

466. Some submitters, such as Fletcher Trust and Glenshee Trust, consider the approach should focus on controlling discharges rather than land use. They consider it is the effects of discharges from land use that should be controlled rather than the land use itself.

Offsets or land use change credit

467. Waipā and Waitomo DCs seek that Rule 3.11.5.7 be amended to make provision for environmental offsets to counter additional contamination from land use change (such as through additional matters of control, standards and terms and matters of discretion). They request that the matters should reflect the Policy 11 provisions, specifying that the offset is for the same contaminant, occurs in the same sub-catchment, or if not practicable within the same FMU, remains in place for the duration of the consent and is secured by consent condition.

468. Several other submitters, such as G Pinnell and Rozel Farm, seek clarification that off-site mitigations in the same sub-catchment can be used to offset increases in contaminant discharge from land use intensification.

C1.5.6. Analysis - Alternative policy instruments to the land use change provisions

469. As has been set out in Section B1 of this Report, overall, the Officers are concerned that submitters who request an alternative approach may not be able to demonstrate how the key parts of the Vision and Strategy and NPS-FM will be able to be given effect to. On the face of it, in an over-allocated catchment, increasing diffuse discharges of contaminants, without some form of offset, would not appear to maintain or improve water quality. The land use change provisions are consistent with the control of increased diffuse discharges from significant land use changes.

470. As stated earlier, changes to more intensive farming activities have significant potential to increase contaminant discharges and therefore would appear inconsistent with the Vision and Strategy and other PC1 provisions designed to maintain or improve water quality. PC1 provisions need to provide certainty that land use change does not reduce the likelihood of achieving the plan's objectives.

471. Proposals for land use change could be assessed through the FEP process as suggested by many submitters. However, Officers consider that such a process would not be rigorous enough to ensure the achievement of the Plan's objectives. Decisions about significant land use change, such as about whether an area of forest can be converted to a dairy farm, need a rigorous consent process, information about off-site effects and decision making that is able to consider a broad range of effects, including cumulative effects, backed by the expertise of scientists and other experts.

472. Best Management Practices or BPOs would not guarantee that land use change does not increase contaminant discharges. If a low-discharging farm or forestry block was converted to dairy farming, discharges of contaminants (particularly pathogens and nutrients) would almost always increase, no matter what best management practices are adopted.

473. There may be situations where land use intensification could occur without impacting on sub-catchment attribute states. Sub-catchment approaches are to be the subject of a future mediation session and reporting at a later date.

474. Some submitters considered that Rule 3.11.5.7 should only apply to new large-scale conversions, particularly to dairy farming. Officers do not agree. Multiple small land use changes will reduce the chance of meeting the limits in Table 3.11-1 and it is very difficult to 'draw a line' as to what constitutes a small or large scale change.

475. Some submitters state that the provisions should focus on managing contaminant discharges rather than land use change itself. While Officers agree in principle, in practice it is difficult drafting and implementing a rule that states an increase in diffuse discharge of contaminants is a non-complying activity, particularly when base-line information about actual losses of all four contaminants is often scarce and the ability of Overseer to model changes in nitrogen leaching with absolute precision is questionable. It therefore makes more sense to use land use as a proxy for the potential scale of contaminant discharges, for the purposes of establishing the relevant rule that applies.

476. Environmental offsets are increasingly recognised as a way of countering adverse effects of some activities. Policy 11 currently provides for offsets in terms of point source discharges but not non-point source farming discharges. It would be possible, under current provisions, for a consent applicant to show that an off-site offset will counter an increase in contaminant discharges on a case by case basis, and sub-catchment planning and the use of enterprises may be a good opportunity for this. In principle, Officers would support the use of off-site offsets where they can be appropriately secured, are proportional to the effects generated, maintenance is provided for and where proof can be provided of their on-going efficacy.

C1.5.7. Policy 6

C1.5.7.1. Submissions

477. Forest and Bird considers that the wording of Policy 6 is not strong enough to ensure the water quality targets in Table 3.11-1 will be achieved. They seek the following amendments to Policy 6:

> ~~*Except as provided for in Policy 16, land*~~ *Land use change consent applications that demonstrate an increase in the diffuse discharge of nitrogen, phosphorus, sediment or microbial pathogens will* ~~*generally not be granted*~~ *only be [granted] in exceptional circumstances.*

Land use change consent applications ~~that demonstrate clear and enduring~~ that provide for decreases in existing diffuse discharges of nitrogen, phosphorus, sediment or microbial pathogens that will ensure that the water quality targets set out in Table [3].11-1 will generally be granted.

478. ACRE note that current and consented land use changes will have a continuing impact on water quality and consider that Policy 6 should be strengthened. They seek the following amendments to Policy 6 (1st paragraph):

Except as provided for in Policy 1 and 2 (for low level discharges) and Policy 16, land use change consent applications that demonstrate an increase in the diffuse discharge of nitrogen, phosphorus, sediment or microbial pathogens will generally not be granted...

479. J Findlay seeks clarification about what constitutes a change in land use and when land use intensification is a change. Mr Findlay also notes that 'demonstrating enduring decreases' is too open ended a concept.

480. Three submitters, including Matamata-Piako DC and South Waikato DC seek deletion of the first sentence in Policy 6 and the redrafting of the second sentence to improve clarity and interpretation, including by describing what is meant by clear and enduring decreases. The submitters consider the policy does not allow for reasonable use, and it does not sufficiently guide decision makers when considering consent applications.

481. Waikato River and Waipā River Iwi and a number of other iwi submitters support Policy 6, noting that the previous permissive approach to managing cumulative discharges resulted in water quality deterioration. They also request amendments to signal a stronger approach in Policy 6 as follows:

Except as provided for in... that demonstrate a sustained increase in the... microbial pathogens will ~~generally~~ not be granted.

Land use change consent... that demonstrate ~~clear and enduring~~ identified and sustained decreases in existing... or microbial pathogens will generally be granted.

For the purpose of Policy 6 'sustained' means an identified long-term decrease in the discharge of one or more of the four contaminants while allowing for low frequency, short duration and temporary fluctuations - caused by natural variability and seasonal/cyclical natural processes - in one or more of the four contaminants.

482. DairyNZ request that the following be added to Policy 6:

Land use changes will generally be approved, where the mitigations proposed in the Farm Environment Plan:
a. do not increase the discharges of phosphorus, sediment and microbial contaminants, and
b. can demonstrate there will be no increase in the nitrogen reference point."

483. HortNZ considers that Policy 6 should enable an overall assessment of an activity based on its location and the amount of total discharges, and should provide for an increase in contaminants as long as, on balance, the activity has a lesser adverse effect. They seek Policy 6 to be amended to read as follows:

Except as provided for in Policy 16, ~~land use change~~ consent applications under Rule 3.11.5.7 that demonstrate on the balance an increase in diffuse discharges of nitrogen, phosphorus, sediment or microbial pathogens will generally not be granted.

~~Land use change c~~ Consent applications that demonstrate on the balance clear and enduring decreases in existing diffuse discharges of nitrogen, phosphorus, sediment or microbial pathogens will generally be granted.

484. Fish and Game support Policy 6. They consider that it promotes sustainable management, but could be made more certain by amendment to read: *…clear, ~~and~~ enduring and meaningful decreases….*

485. A few submitters note that it is not clear if Policy 6 is targeted at rural land use change and excludes urban land use changes. For example, Waipā and Waitomo DCs note that Policy 6 appears to be aimed at rural land use change, as set out in Rule 3.11.5.7, but is written in such a way that it inadvertently applies to all land use change, including urban land use change. They consider that it is potentially inconsistent with Policies 10, 11 and 12 which the submitters consider acknowledges point source discharges could increase. They seek primacy of Policies 10, 11 and 12.

486. Martin Wallace seeks changes to Policy 6 to exclude those activities already using good practice. The submitter also introduces the concept of a sustainable property level. They seek the following amendments to Policy 6 (Paragraph 1):

> *Except as provided for in Policy 1 and 2 (for low level discharges) and Policy 16, land use change consent applications that demonstrate an increase in the diffuse discharge of nitrogen, phosphorus, sediment or microbial pathogens above the sustainable property level will generally not be granted.*

The submitter also seeks amendment to paragraph 2 of Policy 6 so that consents are generally only granted where the discharges are and will be below the sustainable property level for the sub-catchment target.

487. Trustees of Highfield Deer Park and The Surveying Company Ltd consider that Policy 6 inappropriately attempts to predetermine resource consent outcomes. The Trustees request that Policy 6 is redrafted into two separate policies and includes more clarity and guidance about when consents might be declined or approved.

C1.5.7.2. Analysis – Policy 6

488. Some submitters have requested changes to strengthen Policy 6, such as by saying consent applications for land use that will increase contaminant discharges will only be granted in exceptional circumstances. Officers consider that does not provide any better guidance. In fact, it sets a bar (exceptional circumstances) that would then need to be defined. The current wording (generally not granted) is a clear policy direction that does not need further definitions to be understandable.

489. HortNZ's request to use the 'on balance' concept, in terms of whether contaminants have increased or not would make the policy direction less clear, and lead to debates about what 'on balance' means in this context. It also suggests that contaminants could be 'traded-off', such that an increase in one contaminant could be offset by a reduction in another. At a catchment scale, Officers are doubtful that this could be justified.

490. With respect to the DairyNZ request, the changes would add more detail to the policy but do not change its meaning or direction. It adds a level of detail that Officers consider is unnecessary at the policy level.

491. Some submitters seek clarity as to what is meant by clear and enduring decreases in contaminant losses. The Officers consider that the words "clear and enduring decreases" are simple, clear and do not suggest any uncertainty in terms of expectations. Officers consider that the FEP has a key role to play in providing confidence and on-the-ground actions and feedback to ensure there actually are "clear and enduring decreases". However, the Officers acknowledge that the plan use the words "decreasing and "reducing" (or variations thereof) and that it would be more consistent to use the words "reducing" or "reductions" throughout. Amendments are recommended accordingly.

492. Other submitters seek deletion of the directions that such applications will generally be declined. The first sentence of Policy 6 clarifies that a resource consent application will generally not be granted where the application will result in an increase in diffuse discharges of nitrogen, phosphorus sediment or microbial

pathogens. The Officers consider this is consistent with the policy direction of PC1, the Vision and Strategy and the NPS-FM, for an over-allocated catchment.

493. There is some debate as to the meaning of other words in the Policy. While the Officers have recommended re-wording that removes some of these terms, and merging of the Policy with Policy 1, these words have plain-English dictionary definitions, which would seem appropriate. It is not clear from the reasoning within the Waikato River and Waipā River Iwi submission how the term 'identified' rather than 'clear' adds further clarity to the policy. It would be helpful if additional reasoning is provided by those submitters at the hearings.

494. A few submitters note that it is not clear if Policy 6 is targeted at rural land use change and excludes urban use changes. Policy 6 relates to specific land use change exceeding 4.1 ha (whether urban or rural) and the associated diffuse discharges. The Officers note that the definition of diffuse discharges clearly relates to farming activities, and do not consider any further clarity is needed.

495. The Officers agree with Waipā and Waitomo DCs that there are differences between how diffuse and point source discharges are managed through PC1. That is deliberate and the Officers do not recommend amending Policy 6 (or Policy 1) to enable increases in diffuse discharges.

C1.5.8. Rule 3.11.5.7 Activity Status

C1.5.8.1. Submissions

496. A large number of submitters, including FANZ, several District Councils, Ballance, M Peacock and NZ Pork question whether a non-complying activity status is appropriate for Rule 3.11.5.7, and have sought amendments to the activity status. The majority of submitters who sought a change in activity status proposed a less stringent status ranging from permitted to discretionary activity. The reasons given include:

- that a non-complying activity status is unnecessary or a discretionary activity would achieve the same outcome;
- it will be almost impossible to get a non-complying consent;
- land use change from one primary industry to another should not be considered a rare exception, but part of a viable, sustainable land use in response to market conditions;
- it will not enable new opportunities;
- all farm land should have the same ability to undertake any type of farming provided the environmental impacts can be effectively managed;
- it is a high barrier to wholesale changes and flexibility is fundamental to sustainable primary production enterprises which must be able to respond to markets.

497. DoC sought a more stringent activity status for land use change. The submission suggested that if Policy 6 is not amended to provide greater direction to decision makers when considering consent applications for a non-complying land use change, a prohibited activity is appropriate.

498. Several submitters, including Fish and Game and Forest and Bird are supportive of the non-complying activity status. DairyNZ and G Moss support larger-scale or whole-farm land conversion being a non-complying activity, but are concerned that the rule will capture small changes on farm that may have minor adverse effects. They suggest clarity that consents should be granted if the changes do not increase diffuse discharges or go above the nitrogen reference point.

Land use change to be a less stringent activity status

499. A number of submissions, including NZ Pork, seek a change in activity status, often to a restricted discretionary activity, for activities that demonstrate decreases in discharges. These submitters consider

that farming operations capable of demonstrating clear and enduring decreases in discharges should not be subject to a non-complying activity status rule.

500. Fonterra considers that a land use change that does not increase diffuse discharges should be a discretionary activity. Fonterra seeks changes to reflect this in Policy 6 and a consequential change to the rule framework.

501. Several submissions seek a change in activity status for particular sectors, particularly CVP. These submissions are dealt with in the CVP section of the Section 42A Report, to be published at a later date.

502. Some submitters seek land use change to be managed as a controlled activity. Some, such as Perrin Ag Consultants, take a more nuanced view, and suggest controlled activity status provided nitrogen leaching does not increase. A similar approach, proposed by FarmRight, is that the activity status should become more stringent, based on whether the changes decrease (controlled activity), are neutral (restricted discretionary activity) or increase nutrient loss (non-complying). Another submitter proposes the setting of a threshold to allow the properties or enterprises within the lowest 10 per cent of nitrogen dischargers to undertake land use change as a controlled activity under Rule 3.11.5.4, rather than as a non-complying activity.

Target sub-catchment/FEP/permit sub-catchment where not over allocated

503. Some submitters, such as P Buckley and B & G Smith seek a mixed approach with a split in activity status for land use change, in combination with an approach to address contaminants on a sub-catchment basis (targeting the highest discharging sub-catchments) and mitigations adopted through FEPs. These submitters seek land use change in high priority sub-catchments to be a restricted discretionary activity and in low priority sub- catchments to be a permitted activity.

504. The Hill Country Farmers Group, PLUG and F4PC seek the deletion of the non-complying rule and seek that land use change be enabled in sub-catchments that meet the Table 3.11-1 attribute targets, as a permitted activity. They also seek a new restricted discretionary activity rule to manage change in land use in high priority sub-catchments or in sub-catchments that do not meet the attribute targets in Table 3.11-1.

505. Ata Rangi propose a framework that provides flexibility for land use change, based on consideration of land use suitability and the potential for offsetting mitigation within an enterprise or within a sub-catchment. They consider that this enables land use change activities that will result in positive environmental outcomes, which will achieve the objectives for PC1. They seek two new policies, an amendment to Policy 6 and new rules to implement this.

506. Wairakei Pastoral Ltd seek amendments to Rule 3.11.5.7 to enable land use change as a restricted discretionary activity, subject to a comprehensive sub-catchment management plan being developed. As outlined in Section B1 of this Report, sub-catchment planning will be dealt with in a later section of this Report.

C1.5.8.2. Analysis - Activity Status

507. Resource consent applications classified as non-complying activities inherently undergo a high level of scrutiny. The application may be declined, and can only be granted if it passes what is referred to as the 'gateway test'. This gateway is that either the adverse effects of the activity will be no more than minor or the application is not contrary to the objectives and policies of the plan (s104D of the RMA). If the applications satisfies this “gateway” test, then the application must be considered in terms of s104 which, amongst other things, requires an assessment against Policy 6’s clear direction on the criteria for granting or declining.

508. The intent of Rule 3.11.5.7 is to enable Council to carefully consider the effects of applications to undertake land use change, from activities that typically have low diffuse discharges to activities that generally have higher diffuse discharges. There is clear direction in the PC1 provisions that resource consent applications

for activities with increased levels of diffuse discharge will not be granted. Given the clear direction in PC1 that a resource consent will generally be declined if diffuse discharges increase, the Officers do not consider a permitted or controlled activity status for land use change to be an effective way to achieve the objectives and policies.

509. Some submitters have sought a discretionary activity status. The use of a non-complying activity status means that the applicant will have to demonstrate that the effect of any land use change is minor, or not contrary to the objectives and policies in PC1, before it can be assessed on its merits. Given the clear policy direction in the Vision and Strategy to focus on cumulative effects and that there is to be no further decline in water quality, along with the clear direction in the NPS-FM regarding over-allocated catchments, the Officers consider the discretionary activity status to be less appropriate than a non-complying activity status.

510. Some submitters have requested a different activity status where the effects (or quantum of discharges) are equivalent, or are reducing. In some ways this is an attractive option, as it may provide some flexibility for off-setting and minor changes, such as a change in the mix of farming practices occurring on a property. However, determining what the effects are is often a difficult process that requires a number of judgements, such that using it to determine activity status has some risks.

511. Officers also acknowledge that focussing on land use change as a 'proxy' for increased diffuse discharges will lead to some applicants and activities being put to a higher level of test than the effects would justify. However, there are difficulties with establishing clear and definable effects-based thresholds for a change in activity status. Officers have an open mind to this option of breaking this rule into two parts, which may also put some aspects of control back with applicants, provided it is certain and implementable. Evidence from submitters on clear and transparent thresholds would be very welcome and the Officers will revisit this matter in the end of hearing Reply Report.

512. Some submitters have requested different controls based on the sub-catchment priority, which is an indicator of how far a sub-catchment is from the desired water quality state. Officers are concerned that if land use controls are only in place in parts of the catchment, then significant effects may occur as a result of land use change in the low priority catchments and thereby compromise the likelihood that PC1 will make positive steps toward achieving the Vision and Strategy. While a sub-catchment may presently meet long term water quality targets, this does not mean there is capacity for increased discharges – at very least existing water quality must be maintained. In many situations there will also be a contaminant 'load to come', which due to the time taken for nitrogen leached into the ground to actually reach surface water monitoring points, does not presently show in the data. Therefore, an activity status based on sub-catchment priority or existing water quality in a catchment is not considered appropriate.

C1.5.9. Rule 3.11.5.7 – clarity and consistency

C1.5.9.1. Submissions

513. A significant number of submitters have raised issues with the operation of Rule 3.11.5.7, particularly how it relates to other provisions in PC1 and how it will be applied in practice.

514. WRC notes that Rule 3.11.5.7 captures land use changes that are beyond the scope of the rule's intent. An example of this is the routine practice amongst commercial vegetable growers of moving the enterprise, or parts of it, from block to block. Another example is where farmers grow maize on different parts of their property, or fell a farm-forestry block and graze the land for a short while before replanting. Prior to the effective dates in other rules, a resource consent for a non-complying activity may be required for these examples, which was not the intention.

515. Similar to the above, Fonterra considers that 'normal' change in land use within a property should not be regarded as a land use change. They also seek clarification that land use change within a property or

enterprise that does not increase the total area within that property devoted to that land use is not captured by Rule 3.11.5.7.

516. Several submitters, such as B Stubbs and R Brown, R and W Verry and B and G Smith seek clarity on whether Rule 3.11.5.7 applies to stands of gorse and other woody weed species, changes to the location of woodlots, and winter cropping or maize rotations. Waipā and Waitomo DCs seek amendments to make clear how changes in property boundaries, lease arrangements and mixed farming operations will affect compliance with rules.

517. WRC questions whether Rule 3.11.5.7 is well aligned with the remainder of PC1, in that it seeks to manage an 'event' (the land use change) rather than the ongoing use of land, and that it doesn't clearly focus on the four contaminants in question.

518. WRC considers that Rule 3.11.5.7 creates a potential gap in the management of change to dairy farming, in that some pasture, cropping or other land uses may not be addressed, as the rule only categorises the conversion of 'livestock grazing' land to dairy farming.

C1.5.9.2. Analysis

519. Several submitters identify that Rule 3.11.5.7 may capture "routine" changes to farming practice and changes of land use that occur within properties or enterprises, from that which existed at the date of notification of PC1. The Officers accept that there is the potential to inadvertently capture 'within farm' movement of activities that do not correspond to an actual increase in contaminant losses, and recommend some changes to the land uses that are captured in a non-complying activity rule, along with substantial change to the structure of the rules. However, the difficulty lies with identifying a clear and robust threshold, that better enables these "routine" changes. The submissions of Fonterra appear to go part-way, but still appear to use quite subjective terms.

520. As stated earlier, Officers are open to the idea of a lesser activity status for activities that do not increase the level of diffuse discharges, if there is a clear threshold below which it can confidently be said effects or contaminant losses will decrease. As a first element of clarity, Officers suggest recognition that the rule applies to cumulative changes which exceed a net total of 4.1 ha, measured since 1 October 2016. This makes it clear the 4.1ha is to be measured as a cumulative total, but that it is the net change that is relevant, so shifting activities within a mixed farming operation will not become a non-complying activity.

521. There would also appear that some exceptions to the rule could be reasonable, and if submitter evidence highlights other options for alternative thresholds, that would be very welcome. Possible exceptions could include:

- following forestry harvesting there is an interim change in land use prior to replanting, for no more than 12 months;
- where the change constitutes a reversion to the land use which was being undertaken during the reference period specified in Schedule B.

522. Waipā and Waitomo DCs and other submitters raise helpful queries about application of the rule to particular circumstances, such as changes in property boundaries and lease arrangements or for a mix of varied land use changes within the same property or enterprise. While the land use change provisions do not explicitly 'encourage' lower intensity land use changes, the Officers note that the policy direction is strongly against intensification that leads to greater contaminant losses at a property scale. Officers are recommending a range of minor changes that reduce the emphasis on 'within property' changes, but even with these changes there will always be some permutations that do not quite 'fit' and will need to be dealt with through a resource consent process. In the Officers' opinion, that is precisely what the resource consent process can do, and provided the effects are no more than minor, or the situation is aligned with the objectives and policies of PC1, then the resource consent can be considered on its merits.

C1.5.10. Date when rule takes legal effect, the rule 'end date', consent term and notification

C1.5.10.1. Submissions

523. Timberlands and CNI Iwi Management Ltd seek the deletion of Rule 3.11.5.7 as they consider that the land use rule is inequitable. However, if the rule is not deleted, they seek that the end date of 1 July 2026 is retained to send a clear signal that Rule 3.11.5.7 is an interim measure.

524. Graham Pinnell considers that the "moratorium" on land use change should be for the shortest possible duration. The submitter questions the need for a moratorium, as it limits options and land value. The submitter questions the justification for the rule when PC1 modelling suggests the water quality targets will be achieved in most cases. The submitter seeks the rule end date should be reduced from 10 to 5 years, to 1 July 2021.

525. P and M Norton raise concerns about when Rule 3.11.5.7 should have legal effect particularly as landowners do not have the opportunity to make decisions on the future of recently purchased properties. They also consider that it is unfair that landholder decision making is on hold, given the rule could change through the RMA process. They seek a three-year lead in period prior to Rule 3.11.5.7 coming into effect.

526. Fish and Game seek limited notification of consent applications. They consider that checks and balances are important, and public and stakeholder scrutiny generally acts to improve consenting decisions. They seek the following amendments to notification section of Rule 3.11.5.7:

> *Notification: Consent applications will be considered with~~out~~ limited or public notification~~, and without the need to obtain written approval of affected persons, subject to the Council being satisfied that the loss of contaminants from the proposed land use will be lower than that from the existing land use.~~*

527. Forest and Bird also supports community involvement in the consent process. Forest and Bird accepts that not all consent applications will warrant notification, but there may be some consents where notification is justified. They request that all references that provide for non-notification be deleted.

528. WRC notes that the term "existing" (diffuse discharges) used in Policy 6 and in Rule 3.11.5.7 (under the heading 'Notification') does not clearly convey the intent, which was to refer to the contaminant loss status as at the date of notification of the PC1. WRC requests that the notification clause be amended to read:

> *Consent applications will be considered without notification,… will be lower than that from the existing land use as at 22 October 2016.*

529. Oji Ltd considers that the consent notification provision inappropriately predetermines the outcome of the application and therefore is ultra vires. They request that if the rule is retained then the notification provision should be expressed as being subject to consideration without notification to read:

> *Consent applications will be considered without notification, and without the need to obtain written approval of affected persons ~~subject to the Council being satisfied that the loss of contaminants from the proposed land use will be lower than that from the existing land use.~~*

530. Gavins Ltd seeks the following amendments to notification section of Rule 3.11.5.7:

> *…subject to the Council being satisfied that the loss of contaminants from the proposed land use will be the same or lower than that from the existing land use.*

531. A Garret and C McKay seek a clear statement that consent applications for land use change for aggregated areas of over 15 hectares (over 10 years), where the overall loss of contaminants will be lower than the existing use, will be considered without notification and without written approval of affected persons.

C1.5.10.2. Analysis

532. Rule 3.11.5.7 currently ceases to have effect from the date specified in the Rule (22 October 2026). Any controls on diffuse discharges would then be covered by the remainder of the provisions in PC1. The inclusion of an end date[25] to Rule 3.11.5.7 was intended to make it clear that PC1 represents a transition to a future allocation for diffuse and point source contaminants, and to commit WRC to putting out a new plan before the 'end date'. At this time, given the delays to finalising PC1, it would seem unrealistic that a new planning regime would be ready for notification by October 2026. Further, there appears to be at least the potential for Central Government guidance on future diffuse discharge allocation regimes, which may also make that date unrealistic. Officers are concerned that a fixed end date, whether or not closer in time to now, is problematic and may lead to the need for a future plan change, just to remove that date. Indeed, it would appear that Council's initial views as to when PC1 would become operative, and need reviewing again, were overly optimistic. Overall, the Officers do not recommend retaining or reducing the time frame in the rule[26].

533. The land use change provisions were intended to be implemented immediately, and were and are an important part of the approach to manage land use change as soon as possible, in part to prevent a rush of applications or pre-emptive approval of land use change that would compromise the PC1 framework and hence the achievement of the Vision and Strategy. The intent was for this protection from further degradation to be made from the date of notification, whilst still allowing public consultation and input on the rule through the Schedule 1 RMA process of submissions and hearings. Officers consider that a delay in implementation of this rule, even if it were legally possible at this stage, would not be appropriate.

534. A regional plan can contain direction about whether a resource consent application for a particular activity will be notified or not[27]. Presently, the note states that an application will not be notified if contaminant losses decrease. Overall, Officers are of the view that while it is useful to differentiate between activities where losses increase or decrease, this effectively means that the note provides little guidance greater than the default RMA position of the normal s95-95G process.

535. With respect to comments above about the potential benefit of separating the rule into two parts (one providing for where contaminant losses will increase, and the other where they will decrease), the Officers have recommended significant changes to the structure of Policy 6 and Rule 3.11.5.7, by incorporating them into other policies and rules, such that the note is now considered to be largely redundant. Accordingly, it is recommended that the Notification note is deleted.

[25] PC1-3454, PC1-10802
[26] PC1-8258
[27] S77D of the RMA

C1.6. Other relevant policies and schedules[28]

536. This section of the report deals with a range of matters that do not fit easily elsewhere, or apply across various sections. Addressed in this section is: Policies 4, 5 and 8; Schedule A; and several definitions.

C1.6.1. Policy 4

C1.6.1.1. Background

537. This policy manages discharges of the four contaminants and signals that existing and new low discharging activities can continue provided that the achievement of Objective 3 is not compromised. It also signals future reductions in losses may need to be taken in order to achieve Objective 1.

C1.6.1.2. Submissions

538. In total there are over 150 submissions on Policy 4. There is support for this policy with around 45 submitters requesting it is retained. Seven submitters request Policy 4 is deleted and the remainder seek changes.

539. Some submitters suggest Policy 4 should relate to both high and low discharging activities, as everyone should be working towards the same goal. Five submitters consider Policy 4 should enable new low discharging activities only where it is appropriate to do so and require either best management practices for mitigation in FEPs, BPO or industry standard management principles[29]. Beef and Lamb suggest Policy 4 should enable additional flexibility for low intensity farms. FarmRight request a new controlled activity rule is added for new activities to be operating at best practice. Reference to further reductions in contaminants from low intensity and low risk land use is considered by several submitters to be inappropriate as signalling further change is not within the scope of PC1[30]. Matamata-Piako DC and South Waikato DC suggest the heading of Policy 4 should be amended to signal further contaminant reductions may be required, rather than future change. DoC and Hamilton City Council (Hamilton CC) suggest there needs to be greater certainty for the future as it is uncertain as to when future changes may occur and what they might entail.

540. FarmRight suggest sediment is deleted and *E.coli* is added to the list of contaminants. Federated Farmers consider Policy 4 should be amended to require mitigation actions to reduce the discharge of the contaminants in order to assist with making progress towards Objective 1, not for Objective 1 to be met. Fish and Game request Policy 4 is amended to avoid significant adverse effects to ensure freshwater is managed sustainably and many submitters suggest Policy 4 should not provide for new activities which will result in an increase of diffuse discharges. Several of these submissions request that low discharging activities are enabled, provided there is no increase in diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens. J Reeve suggests Policy 4 should be deleted as it should measure actions already taken to lower discharges and reward such actions that have long terms results.

541. Many submitters request clarity on a range of aspects of Policy 4, including: the meaning of the term 'lower discharges' as it would provide greater certainty for the future[31]; clarify that low discharges means low volumes and concentrations of contaminants[32] or discharges of the contaminants that are below industry standard practice level[33]; reference should be made to Objectives 2 and 4 to accord with the overall judgement approach in Section 5 of the RMA[34]; where the term 'discharge' is used, it means contaminant loss to water[35]; the date at which an activity needs to have existed to be considered existing[36]; and guidance

[28] This section authored by Matthew McCallum-Clark and Alana Mako
[29] Miraka Limited, Wairarapa Moana, Pouakani Trust and FarmRight, Oji Fibre Solutions (NZ) Limited
[30] 33 submitters
[31] 15 submitters
[32] HCC, MPDC and SWDC
[33] FarmRight
[34] MPDC, SWDC
[35] Fertiliser Association of New Zealand
[36] Ravensdown

on how it is demonstrated that a low discharge activity cumulatively does not compromise Objective 3[37]. Oji Ltd consider for consistency, that 'diffuse' is included in the heading.

542. Trustees of Highfield Deer Park suggest Policy 4 should recognise those with exceptionally low NRPs and allow for some increase based on a sub-catchment average allowable discharge. Matamata-Piako DC and South Waikato DC request Policy 4 is amended to provide agreed, measurable and enforceable baselines for each of the contaminants required to be monitored on a case by case basis, or to delete reference to Objective 3. Various submitters consider all contributions to contaminant discharges should be included, such as point source discharges, city storm water and koi carp. It is suggested by M & S Lee that Policy 4 should provide for the water quality improvement requirements to be linked to sub-catchments to determine the cause of poor water quality such as koi carp. John Allen considers Policy 4 does not enable easy adoption of new mitigation techniques that are not yet in mainstream practices and suggests the heading is amended to include mitigation practise that will reduce cumulative effects. Beef and Lamb consider that the rules do not reflect the aspect of enabling activities with lower discharges to continue.

543. Fletcher Trust, Charion Investment Trust and Fonterra suggests Policy 4 is amended to read:

> *Enable existing farming activities or new activities that make a small contribution to contaminant loads and/or that pose a low risk of contaminant discharge because they:*
> *a) occupy a small land area; and/or*
> *b) have a low nitrogen discharge per hectare (and/or the land is not used for an intensive farming use); provided that high diffuse discharge risk practices are avoided.*
> *Advisory note: Activities and uses defined as low dischargers may in the future need to take mitigation actions that will reduce diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens in order for Objective 1 to be met.*

544. Fletcher Trust and Charion Investment Trust also suggest a new policy, Policy 4A is added to PC1 to read:

> *Enable existing farming activities that have a low risk of contaminant discharge for their farming type and/or likelihood of diffuse discharge reductions over time because:*
> *a) they are part of an industry scheme designed to manage diffuse discharge risk; and*
> *b) the industry scheme includes a commitment to reduce the diffuse nitrogen discharge of the highest discharging 25% of farming activities within its scheme to a diffuse nitrogen loss rate that does not exceed the 75th percentile of all farming activities within the industry scheme.*

545. Fonterra also consider two new policies, Policy 4A and Policy 4AB should be added to PC1. Their Policy 4B is addressed in relation to Certified Industry Schemes below. Fonterra's suggested Policy 4A seeks to recognise further change by lower discharging activities may be required in the future.

546. Wairakei Pastoral request a significant change, primarily related to sub-catchment planning:

> *Enabling enterprises to apply for sub-catchment management resource consent applications which include lower discharges from farming activities and commercial vegetable production, associated diffuse discharges, and land use change, will provide a key method (alongside participation in any relevant Certified Industry Schemes) for achieving clear and enduring improvements in water quality in order to meet (inter alia) Objectives 1 and 3 while allowing existing activities to continue and enabling new activities to be established.*

547. Several submitters, particularly including Federated Farmers have made suggestions as to the duration that resource consents for farming activities should be granted for. These submissions are made with respect to Policy 1, Policy 2, this policy and in discussion of the point source discharge Policies 10 - 13. Most submitters seek a lengthy consent duration, such as 25 years, in order to provide certainty to farmers. Federated Farmers also seek a new policy to provide direction regarding matters to consider when

[37] Ravensdown, DoC

assessing applications for diffuse discharges. Federated Farmers suggest the policy lists sub-catchment characteristics, the relative contribution towards catchment targets or objectives, the resources reasonably available to the applicant and the level of investment.

C1.6.1.3. Analysis

548. The Officers note that some submissions made to Policy 4 are not specific to Policy 4 and are addressed in other sections of this report. The Officers are recommending that all headings are deleted, so the amendments suggested to the heading by Oji Ltd, to include 'diffuse' into the heading, while appropriate, is likely redundant.

549. At the outset, it is noted that there is significant overlap in the first part of the policy with Policy 1. Policy 1 similarly provides for management of diffuse discharges of the four contaminants and also seeks to enable activities with a low level of discharge. The Section 32 Evaluation report for PC1 analysed small, low intensity and low risk farming activities and it was determined that these activities could be permitted, subject to controls including: using best knowledge available to determine suitable proxies for intensity, suitable physical indicators of risk and suitable risk factors associated with management actions. Policy 4 seeks to enable land use activities that fit the criteria for low level of contaminants being discharged[38].

550. It also gives effect to Section 5 of the RMA which manages the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety. The Officer's do not consider it appropriate to include high discharging activities in Policy 4 as the general policy direction of PC1 is to reduce contaminant loss from high discharging activities.

551. The Officers note that the requests by various submitters to include other contributions to water quality such as city stormwater and koi carp, are generally not relevant to Policy 4, which seeks to enable activities with low diffuse discharges and to signal further changes may be required in future.

552. FarmRight's request to add E.coli to the contaminants is, in the Officer's opinion, unecessary as E.coli is a microbial pathogen which is one of the four contaminants that PC1 already manages. Also E.coli is included in the short term and long term numerical water quality targets to be achieved.

553. Overall, Officers consider that there is duplication between the first part of Policy 4 and Policy 1, such that it is appropriate to delete this part of the policy and rely solely on Policy 1.

554. PC1 is intended to manage the first stage of the 80 year time-frame, to put in place and implement the range of actions in a 10 year period which will be required to achieve 10 percent of the required change between current water quality and long term water quality in 80 years. In response to submissions which request greater clarity and certainty of what will be required in the/ future, Officers are hesitant to signal future change as PC1 is the first stage of a long journey and certainty cannot be provided on the technologies and actions that will need to be developed to achieve the long term 80 year targets. Therefore, Officers agree with a majority of submitters that signalling further change is not appropriate as future plan changes are not within the scope of PC1, but to acknowledge that for Objective 1 to be met, further reduction in contaminant losses are highly likely to be needed, and the reality is that this will be addressed in future regional plans or plan changes.

555. As is discussed in section B1 of this report, to achieve the long-term, 80 year goals for water quality, it is highly likely that all activities, point source or nonpoint source, high discharging or low discharging, will need to make further improvements. On this basis, Officers suggest that Policy 4 should recognise that all activities may need to make further reductions, rather than singling out low discharging activities. The

[38] Plan Change 1 Section 32 Evaluation Report, E.3 Making reductions: catchment wide rules, Farm Environment Plans and Nitrogen reference Point, pg 159

amended Policy 4 suggested by Fonterra, Fletcher and Charion Investment, in the Officers' opinion, makes little change to the Policy in terms of content or clarity and maintains a focus on low discharge activities.

556. A number of submitters including FANZ and Ravensdown suggest, often in relation to other policies, that PC1 should provide clarity that resource consents for farming activities will be granted for a long duration. Others suggest short durations, or the inclusion of s128 consent review timeframes. Officers consider that it is important to provide some consistency with respect to consent duration, so that the future contaminant loss reductions signalled in Policy 4 are able to be given effect to. If all farming resource consents are granted for a lengthy period, the ability for subsequent regional plans or plan changes to achieve any reductions in contaminant losses will be very limited.

557. While the review of resource consents is an option, in the Officers' opinion these tend to be expensive, difficult to administer and often limited as to what can be achieved. On this basis, while technically available, reviews are less preferred as a mechanism to effect further change. Signalling that s128 consent reviews will be a primary mechanism to effect wide-spread change in the future is likely to portrait an unrealistic situation given WRC consent staff's hesitancy regarding the effectiveness of such reviews. However, Officers also recognise that relatively short duration resource consents provide little investment certainty and clarity as to future direction for farmers. In recognition of this, optional wording is included in the recommended amendments to Policy 4, which provides for farming activities where reduction in losses above that anticipated by PC1, potentially staged into the future, could be considered as a justification for a longer duration.

558. Regarding the suggestion to include a new policy listing matters for consideration when deciding applications for diffuse discharges, Officers consider that the policies as recommended to be amended and section 104 will allow the consideration of the matters requested by Federated Farmers and that an additional policy is not necessary.

C1.6.2. Policy 5

C1.6.2.1. Background

559. In order to achieve the water quality objectives of the Vision and Strategy, PC1 states that an 80 year timeframe is required due to the extent of change required to restore and protect water quality.

560. Policy 5 is the explicit recognition that achieving the water quality attribute targets set out in Table 3.11-1 will need to be staged over 80 years. It broadly sets out the course of action and focuses on making a start on discharge reductions and preparing for further reductions and possibly allocation of property-level discharges over time. It also recognises that the requirements of achieving the water quality goals of the Vision and Strategy would result in significant social and economic effects on landowners, if implemented too rapidly.

C1.6.2.2. Submissions

561. There are around 200 submissions on Policy 5. Twelve submitters seek that it is deleted or provisions relating to long term land use are deleted as there is too much uncertainty for future land use activities which affect future farm planning. 88 submitters seek that it is retained. Several submitters that seek it is retained consider Policy 5 does not support Objectives 2, 4 and 5[39]. Therefore, they request: the NRP is removed and replaced with live weight standards or allocation; the 75th percentile is removed; the use of the Overseer model is removed; a sub catchment management approach is adopted; and appropriate mitigation strategies are adopted through tailored FEP's. These types of submission points are addressed in other sections of this Report.

[39] 11 Submitters

562. Various submitters suggest there is little scientific evidence that PC1 will reduce diffuse discharges to achieve long-term water quality targets[40]. G Gleeson suggests FEPs should assess appropriate land use options for each farm and encourage better science to determine which contaminants are of concern for each farm and sub-catchment. He also considers greater understanding about spatial location of natural resources should be developed to better inform and manage contaminant loss. Many also suggest the staged approach does not minimise social disruption or allow for innovation due to land use restrictions and costs[41]. S and A Kelton request incentives and compensation are provided for converting land to less intensive activities.

563. Many submitters seek the inclusion of a model of what farming and water quality will look like after 80/90 years[42]. J and F Sherlock consider PC1 should be less onerous for hill country farmers until future requirements of the staged approach are clear and requirements from the NPS-FM, such as stock exclusion, are adopted. P and K Woods and others consider there is no certainty beyond the 10 year timeframe and therefore PC1 should be extended to 30 years.

564. J Craig seeks an extension of the timeframes to enable alternative programmes to Overseer to be developed and R Smuts-Kennedy suggests PC1 should be staged over 40 years. Forest and Bird consider the 80 year timeframe to be excessive and Policy 5 signals little change is required. Therefore, they request Policy 5 is amend as follows:

> *Recognise that achieving the water quality attribute targets set out in Table 3.11-1 will need to be staged over ~~80 years to minimise social disruption and allow for innovation and new practices to develop, while making a start on reducing discharges of nitrogen, phosphorus, sediment and microbial pathogens, and preparing for further reductions that will be required in subsequent regional plans~~ 35 years, requiring reductions immediately, and additional reduction in the medium to long term where these are necessary to achieve the targets*

565. Other submitters also request the staged approach timeline is shortened as it is too long[43]. However, T Dunlop suggests the timeframe should be extended to allow Council more time to develop additional programmes. L and H Purdie suggest the timeframes for stock exclusion are too short. J Selwyn suggests the staged approach should occur over 40 years or earlier if effective mitigation methods are available. A few submitters suggest the timeframe should be replaced to require best current practices to be used[44]. A number of submitters also suggest including methods that look at land use capability, natural capital as the basis for nitrogen management, land-based allocation regimes, adaptive management approaches and BPO[45]. Fonterra suggest the lag times of nitrogen (or 'load to come' as discussed elsewhere in this Report) should be included within the timeframe.

566. Black Jack Farms suggests a staged approach should be adopted only for moderate to high dischargers and low discharge activities should be encouraged. Some submitters suggest there is inequity as low dischargers are being penalised for the level of discharge of intensive activities[46]. G Gleeson requests Policy 5 recognises the value of the industry to the community through the management of nitrogen losses within the sector.

567. Many submitters seek amendment to Policy 5 to recognise the economic disruption and trade implications of PC1 as they consider this may have an effect on the well-being of communities[47]. PLUG suggest an amendment to ensure suitable indicators are identified to measure social disruption. S Kamtaura suggests

[40] 14 Submitters
[41] 21 Submitters
[42] J and S Hart, J and M McClunie, T Williamson, Stokes Shorthorn Farm Ltd, G Simpson, M and C Ramsay Baker, J Simpson,
[43] S Edmonds, S June, A Robson
[44] A Robson, Save Lake Karapiro Inc
[45] Oji Fibre Solutions (NZ) Limited, R Clements, J Bailey, DoC, Wairakei Pastoral Ltd
[46] G Gleeson, J Craig
[47] 9 Submitters

Policy 5 should simplify the reference to social disruption and specify what part of the social arena or what events or activities are to be minimised and to include the approaches in a list.

568. A number of submitters seek amendments to Policy 5 including: the staged approach includes all contributing parties such as urban and industrial contamination[48]; Policy 5 recognises investment and changes made from previous plan changes so as not to lead to redundant investments in mitigations[49]; the reference to Table 3.11-1 should be removed as it should apply to the FMU's and not sub-catchments[50]; and agriculture should be treated with as much importance as regionally significant industry[51].

569. Charion Investment Trust, Fonterra and Fletcher Trust support Policy 5 however they consider for further clarity the Policy should include adverse social and economic effects, reference to making a start is removed, and recognition of achieving Objective 3 is included within the Policy. Three submitters seek the water quality attribute targets are removed and replaced with desired water quality states as they consider Policy 5 is inconsistent with national regulation[52].

570. G Kilgour and Beef and Lamb consider preparing for further reductions is not an appropriate means of achieving the objectives and as it increases uncertainty it should be removed. G Kilgour also suggests references to signalling further change should be removed as it is out of scope of PC1 and creates more uncertainty. He also seeks clarification of the word 'minimises' and how it will be quantified.

571. Beef and Lamb request the following amendment:

> *Recognise that achieving the water quality attribute targets in Table 3.11-1 may require significant reductions in discharges from some land uses, in sub-catchments which are currently over allocated. As such timeframes will need to be staged over 80 years, to ~~develop, while making a start on reducing discharges of Nitrogen, Phosphorus, sediment and microbial pathogens, and preparing for further reductions that will be required in subsequent regional plans.~~ provide for investment in infrastructure, remediation, mitigation, innovation, and farm optimisation, and in recognition that achieving water quality restoration takes time due to lag phases between changes in land management approaches and establishment of on farm and edge of field mitigation and resultant water quality improvements.*

572. FANZ and Federated Farmers consider further reductions may not be required in all sub-catchments. Wairakei Pastoral Ltd support Policy 5 but seek amendments to clarify the role of an enterprise in achieving Objective 1 and 3 and to strengthen the link with Objective 4. C Devine seeks the reasoning for the staged approach is deleted and suggest Policy 5 should include defined anticipated future limits on nitrogen allocation and Table 3.11-1 should define the anticipated future limits on N allocation at each 10 year period of the 80 year plan.

573. Federated Farmers seek amendment to Policy 5 to clarify that the water quality goals are an outcome anticipated by the Vision and Strategy, not the attribute targets set out in Table 3.11-1. They suggest Policy 5 should clarify that reductions will be required in sub-catchments that are over-allocated and that in some sub-catchments these will be significant and require planning for a range of actions, not limited to innovation and development of new practices. They also suggest managing and mitigation should be included where there is reference to reducing or reduction.

574. WRC seek amendments to recognise climate change as required by the NPS-FM. WRC notes in their submission that climate change will be addressed in subsequent plan changes as further information and increased understanding of climate change becomes available.

[48] J Hahn, M & R Johnston
[49] R & W Verry
[50] J Reeve,
[51] Maihiihii Farmers Group
[52] Winstone Aggregates, Fulton Hogan Limited, Fonterra

C1.6.2.3. Analysis

575. Policy 5 broadly sets out the course of action for the staged approach set out in PC1. It recognises that the land use changes required to achieve the Vision and Strategy would result in significant social and economic effects on landowners, if implemented too rapidly. However, Policy 5 only refers to social effects (referring to social disruption). The Officers agree with some submissions that this does not clearly also cover economic effects, and to ensure the amendments to Objective 4 as recommended by this Report are captured, the Officers consider that economic effects should be included in Policy 5.

576. Various submitters seek amendments to the Policy that have the effect of making it more certain or clear, without changing the outcome. Officers recommend these submissions are accepted, and have recommended a relatively significant rewording of the policy, to make it simpler and clear, without changing its intent.

577. Some submissions seek the 80 year timeframe is reduced to 35-40 years and some submissions seek an extension to the timeframe. In line with reasoning set out in Section B1 of this Report, Officers recommend submissions be rejected which seek any amendment to the 80 year timeframe as the staged approach.

578. A number of submitters request the NRP, the 75th percentile and the use of Overseer are removed and amendments to FEP's and Schedule C are made. Although these matters are not included in Policy 5, they are concerned about the costs and the economic disruption of complying with those provisions, which they say relates to minimising social disruption as described in Policy 5. Submissions relating to these provisions are addressed in other sections of this report.

579. In regards to submissions seeking amendments that recognise and enable sub-catchment approaches, the policies in PC1 already provide a pathway forward as a way of implementing the objectives. Officers do not consider that further amendments are necessary to provide for this in Policy 5. Also, the topic of sub-catchment approaches is discussed in other sections of this Report.

580. Beef and Lamb, FANZ and Federated Farmers seek that Policy 5 only applies to sub-catchments that are currently over-allocated. Officers note that all landowners are required to take action to improve water quality, regardless of whether their particular sub-catchment meets water quality targets, as relatively small contributions in multiple sub-catchments can cumulatively result in exceedances in water quality targets in the wider catchment, and the modelling undertaken has made some basic assumptions about the adoption of contaminant loss actions by all farmers. It is not recommended that these submissions are adopted as the main direction is for all land owners to take action to improve water quality.

581. Many submissions request PC1 includes methods that look at land use capability, natural capital as the basis for nitrogen management, land based allocation regimes, adaptive management approaches and BPOs. However, in the Officers' opinion, Policy 5 recognises why the achievement of the Vision and Strategy will need to occur over 80 years, it does not address the types of allocation regimes listed by the submitters. Officers do not consider that amendments are necessary to provide for this in Policy 5 as Policy 7 already deals with providing for allocation in the future.

582. With respect to Wairakei Pastoral Ltd's submission, Officers are unsure as to how the role of an enterprise could be usefully included in Policy 5 or what assistance this would provide to achieving long-term water quality improvements.

583. Officers consider it appropriate to accept the amendments on climate change sought by WRC as the NPS-FM requires that regional councils set freshwater objectives having regard to the reasonably foreseeable impacts of climate change (Policy A1(a)(i) of the NPS-FM). This amendment was sought to be made to Objective 1, however Officers consider it more appropriate that climate change impacts are recognised in the Policies of PC1.

C1.6.3. Policy 8

C1.6.3.1. Background

584. Policy 8 sets out the priority for implementation of on-farm actions to improve water quality. The aim of Policy 8 is to prioritise the sub-catchments that have to start the FEP process first. For rivers, this is primarily based on the gap between current water quality and the desired water quality. This prioritisation contributes to making the FEP approach more feasible to implement, monitor and enforce over time, and potentially more acceptable to the wider community.

585. Prioritisation recognises the significant level of resources and time that will be needed to implement PC1[53] and the prioritisation process is supported by sub-catchment planning. This approach means that effort will be made in those areas where water quality is particularly degraded and that the most benefits can be achieved through actions taken sooner[54].

C1.6.3.2. Submissions

586. There are over 115 submissions on Policy 8. 60 submissions request Policy 8 is retained and five submissions[55] request Policy 8 is deleted, generally as all landowners should be required to contribute to the reduction of contaminants regardless of the priority of sub-catchments. Many submitters consider scientific data needs to be provided for the specified sub-catchments and two submitters[56] suggest Policy 8 should include sub-catchment plans based on sub-catchment limits which enable targeted and prioritised actions. Beef and Lamb consider the establishment of catchment collaborative groups based on priority sub-catchments should be prioritised and reductions of N greater than the currently proposed 75th percentile should be required.

587. Two submitters seek the prioritisation of the 75th percentile nitrogen leaching dischargers for FEPs is removed from Policy 8 as all landowners should share the responsibility irrespective or sub-catchment or NRP[57]. J Reeves and A Taylor request the definition of the 75th percentile leaching value is amended to include all enterprises including commercial vegetable growers and point source discharges as no industry should receive special treatment. PLUG support the Policy but seek confirmation of the basis for the 75th percentile. Many suggest it should be the highest polluters who are required to reduce. Chris Falconer suggests all point source discharges are included as a top priority.

588. ACRE and M Wallace seek a lower percentile nitrogen leaching value of 50th percentile to be prioritised for FEP's and in Matters of Control in resource consents. M Wallace also seeks amendment to the reference to the 75th percentile to include any nitrogen leaching that exceeds the Nitrogen Discharge Limit applicable to the relevant property. S and T Stark suggest removing the reference to Table 3.11-1 and replacing it with regulations set out in the Ministry for the Environments Clean Water standards. Fulton Hogan and Winstone Aggregates seek an amendment to Policy 8 to ensure there is consistency with national regulation as follows:

> *Sub-catchments where there is a greater gap between the <u>desired</u> water quality ~~targets~~ <u>states</u>^ in Objective 1 (Table 3.11-1) and current water quality; and...*

589. Fonterra and Wairarapa Moana Inc suggest all activities with an obligation to prepare and submit a FEP are required to do so by 1 July 2020 as all sub-catchments impact water quality therefore should not be prioritised. Miraka Limited and Pouakani Trust seek the prioritisation of sub-catchments in relation to implementation of provisions is removed. However, they consider the allocation of council staff and resources, planning and funding should be retained. Some submitters seek Policy 8 is amended to include

[53] Waikato Regional Council 2016. Options for prioritising contaminant reductions to meet water quality limits. Report from TLG to the Collaborative Stakeholder Group - for Agreement and Approval, dated 11 February 2016. Document# 3691128.
[54] Waikato Regional Council 2016. Section 32 Evaluation Report for Plan Change 1 – Waikato and Waipa River Catchments
[55] Charion Investment Trust, Fletcher Trust, Ata Rangi 2015 Limited Partnership, S and T Stark, Fonterra
[56] Hill Country Farmers Group, Beef and Lamb
[57] Miraka Limited, Pouakani Trust

funding from WRC. Wairarapa Moana suggests revising sub-catchments so they align with the physical attributes of the area, which will aid in bench-marking of practice improvements.

590. A McGovern and others[58] seek clarification on 'a greater gap' in terms of a percentage or by way of a definition as they consider it is unclear what a greater gap is. Several submitters[59] seek that an enabling policy is added to allow for the management of horticultural enterprises between different sub-catchments. Pukekohe Vegetable Growers seek clarification on how sub-catchments are prioritised. WRC considers that, for clarity, where there is reference to priority sub-catchments and the 75th percentile nitrogen leaching dischargers, it is referring to Priority 1 sub-catchments.

591. Mercury NZ Limited suggest Policy 8 is amended as follows:

> *~~Prioritise the m~~ Management of land and water resources will be required in all sub-catchments by implementing Policies 1, 2, 3 and 9. Policy implementation will be prioritised in accordance with the priority rank set out in Table 3.11-2 for each sub-catchment, inclusive of Lakes Freshwater Management Units within the mapped sub-catchment. ~~and in accordance with the prioritisation of areas set out in Table 3.11-2. Priority areas include:~~*
> *~~Sub-catchments where there is a greater gap between the water quality targets^ in Objective 1 (Table 3.11-1) and current water quality; and~~*
> *~~Lakes Freshwater Management Units^; and~~*
> *In addition to the priority sub-catchments listed in Table 3.11-2, the 75th percentile nitrogen leaching value dischargers will also be prioritised for Farm Environment Plans.*

592. HFM suggest PC1 should have more of a focus on actual actions through Best Management Practices such as BPO, rather than bureaucracy, and if so the staged approach may not be required. Oji Ltd request Policy 8 is amended to be consistent with BPO.

593. Ravensdown and Southern Pastures Limited Partnership suggest Policy 8 should not be specific to the implementation of Policies 2, 3 and 9. Ravensdown seeks that Policy 8 references all policies, rather than just three. Southern Pastures Limited Partnership and FANZ seek the following amendments:

> *In addition to the priority sub-catchments listed in Table 3.11-2, the properties that exceed the 75th Percentile nitrogen leaching value dischargers will also be prioritised for the completion and implementation of Farm Environment Plans.*

594. DoC suggest all wetlands and lake sub-catchments should be included as Priority 1 in Table 3.11-2. Chris Falconer suggests Lake Waikare is added to clause c.

595. Wairakei Pastoral Ltd seek an amendment to Policy 8 as follows:

> *Providing for enterprises to apply for sub-catchment management resource consent applications for farming activities and commercial vegetable production, associated diffuse discharges, and land use change, in advance of the priority dates and events in Rule 3.11.5.4 and Table 3.11-2 will positively assist in achieving a tailored approach to sub-catchment mitigation and implementing Policies 2 and 9.*

596. Federated Farmers are concerned that the sub-catchments have been prioritised with a focus on N and not the worst contaminant or where the biggest gain can be made. They suggest prioritisation should be based on distance from the short term targets and not the 80-year targets. They also consider that to reflect other amendments requested elsewhere in their submission, the reference to water quality targets in Objective

[58] Waipapa Farms Ltd and Carlyle Holdings Ltd
[59] 15 Submitters

1 should be amended to make it clear it is the 10 year short term water quality targets that are to be referenced.

C1.6.3.3. Analysis

597. The CSG determined that as there are a large number of landowners within the catchments who will require significant support and advice from a number of industries, professional and Council advisors to implement PC1, implementation must be staged[60]. It was therefore identified that those sub-catchments with the greater gap between the desired water quality states and the current states pose the highest risk to achieving the 80 year water quality targets and action must be taken soonest to reduce the four contaminants entering those sub-catchments. The CSG explored different prioritisation options[61]. Overall, Officers consider that staging is necessary, and that priority has been determined through a robust and appropriate method.

598. Officers agree with the submission of Fonterra to 'speed implementation up', but question how viable this is for sectors that are less prepared than dairy farming. Overall, Officers do not agree that prioritisation should be deleted because it is necessary to spread the FEP development and consenting process over several years. However, Officers do suggest prioritisation is more specific in terms of who is prioritised, such as some farming sectors. Therefore, Officers consider that in addition to the prioritisation of areas set out in Table 3.11-2, prioritising lake catchments, CVP and dairy farming would assist with achieving necessary reductions in contaminant losses in the shortest time. However, Officers are mindful of 'overloading' the first phase of implementation, particularly by including all dairy farming. Many of these farms will be in Priority 1 sub-catchments in any event, but Officers invite evidence from the dairy sector as to whether this is achievable. In the interim, this recommended amendment is bracketed as an option for the Panel to consider, and a final recommendation will be made in the reply report at the end of the hearing.

599. In regards to the submission by DoC, Officers agree in part that significant lakes and wetlands should not be the lowest priority. The prioritisation of these sub-catchments and re-prioritisation of lakes and wetlands sub-catchments are discussed in earlier sections of this report and have resulted in recommended changes to Table 3.11-2. Lake Waikare is included in the Lakes FMUs and has been prioritised as a Priority 1 sub-catchment. Therefore, the Officers do not support the amendment requested by C Falconer to include Lake Waikare in clause c as its catchment is already now recommended to be Priority 1. However, Officers agree that in other locations, farms that are in lake catchments generally ought to be addressed at the earliest possible time, given the sensitivity of lakes and difficulty of remedying lake deterioration.

600. The more general requests to remove the NRP from PC1, amend the value of the 75th percentile, adopt a BPO approach, include point source discharges, and a sub-catchment approach as an alternative approach, are all discussed in other sections of this Report.

601. Officers agree with the amendments requested by WRC to clarify that the reference in Policy 8 to priority sub-catchments and those farms in the 75th percentile refer to Priority 1 sub-catchments. However, as those sub-catchments are explicitly listed in Table 3.11-2 and with the Officers' recommended amendments to include dairy farming, it is not necessary to retain the reference to the 75th percentile nitrogen leaching value.

602. Officers agree with submissions which suggest clarification of the references to Objective 1 or Table 3.11-1. Officers understand that Table 3.11-2 establishes a priority based on the gap between current and long-term desired water quality. Therefore, Officers recommend that the Policy should refer to the Table, rather

[60] Waikato Regional Council 2016. Options for prioritising contaminant reductions to meet water quality limits. Report from TLG to the Collaborative Stakeholder Group - for Agreement and Approval, dated 11 February 2016. Document# 3691128.

[61] Waikato Regional Council 2016. Options for prioritising contaminant reductions to meet water quality limits. Report from TLG to the Collaborative Stakeholder Group - for Agreement and Approval, dated 11 February 2016. Document# 3691128.

than the various objectives and water quality states. As the policies are inherently there to achieve the objectives, the repeated references to the Objectives in the policies are not necessary.

603. Officers agree with Mercury NZ Limited that the sub-catchments referred to in clause (a) equate to those that are proposed to be Priority 1 ranked[62]. However, the amendments proposed to Policy 8 by Mercury NZ Limited make no real change to the context, therefore Officers do not consider that the amendment sought would improve the provision. Officers agree with Ravensdown and Mercury NZ Limited that prioritisation is wider than just implementation of Policies 2, 3 and 9 as prioritisation applies to other factors such as providing information and consents. Therefore, reference to those policies are recommended to be deleted.

604. The amendment sought by Wairakei Pastoral Ltd needs to be considered in the wider context of the submitter's amendments to other provisions, particularly in relation to sub-catchment resource consents. Officers question whether a policy is the appropriate place to make such a change, as the rule framework is the more appropriate place for indicating if a resource consent can be, or needs to be, applied for.

C1.6.4. Schedule A

C1.6.4.1. Background

605. Schedule A of PC1 sets out the required information and compliance dates for the registration with WRC of all rural properties with an area greater than two hectares. Schedule A is referenced mainly in permitted and controlled activity rules and is the primary method by which WRC will obtain information on farming activities not operating under a resource consent and for that period of time before a resource consent is required to be applied for.

C1.6.4.2. Submissions

606. Overall there are well over 100 submissions received on Schedule A. Approximately 40 oppose the schedule, with some seeking amendments. Approximately 90 support the schedule, but most of those in support seek amendments. Several other submissions were unclear if they support or oppose the schedule.

607. Greater flexibility around the specified timeframes within Schedule A has been requested by various submitters as:

- there are concerns that the timeframes are too short[63] and should be tied in with PC1 being made operative[64];
- there will not be a sufficient number of certified consultants to assist with the FEP development and processing within the timeframes of Schedule A[65]; and
- the timeframes are unfair due to low stocking rates at the date of notification and therefore should be tied to the end of the farming season[66].

608. DairyNZ suggests the registration date should not be pushed back and requests it remains at the original date of 1 May 2019 to ensure the attention of communities is focused on PC1 and to increase awareness of requirements and provisions. Fonterra and Oji Ltd also suggest registration should occur between 1 September 2018 and 31 March 2019 as delaying registration may allow for inflated farm metrics to be used, and to ensure there are no delays in progressing PC1 and that baseline information is provided in a timely manner.

[62] Waikato Regional Council 2016. Options for prioritising contaminant reductions to meet water quality limits. Report from TLG to the Collaborative Stakeholder Group - for Agreement and Approval, dated 11 February 2016. Document# 3691128.
[63] M Sherriff & K Tatham
[64] Ballance Agri-Nutrients Ltd supported by Fertiliser Association of New Zealand
[65] Ashdale Enterprises Ltd
[66] H & I Bell

609. Federated Farmers suggests the purpose of seeking information should be clearly stated. HFM requests clarification on whether Schedule A requires registration of forestry blocks, and if so, it is requested that Schedule A takes into account: the ability to enter valuation numbers to bring up property titles and multiple properties as one entry; generating boundary maps and land area once property titles are entered; having a default system once plantation forestry is entered to end the entry input requirements; and to allow for a forest name rather than a street address. Oji Ltd consider Clause 5(d) should refer to land use activities undertaken on the property in the preceding year as they suggest it currently effectively grandparents discharge rights. Fonterra request an addition to Clause 6 to ensure property holders wishing to use the alternative Nitrogen Risk Scorecard compliance mechanism register as soon as possible with the peak stocking rate during the reference period 2014/15 and 2015/16.

610. M Sheriff & K Tatham suggest deleting clauses 6a (ii) & (iii) because identifying each water body on a farm is a huge task. They also request clarification is provided about whether clause 5(f) refers to an average stocking rate or a number at a particular date in time. Other submitters have also suggested that there should be clarification on how the registration process will operate[67], and that the policies, methods and definitions which refer to Schedule A should do so consistently [68].

611. R Bain requests that all properties should have to meet the same requirements under council plans and resource consents regardless of property size. Other submitters oppose any requirements to register unless there is scientific evidence which demonstrates their farming activity is having a direct adverse effect on water quality outcomes within their sub-catchment[69]. Others want to clarify if the required stocking rate is based on effective grazable land or the total property area, and if necessary, seek the inclusion of an effective area assessment[70].

612. Some submitters want to raise the minimum area of land threshold to greater than 2 hectares and/or include urban land[71]. Others seek clarification that WRC is mandated to request the required information and want their privacy rights protected[72]. DoC request that information should be collected over a shorter period of time, stocking numbers should be verified through reconciliations/receipts, and information should be updated regularly, such as six monthly, including the stocking numbers and land size[73]. Other submitters want the stocking rate removed entirely or amended to require the maximum intended stocking rate at the time of registration[74].

613. Tangata whenua submitters seek that a map of each property is provided showing all land parcels, legal descriptions for individual land parcels, and confirmation of water bodies affected by Schedule C for stock exclusion.

614. Matamata Piako DC and South Waikato DC want WRC to provide more guidance on mapping and input requirements, and seek justification in the section 32 evaluation that this is the preferred approach to achieve the desired outcomes of the Vision and Strategy. NZ Transport Agency (NZTA) seeks clarification on the term 'urban properties'. Other submitters query the seasonality of the information and propose that clause 5(d) should refer to land use activities from the preceding year or form part of the FEP process[75].

615. WRC suggests that Schedule A should be amended to increase the minimum property area captured from 2 hectares to 4.1 hectares (excluding urban properties), specify timeframes under clause 3 in which proof of registration is to be provided on request, clarifying "land owner", and clarifying that stocking rates under clause 5(f) are only required where the land is used for grazing and no NRP is required for the property

[67] Ballance Agri-Nutrients Limited
[68] Federated Farmers
[69] Such as Black Jack Farms, Cotman, J., Lean, P.
[70] P Brodie, Federated Farmers
[71] Callaghan, M, Carey, R.A, Guitry, G., Koppens, L., Matamata-Piako DC, McGovern, A, Schuler Brothers Ltd, Sieling Farms, Tamahere Community Committee, Treweek, G., Waipapa Farms Ltd and Carlyle Holdings Ltd
[72] Cheyne, D., Huirimu Farms Ltd. Hurley, S., Wagstaff, N&S, Win Dee Farms (2007) Ltd, Federated Farmers
[73] DoC
[74] Liefting, J, Oliver, W&K, Wilcock, G&R
[75] Oji Fibre Solutions (NZ) Limited, Ransley, A&K, Beef and Lamb New Zealand Limited

under PC1. Waipā DC and Waitomo DC suggest section 5(b) should include legal descriptions and certificates of title (computer freehold registers) for all land in the property and, if the property forms part of an enterprise, the name of that enterprise.

C1.6.4.3. Analysis

616. The intent of Schedule A is to assist in the implementation of the policies, rules and methods of PC1, by gathering baseline information which is not currently held by any agency. Each landowner would be required to register with WRC and provide general property information within a specified timeframe, which could then be used to help set implementation priorities and assist in identifying landowners who may comply with the permitted activity rules proposed for small and low intensity farming activities. It will also assist WRC with implementation of the stock exclusion Schedule C and land use change Rule 3.11.5.7.

617. It is estimated there are approximately 10,000 rural properties in the Waikato and Waipā catchments that would need to be registered[76]. The Section 32 Report has already implied that the burden of registering will be kept to a minimum by developing an online portal to guide landowners through the registration process and to enable information already held by Council to be verified by the landowner. Requiring properties operating under the rules in PC1 to register with WRC is also proposed to improve the implementation effectiveness and ability to enforce the rules.

618. Some landowners are concerned about sharing information about their farming operations and are apprehensive about commercially sensitive and private information becoming publicly accessible. The safe management of farm and landowner information is an important matter for WRC. There are a number of Acts that control information collected by Council including the Local Government Official Information and Meetings Act 1987 (LGOIMA), the Privacy Act 1993, and the Public Records Act 2005. WRC is required to comply with such Acts and to manage farm information responsibly. One of the purposes of the LGOIMA is to "protect official information held by local authorities and the deliberations of local authorities to the extent consistent with the public interest and the preservation of personal privacy". The process of determining whether information requested is to be made available or withheld is specified in Part 1 of the LGOIMA. Any LGOIMA request received by Council will be considered on a case by case basis on its merits in accordance with the guidance provided within the LGOIMA, including the specific considerations detailed in Part 1. That said, it is expected that requests for farm-specific personal or financial information from the registration process would almost invariably fall within a specified reason of withholding information in Part 1 of the LGOIMA. As such, Officers consider it unlikely that any requests to access farming operation information supplied to WRC would be granted.

619. In relation to submissions regarding online mapping, this is a developing area, with on-line mapping tools becoming more common and easier to use. While clearly a preferable option, as it is an emerging area, Officers prefer not to specify a particular process or technology. In relation to submissions seeking to clarify the basis for stocking rate calculations, these are addressed in relation to the stocking rate definition. However, it is also acknowledged that where a NRP is required, stocking information is inherently required in the NRP calculation, so does not need to be repeated through registration, if the timeframe for registration and the NRP coincide.

620. In relation to submissions which seek to amend the threshold area of land for registration to greater than 2 hectares, Officers agree it would be appropriate to increase the minimum area captured to 4.1 hectares as this is consistent with the limits already outlined in Rule 3.11.5.1. Officers agree with other amendments requested by WRC such as: providing proof of registration within 7 days of a request by WRC as it provides a specific timeframe for information to be provided in a timely manner; amending Clause 5 to read all land owners instead of property owners as it is consistent with terminology used throughout the Plan; and amending Clause 5(f) to include where no NRP is required as stocking rate is an input parameter for the

[76] Dragten, R, 2016. The regulatory Implementation Implications of the Healthy Rivers Wai Ora Plan Change 1. Report by Rob Dragten for Waikato Regional Council, Document #8405574

NRP and it would be unnecessary to request duplicate information for parties who will need to register and provide an NRP.

621. Territorial authorities also suggest clause 5(b) should include legal descriptions and certificates of title (computer freehold registers) references for all of the land parcels comprising the property and if the property forms part of an enterprise, the name of that enterprise should also be provided. All of these changes would improve the implementation of PC1. However, Officers note that much of this information is already publicly available or held by WRC, so should be able to part of a simplified 'confirm it is correct' on-line registration process. Therefore, Officers agree with submissions as listed above and have included several amendments reflecting these changes in the recommendations.

622. In relation to submitters who wish to increase the stocking rate to the 'maximum intended stocking rate' at the time of registration, Officers agree that may be useful information, but there are likely to be widely differing assumptions as to imported feed use or fertiliser regimes, making such information speculative, and overall unlikely to be helpful in limiting diffuse discharges. Officers consider it essential to continue to include the stocking rate at the date of notification, which by definition is an annual average. In relation to DoC's submission, the intent of Schedule A is to assist in the implementation of the policies, rules and methods of PC1 and FEP's by gathering baseline information, therefore it is not appropriate to require updated information six monthly. Also, it is inappropriate to require verification through reconciliations/receipts for stocking rates as these are required through the FEP, NRP and rule framework and it would be an overly onerous administrative burden for Permitted Activity Rule 3.11.5.1 to require this information to be submitted as that rule applies to many farms in the PC1 area.

623. NZTA seek clarification of the definition of urban properties. "Urban" is not included in the glossary of terms in PC1. However, urban is defined in the Oxford dictionary as 'in relation to, or characteristic of a town or city'. On that basis, Officers consider the definition adequately clear on its plain reading. If NZTA is concerned that infrastructure could be inadvertently caught, an adjustment could be made to ensure that is not the case. NZTA is invited to address this point at the hearing.

624. Some submissions are about the timing of the description of land use activity or activities undertaken on the property as at 22 October 2016. As outlined in the Section 32 Report, the reference period sets the start-point for PC1 process and relates to the actions required in the first 10 years of the process to achieve the Vision and Strategy. Therefore, Officers do not agree with submitters who wish to change the timing of registration.

C1.6.5. Definitions

625. Definitions relevant to this section of the report are:

75^{th} percentile nitrogen leaching value
Arable cropping
Certified Farm Nutrient Advisor
Certified Industry Scheme/s
Cultivation
Dairy Farming
Diffuse discharge/s
Drain
Escherichia coli (*E.coli*)
Farming activities
Forage crop
Livestock crossing structure
Mahinga kai
Microbial pathogen/s

Milking platform
Nitrogen Reference Point
Point source discharge/s
Restoration
Setback
Stock unit
Tangata whenua ancestral lands
Woody vegetation

626. Submissions in support, or no submissions were received on *E.coli*, Mahinga kai, Microbial pathogen/s and Woody vegetation, so they are not discussed further, and no changes are recommended.

627. Some submissions are dealt with in the most relevant part of this report:

75th percentile nitrogen leaching value (Reductions)
Certified Industry Scheme/s (Schemes)
Forage crop (Grazing and Cultivation)
Cultivation (Grazing and Cultivation)
Livestock crossing structure (Stock Exclusion)
Nitrogen Reference Point (Overseer)
Setback (Grazing and Cultivation)
Tangata whenua ancestral lands (Māori Ancestral Land)

628. The remaining definitions are addressed below.

C1.6.6. Arable cropping

C1.6.6.1. Background

629. Arable cropping is defined as:

> ***Arable cropping:*** *means the following arable crops:*
>
> *i. grain cereal, legume and pulse grain crops*
> *ii. herbage seed crops*
> *iii. oilseeds*
> *iv. crops grown for seed multiplication for use in New Zealand or overseas*
> *v. hybrid and open pollinated vegetable and flower seeds*
>
> *and includes maize grain, maize silage, cereal silage, and mangels.*

C1.6.6.2. Submissions

630. Six submissions were received on the definition of arable cropping, two support the definition with amendments, two are unclear whether they support or oppose the definition, one supports the definition, and one opposes the definition with amendments.

631. Ata Rangi and Southern Pastures Limited Partnership support the definition subject to clarification as they consider the seasonal rotation between arable crops and stock grazing to be common practice for dairy farms and note that it would be unduly onerous and impractical for these land use changes to require resource consent. As such, they request amendments to the definition to clarify that Rule 3.11.5.7 does not include the rotation of crops and stock grazing on a seasonal basis, which forms part of day to day farming activities.

632. Others note the arbitrary delineation in requirements between properties growing crops for stock, compared to growing the same species for human consumption, which creates issues for future land use and changes between varieties of the same species[77]. Forest and Bird support the retention of the definition.

C1.6.6.3. Analysis

633. In the Officers' view, the definition itself appears to accurately reflect what crop species comprise 'arable cropping' and the submissions do not appear to be on the wording of the definition itself. Rather, it is the application of the definition in PC1, and in Rule 3.11.5.7 in particular, which is the issue. Most of the submissions received on the definition relate to potential restrictions under the land use change provisions, future allocation rights, and conflicts with the definition of Commercial Vegetable Production. These matters are addressed elsewhere in this report. No amendments are recommended.

C1.6.7. Certified Farm Nutrient Advisor

C1.6.7.1. Background

634. In accordance with Schedule B of PC1, an NRP must be calculated by a Certified Farm Nutrient Advisor (CFNA) to determine the amount of nitrogen being leached from a property or enterprise during the relevant reference period. The CFNA must calculate an NRP using the current version of the Overseer model, or any other model approved by the Chief Executive of WRC.

635. A CFNA is defined under PC1 as:

> ***Certified Farm Nutrient Advisor****: is a person certified by the Chief Executive Officer of Waikato Regional Council and listed on the Waikato Regional Council website as a certified farm nutrient advisor and has the following qualifications and experience:*
> *a. Has completed nutrient management training to at least intermediate level, and*
> *b. Has experience in nutrient management planning.*

636. The role of the CFNA is distinct from a 'Certified Farm Environment Planner' (CFEP), as the latter must have a minimum of five years experience in a range of farm systems, completed advanced training or a tertiary qualification in sustainable nutrient management, and have experience in soil conservation and sediment management.

C1.6.7.2. Submissions

637. Overall there were 20 submissions received on the definition of CFNA, eight support the definition with amendments, six oppose the definition, and six oppose the definition with amendments. Some submitters seek the definition to be amended to CNMA, who is a person certified under the Nutrient Management Adviser Certification Programme Limited, to ensure consistency with the industry certification scheme and the skill level required[78].

638. Others consider the definition lacks clarity or is too basic and seek further clarification as to what qualifications are held by a CFNA as well as requesting the minimum requirements for nutrient management training to be increased to an advanced level and/or a minimum amount of nutrient management planning experience to be specified to ensure they are suitably qualified[79].

639. Waipā District Council and Waitomo DC seek that WRC rationalise the definitions of CFNA and CNMA in PC1 and the WRP respectively, so they are the same in order to avoid confusion between the two terms.

[77] Pukerimu Farms Limited, Strang and Strange Limited, Waiawa Farms.
[78] Ballance, FANZ, Ravensdown.
[79] S.C.T Carter, DairyNZ, Genetic Technologies Ltd, A McGovern, NZIPIM-W, Oji, Forest and Bird, Waipapa Farms Ltd and Carlyle Holdings Ltd, S.J Williams.

640. HortNZ seek amendments to the definition to ensure that there is provision for a broader range of competencies as they consider the definition in its current state is too focused on Overseer model qualifications to provide for a vegetable production nutrient budget.

641. NZ Pork support the definition but are concerned that a certification programme will limit the number of competent practitioners and increase costs to farmers. Therefore, NZ Pork seeks to remove the need for advisors to become certified by the Chief Executive Officer of WRC. Others also express concern with the deadlines set out in PC1 for submitting NRPs and the need to have a sufficient pool of CFNA available to meet the demand within the required timeframes[80].

642. One submitter wants the definition to be amended to ensure that any certified persons are not WRC staff members[81]. Others seek the definitions for CFNA and CFEP to be the same and want to ensure existing professional organisation certification lists are used[82].

C1.6.7.3. Analysis

643. It is estimated that approximately 5000 properties will need to calculate a NRP. PC1 requires each landowner subject to a NRP to operate at or below that set level as a part of their FEP. Some high leaching pastoral properties will also be required to reduce diffuse discharges of nitrogen to at or below the 75th percentile nitrogen leaching value, which will be calculated using all of the NRP values for dairy farming properties and enterprises within each FMU.

644. Ensuring NRPs are accurate, robust and consistent across the board is therefore vital to the implementation of PC1 and for developing an information base for future planning. In relation to submissions suggesting the definition is vague or sets the bar too low, the Officers agree and consider the implications of inadequate nutrient modelling could potentially undermine the intent and outcomes of PC1. NRPs calculated by advisors lacking the necessary technical skills could lead to potential intensification on some properties, while other landowners may be unfairly restricted. Therefore, Officers recommend that the minimum nutrient management training required is raised to an advanced level to ensure that advisors are suitably qualified.

645. In terms of the level of experience required, Officers agree with submissions seeking a minimum number of years to be specified in the definition. Holding the necessary qualification and/or having completed the required training does not guarantee that these skills are immediately transferred into modelling nutrient budgets for a range of farming systems, which will vary in scale and complexity. As such, Officers recommend a minimum of two years experience in nutrient management planning be required. The amendment will ensure that advisors have an adequate level of practical and technical experience while still enabling a sufficient pool of advisors to be available.

646. In relation to submissions seeking to amend the definition to CNMA, Officers agree that a person certified under the Nutrient Management Adviser Certification Programme Ltd will be appropriately qualified. On this basis, the Officers recommend the inclusion of CNMAs as meeting the criteria for CFNA, with only a requirement to follow the procedures and guidelines set out by WRC and receive audits.

647. In relation to NZ Pork's submission seeking the removal of the WRC certification programme for advisors, Officers disagree and consider that requiring the certification of advisors is necessary to provide for consistency across the board. Further, the auditing of advisors is recommended by Officers as an additional action available to be undertaken by WRC to ensure the advisors are practicing in accordance with the appropriate procedures[83] and are meeting the required standards. The availability of audits will also

[80] DairyNZ, A McGovern, Waipapa Farms Ltd and Carlyle Holdings Ltd.
[81] D Fogerty.
[82] J.M. Reeve, S.J. Williams.
[83] See comments on WRC's Overseer input documentation in the section of this report related to the use of Overseer.

address HortNZ's concerns by ensuring that all nutrient budgets are robust and reliable, regardless of the farming system modelled.

648. In relation to the submission requesting all CFNA positions to be held outside of Council, Officers do not consider this to be relevant to the provision. Furthermore, each farmer will have the opportunity to select an advisor from the pool listed on the WRC website.

649. The recommended amendments to the definition will ensure that an appropriate balance is struck between qualifications, experience, and the number of advisors.

C1.6.8. Dairy Farming and Milking Platform

C1.6.8.1. Background

650. Dairy Farming is defined in PC1 as the following:

> ***Dairy Farming****: means farming of dairy cows on a milking platform for milk production.*

651. Milking platform is defined in PC1 as the following:

> ***Milking platform:*** *means that area devoted to feeding cows on a daily basis during the milking season.*

C1.6.8.2. Submissions

652. Two submissions were received on the definition of dairy farming, one supports the definition, and one supports the definition with amendments. Dairy Goat Co-Operative (N.Z) Ltd supports the definition as it does not encapsulate dairy goat farming, as farm management, animal management practices and potentially contaminant losses are considered to differ between cow-based systems and other dairy systems.

653. Forest and Bird consider the definition is ambiguous and seek an amendment to ensure that all activities associated with dairy farming and those that occur outside the milking season are also included.

654. One submission was received on the definition of milking platform. Pamu Farms oppose the definition and consider it lacks certainty as dynamic farming operations responding to industry trends towards winter milking may be unnecessarily restricted. Therefore, Pamu Farms request the definition is amended to accommodate integral cut and carry operations, variable support areas (and blocks) and how winter milking businesses operate, now and in future.

C1.6.8.3. Analysis

655. Within PC1, the definitions for dairy farming and milking platform are relevant to the land use change provisions, including Rule 3.11.5.7. As the definitions are inherently related, they are assessed together.

656. Officers agree with Forest and Bird and Pamu Farms that the definitions could be interpreted very narrowly, such that activities on other parts of a dairy farm, or on the 'off-season' would not be considered. Similarly, there are some farms for which the dairy farming component is only a proportion of the larger farming operation. Officers have recommended some minor changes to remove some redundant words, remove the reference to the milking season, and add in areas where feed is grown for the dairy cows within the property.

C1.6.9. Diffuse Discharge/s

C1.6.9.1. Background

657. Diffuse discharges are defined within PC1 as follows:

> ***Diffuse discharge/s:*** *For the purposes of Chapter 3.11, means the discharge of contaminants that results from land use activities including cropping and the grazing of livestock and includes non-point source discharges.*

C1.6.9.2. Submissions

658. Two submissions were received on the definition of diffuse discharge/s, with one supporting the provision, and one opposing the provision with amendments.

659. FANZ consider commonly used terms should be applied consistently on a national scale, with its application made clear in the provisions on PC1. They consider the definition is ambiguous, and at face value applies to all discharges. They have suggested a definition as follows:

> ***Diffuse discharge/s:*** *Means losses to the environment which are not from a point source, and have potential to contribute to a cumulative impact on the receiving environment.*
>
> *For the purposes of Chapter 3.11, means the losses that result from land use activities, including cropping, forestry and the grazing of livestock, which are not from point source discharges and have potential to contribute to a cumulative impact on the receiving environment.*

C1.6.9.3. Analysis

660. Chapter 3.11 of PC1 includes, objectives, policies and schedules related to the Waikato and Waipā River Catchments. The references to diffuse discharge/s generally take one of two forms, either:

- Referring to discharges from farming activities or CVP; or
- Referring to one or more of several named contaminants (nitrogen, phosphorus, sediment and microbial pathogens).

661. Under the existing WRP, discharges are referred to and defined as point source or non-point source, with no limitations on the type of activity the discharge results from. They are defined as follows:

> ***Point source discharge:*** *A stationary or fixed facility from which contaminants are discharged or emitted.*
>
> ***Non-point source discharge:*** *Contamination sources which are diffuse and do not have a single point of origin or are not introduced into the receiving environment from a specific outlet.*

662. Officers consider that the most important distinction between the existing discharge definitions and the diffuse discharge is that the latter is specifically for discharges resulting from farming land use activities covered within Chapter 3.11.

663. While the definition could potentially be improved, the only submission is not, in the Officers' opinion, helpful, as it contains a subjective element "…have potential to contribute to a cumulative impact…" and otherwise does not improve clarity or certainty. On this basis, no changes are recommended.

C1.6.10. Drain

C1.6.10.1.Background

664. A drain is defined within PC1 as follows:

> ***Drain:*** *For the purposes of Chapter 3.11, means an artificially created channel designed to lower the water table and/or reduce surface flood risk but does not include any modified (e.g. straightened) natural watercourse.*

C1.6.10.2.Submissions

665. Two submissions were received on the definition of drain, with one supporting the provision, and one supporting the provision with amendments.

666. FANZ supports the definition, subject to clarification for the definition to apply only to open channels.

C1.6.10.3.Analysis

667. Chapter 3.11 of PC1 includes, objectives, policies and schedules related to the Waikato and Waipā River Catchments. The references to drains generally relate to stock exclusion provisions.

668. Officers consider that the suggested amendment will improve clarity of the definition, as by their nature closed drains are sub-surface, so do not represent a surface water feature from which stock need to be excluded.

C1.6.11. Farming Activities

C1.6.11.1.Background

669. Farming activities are defined within PC1 as follows:

> ***Farming activities:*** *For the purposes of Chapter 3.11, the grazing of animals or the growing of produce, including crops, commercial vegetable production and orchard produce but not does not include planted production forest or the growing of crops on land irrigated by consented municipal wastewater discharges.*

C1.6.11.2.Submissions

670. Six submissions were received on the definition of farming activities, with two supporting the provision with amendments, two opposing the provision, and two opposing the provision with amendments.

671. Several submitters[84] question why land irrigated by municipal wastewater discharge is not a farming activity. One submitter seeks that farming should be confined to commercial activities only, while another questioned whether cut and carry and grazing grass for fire reduction purposes would be considered farming activities.

672. Two submitters identified inconsistencies between the existing definition of farming activities in the WRP and PC1. In particular, the change in reference from market gardens to CVP is identified, with a request that the definitions for farming activities be rationalised in the WRP and PC1.

[84] Federated Farmers, Waipa DC, Waitomo DC

C1.6.11.3.Analysis

673. Land irrigated by waste water discharges has been specifically excluded from the definition as these activities are always covered by a separate discharge consent that will generally address N and P loads, in accordance with Chapter 3.5 of the WRP.

674. Officers acknowledge the need to exclude the grazing of animals and growing of produce where it is for personal or family consumption or use, and have recommended a change to the definition to reflect this.

675. The growing of grass for harvesting and utilisation off-site, such as cut and carry systems, hay, baleage and silage is considered by Officers to fall under the growing of produce including crops.

676. As identified by two submitters, farming activities are already defined in the WRP as follows:

> ***Farming activities:*** *The grazing of animals or the growing of produce, including crops, market gardens and orchard produce but not including planted production forest and ancillary grazing of animals or cropping.*

677. The WRP does not define market gardens or ancillary grazing but does define planted production forest.

678. PC1 defines CVP and includes some additional exclusions. The PC1 definition is limited to applying to Chapter 3.11. Officers agree that rationalisation of the two definitions would be preferred, but the PC1 definition contains important elements that would be lost if the WRP definition was to be used. To assist with reducing confusion between the definitions, Officers recommend the PC1 definition be simplified to "farming".

679. In line with discussion in other parts of this Report, the definition is also recommended to extend the list of activities not counted as 'farming', and therefore not subject to the PC1 management system. This primarily relates to horses and growing or production taking place wholly within structures such as chicken rearing sheds or glasshouses, as any diffuse discharges are generally captured.

C1.6.12. Point Source Discharges

C1.6.12.1.Background

680. Point source discharge/s are defined within PC1 as follows:

> ***Point source discharge:*** *For the purposes of Chapter 3.11, means discharges from a stationary or fixed facility, including the irrigation onto land from consented industrial and municipal wastewater systems.*

C1.6.12.2.Submissions

681. Ten submissions were received on the definition of point source discharge/s, two support the provision, five support the provision with amendments, two oppose the provision and one opposes the provision with amendments.

682. AFFCO seek that the definition is amended so that it refers to industrial and municipal wastewater systems, and deletes reference to these being 'consented'. They consider that the latter reference is problematic because any new point source activity, or an activity seeking renewal or variation of an existing and expired consent would not, in their view, be covered by the definition.

683. Fonterra opposes the provision as it is not consistent with the existing definition of Point Source Discharge within the WRP, which is identified as follows:

> ***Point source discharges:*** *A stationary or fixed facility from which contaminants are discharged or emitted.*

684. However, Fonterra supports the intention to include municipal and industrial discharges to land and suggests an alternative definition to achieve this would be more appropriate. The submitter also considers that only one definition within the WRP is necessary. Therefore, the submission seeks to delete the PC1 definition and amend the existing WRP definition. In the case that the submission to amend the existing definition within the WRP is considered to be outside the scope of a submission on PC1, a replacement definition for PC1 is proposed. Both Fonterra and Forest and Bird request a point source discharge to be defined as a discharge from a specific and identifiable outlet onto or into land, a water body or the sea.

685. WRC seek the definition to be amended to exclude infrastructure that provides a conduit for water flow including flood protection and land drainage infrastructure. Hamilton CC consider that it is unclear whether or not the definition includes storm water outlets. As such, they request amendments to include the discharge from a storm water outlet so that these outlets can benefit from the policies relating to point source discharges. Additionally, Hamilton CC seeks the definition be amended to exclude discharges from culverts unless the culvert is also a storm water outlet. The submission also notes that the term 'facility' is included in notified definition but is not defined in either PC1 or the WRP.

686. Oji Ltd considers the definition is appropriate and necessary. On this basis, the submitter seeks that the definition is retained. Wairakei Pastoral Ltd suggest the definition should be amended to include reference to discharges associated with farming land use activities.

C1.6.12.3.Analysis

687. PC1 includes four policies (Policies 10-13) that provide specific direction on the management of point source discharges. The existing Regional Plan already has rules for point source discharges and PC1 does not include any additional rules. As such, PC1 is intended to provide more specific guidance, at the policy level, to guide the assessment of resource consent applications for point source discharges. It is intended that these policies assist in ensuring that such activities are managed to achieve the new objectives introduced in PC1.

688. In the Officers' opinion, there is benefit in having a consistent definition across the WRP, as these policies apply to rules that relate to the existing WRP definition. While the WRP definition could possibly be improved, as suggested by Forest and Bird and Fonterra, or clarified, as suggested by Hamilton CC and WRC, this would likely be outside the scope of PC1. Therefore, any changes to this definition need to be in the context of the existing WRP definition and application of those rules.

689. To ensure consistency, Officers suggest a minor re-wording, so that the existing WRP definition is replicated, with the inclusion of irrigation onto land from industrial and municipal wastewater systems. Officers agree with AFFCO that the definition should not be subject to whether an activity has a resource consent or not – that might create uncertainty as to what policies and rules apply.

C1.6.13. Restoration

C1.6.13.1.Background

690. Restoration is defined within PC1 as follows:

> ***Restoration:*** *is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed. It is an intentional activity that initiates or accelerates an ecological pathway, or trajectory through time, towards a reference state consistent with Objective 1.*

C1.6.13.2.Submissions

691. Four submissions were received on the definition of restoration, with one supporting the definition, two supporting the definition with amendments and one opposing the definition.

692. The WRC supports the definition, but requests that it is specific to PC1 only.

693. Federated Farmers oppose the submission, stating that the term is subjective and does not appear to be used in Chapter 3.11 of PC1, or link with any of the provisions.

C1.6.13.3.Analysis

694. The Vision and Strategy for the Waikato River, included in the Waikato Regional Policy Statement (WRPS), introduces the idea of restoration of not only the Waikato River, but also the relationships of Waikato-Tainui, Waikato River Iwi and the Waikato region's communities with the river, across economic, social, cultural and spiritual spaces. Restoration is not defined in the WRPS or the Vision and Strategy.

695. The concept of restoration is mentioned in several objectives and in Policy 15. Restoration is also referenced in some of the implementation methods, with the scope expanded to include hydrological, revegetation and biodiversity restoration.

696. Officers are concerned that the application and definition of restoration in PC1 is inconsistent with its use in the Vision and Strategy and potentially some uses in PC1, as the defined term is limited to ecosystems. Most uses of the term in PC1 are specific to the restoration of a particular thing, such as the Waikato and Waipā Rivers, or biodiversity values. Therefore, the definition seems unlikely to capture the all encompassing nature intended through the Vision and Strategy. Officers recommend the definition is deleted and the plain and ordinary meaning of the term is relied on.

C1.6.14. Stock Unit

C1.6.14.1.Background

697. The definition primarily includes a stocking rate table, and is used in relation to various rules and schedules that either have a limit in relation to stocking rate, or require the provision of information, including stocking rates.

698. The stocking rate table was developed utilising a BOPRC methodology for creation of nitrogen discharge allowance reference files and their associated stocking rate table[85]. There is a wide variability in stock class combinations and levels of animal performance likely to be found on farm properties. In order to provide a process by which low intensity farm systems could be more easily and cost effectively ascertain compliance with the proposed permitted activity status, or where information is required to be provided, a simple stocking rate table that indicated the relative stocking levels of various livestock classes a landowner could farm and remain complainant was proposed for PC1.

[85] Table adapted from Perrin Ag Consultants Ltd 2016. Bay of Plenty Regional Council: Methodology for creation of NDA reference files and stocking rate table; version 2. Table 1: Stocking rate table pg. 18.

699. A revised stock unit is equivalent to the annual consumption of metabolizable energy. To achieve this, a series of feasible Farmax files were created using the lowest 'observed' level of pasture growth potential for dry stock land in the catchment as the underlying limit on farm production and therefore N leaching. Some modelling iterations between Farmax and Overseer were then undertaken to adjust animal performance parameters, where animal types had not been captured by the Farmax modelling (for example equids, camelids and goats) Overseer defaults were used.

C1.6.14.2.Submissions

700. Overall there were around 25 submissions received on the definition of Stock Unit, almost all oppose the definition, with seven seeking amendments, and one supporting the definition with amendments. Some submitters want to replace the definition with what applies in the Overseer Best Practice Data Input Standards or ensure that weights and stock units reflect actual weights and stock units for the region between dry stock and dairy operations[86].

701. Others want the definition of stock unit refined, including categories for housed animals such as replacement calves that are not grazed or accommodated on uncovered pasture 24 hours a day, and clarify nitrogen outputs for animals other than beef or dairy[87]. One submitter wants the Overseer model of stock unit definitions retained[88].

702. NZ Pork seek an extra stock unit definition for pigs. WRC seeks to amend the definition to read 'energy per year as determined in accordance with the following stocking rate table'. Wiremu Trust seeks to amend the definition of a stock unit to the Lincoln 2003 stock unit definition of a 450kg cow producing 385 kgMS as 8.4 stock units.

C1.6.14.3.Analysis

703. Officers agree there is merit in adding a stock unit definition for outdoor pigs. Discussions with NZ Pork indicate that there is additional research work being undertaken in this area. If the submitter was able to present evidence on an appropriate row to add to the table, that would be helpful.

704. In regards to those submissions which outline alternatives for animal types/housing and grazing arrangements, this is already provided for in the table information for given age/stock unit ranges for different farming systems. For housed animals, the farming systems are sufficiently diverse and intensive that the stocking rate definition is unlikely to be appropriate or useful in the context of the rules.

705. In regards to submissions which seek to amend the definition to read 'energy per year as determined in accordance with the following stocking rate table', the Officers agree this is appropriate as each stock unit is equivalent to the consumption of metabolizable energy per year.

706. The stocking rate table concept is an attempt to take an extremely complex N loss calculation methodology and simplify it to a single table that is designed to be used by a wide range of landowners. Officers accept that most farm systems will typically have differing numbers of a given livestock class over a calendar year and that animal feed intake and N leaching will also have a seasonal variation within the Overseer model. The seasonal stocking rates in the Overseer modelling used will invariably result in a different result than if variable monthly stocking rates were used. However, in the Officers' view the need for transparency and simplicity warrant this format of table, accepting that the use of averages will result in a compromise in accuracy. Officers understand that the table itself provides enough information on the limits on stock numbers for a property to comply with the permitted activity status, rather than being a proxy for Overseer, or that the table will have the same level of accuracy as Overseer.

[86] Beef and Lamb, H Clarke, P Hurley, Lea Charles Steven, C McGregor, W Murphy, Oji, M&S Stokman, MJ Taylor and CD Mellow, MC&SR Thorburn, , R&W Verry, P.J Hurley, P Thomson

[87] G Kilgour, A McGovern, MD and AJ Sellars, Waipapa Farms Ltd and Carlyle Holdings Ltd

[88] MD & CA Camp

707. Officers accept that there is no universally accepted stock unit equivalent table – indeed there are several versions in use across New Zealand. WRC has chosen what it considers to be the most appropriate table for the region, and in the absence of evidence to show that it is not appropriate, Officers recommend keeping the existing stock unit table.

Recommendation on submissions:

1. Accept all those submissions that supported the plan provisions which are recommended to remain unchanged or largely unchanged

2. Reject those submissions who sought the deletion of the Plan Provisions which are recommended to remain unchanged or largely unchanged

3. Accept, or accept to the extent, those submissions that sought the changes recommended as set out in the revised plan provisions

4. Reject, or reject to the extent, those submissions that do not support the changes recommended as set out in the revised plan provisions

C2. Cultivation, slope and setbacks[89]

C2.1.1. Summary of this section and recommendations

708. Plan Change 1 includes a permitted activity Rule 3.11.5.2 for 'other low-intensity' pastoral farming. For properties over 20ha in area the conditions of this rule include:

    a. no part of the property over 15 degrees slope is cultivated or grazed; and
    b. no winter forage crops are grazed in situ; and
    c. specified setbacks from water bodies are met.

709. Sediment loss, particularly in the Waipā catchment, is a significant issue for the achievement of the Vision and Strategy and PC1 objectives. The submissions are extensive, with the majority in opposition to the controls. Most low-intensity farming is carried out in hill country. The net result of the permitted activity conditions is likely to mean that (very) few properties would qualify as a permitted activity. If the conditions are not able to be met, the farming activity was intended to become a controlled activity under Rule 3.11.5.4 as notified (now recommended to be a restricted discretionary activity), however due to drafting issues the activity may have been classified as a restricted discretionary activity under Rule 3.11.5.6 as notified (note that rule is now recommended to be deleted) or a discretionary activity under new Rule 3.11.5.6A as recommended by the Officers.

710. Key recommendations include:

    a. Recommending the Hearing Panel consider increasing the cultivation and grazing thresholds, but not beyond 20 degrees for cultivation and 25 degrees for grazing.
    b. Recognising that grazing forage crops is an inherently high risk activity for the loss of all four diffuse contaminants, but that the Hearing Panel may wish to consider being more enabling of that activity, subject to imposing strong minimum standards relating to setbacks, grazing management, slope and area.
    c. Retaining the definition of cultivation, removing 'pasture' from the definition of forage crop, and reliance on the 'slope' definition in the WRP.

C2.1.2. Introduction and Provisions

711. This section discusses the management of cultivation and grazing in PC1. Rule 3.11.5.2(4) sets out restrictions on cultivation and grazing for properties with diffuse discharges of nitrogen of less than 15 kilograms per hectare per year. For properties with an area greater than 20 hectares, sub-clauses 4(c), (d) and (e) state that:

    - no part of the property over 15 degrees slope is cultivated or grazed; and
    - no winter forage crops are grazed in situ; and
    - specified setbacks are implemented where the property contains any of the water bodies listed in Schedule C.

712. Officers consider that activities not complying with the permitted activity standards require resource consent, possibly as a restricted discretionary activity under Rule 3.11.5.6, but understand that this may be an unintended outcome of the drafting of that rule and that activities that do not meet the slope thresholds should require resource consent as a controlled activity under Rule 3.11.5.4. The provisions are supported by definitions of "cultivation", "forage crop" and "setback".

[89] This section authored by Felicity Durand and Matthew McCallum-Clark

713. Approximately 200 submissions were received on Rule 3.11.5.2 that addressed cultivation and grazing. The vast majority of these were in opposition. In relation to the three definitions, there were:

- Six submissions on the definition of cultivation: four in support and two in opposition.
- Six submissions on the definition of forage crop: two in support and four in opposition.
- Five submissions on the definition of setback: three in support and two in opposition.

714. Some submissions on Rule 3.11.5.2also raised issues with the definitions but did not separately submit on those definitions. Where this occurred, those submissions are discussed in relation to the definition rather than the rule.

715. This part of the report is structured as follows:

- Submissions on cultivation and grazing on slopes (Rule 3.11.5.2(4)(c) and the definition of cultivation)
- Submissions on grazing of winter forage crops (Rule 3.11.5.2(4)(d) and the definition of forage crop)
- Submissions on setbacks (Rule 3.11.5.2(4)(e) and the definition of setback)

C2.1.3. Cultivation and grazing on slopes

C2.1.3.1. Submissions

Rule 3.11.5.2(4)(c)

716. Seven submitters support the restrictions on cultivation and grazing on slopes over 15 degrees in Rule 3.11.5.2(4)(c). Of these submitters:

- Pouakani Trust, J G L Reeves & A L Taylor and Wairarapa Moana Incorporation seek that the provision is retained.
- Tongariro Taupō Conservation Board consider erosion of steep hill country is disastrous for the receiving environment.
- L Burdett considers sheep grazing could be allowed as only heavier animals increase erosion and cause loss of topsoil.
- H N Kloeten Ltd consider cultivation of steep land is not good for the environment or for the economics of the farm system.
- M J & A N Mackenzie have already forested slopes over 15 degrees on their property as they believe this is optimal land management on hill country farms.

717. The majority of submitters were in opposition. There were a number of key themes from these submissions. In particular, submitters consider the restrictions on cultivation and grazing are:

- Restrictive, unfair and impractical
- Inappropriate in areas where there are no water bodies nearby
- Severely limiting for production and growth
- Economically unfeasible (including from losses in land value)
- Not based on scientific evidence
- Unclear about how slope is measured

718. Many submitters in opposition are seeking to delete subclause (4)(c) from Rule 3.11.5.2. However, a large number of submitters have sought changes to the provision or alternative approaches. These can be summarised as requests to:

- Allow cultivation and grazing if best farming practices are used (FANZ)

- Replace the notified restrictions with the ability to manage issues through FEPs (Genetic Technologies Ltd, PLUG)
- Increase the permissible slope (for cultivation, grazing, or both) (a large number of individual submitters, such as B Ward, G Holmes, Theland Tahi Farm Group Limited, Wellington Farms Ltd)
- Remove reference to grazing (Beef and Lamb and a large number of individual submitters)
- Restrict controls on grazing to cattle, horses, deer and pigs (Burgenridge Limited)
- Only restrict cultivation in winter (M Mandeno, J M Nelson, Swiss Belle Farm Ltd)
- Limit restrictions on cultivation to no more than 5% of farm area per year (Fonterra)
- Require resource consent for cropping (B Stubbs & R Brown)

Definition of cultivation

719. In their submission to Rule 3.11.5.2, A M Fullerton seeks a definition of cultivation.

720. N J Henderson supports the definition and seeks to retain the exclusions for direct drilling and recontouring of land.

721. Gavins Limited support the definition and seek amendments to include minimum tillage and strip tillage. Conversely, Genetic Technologies Ltd support the definition but seek amendments to exclude minimum tillage and strip tillage. C & A Paterson also seek to exclude strip tillage.

722. Forest and Bird oppose the definition. The submitter considers the activities excluded from the definition have potential for adverse effects on water quality and it is unclear how the Council intends to manage these effects.

723. Federated Farmers oppose the definition in part on the basis that it may capture activities that are not cultivation. The submitter seeks amendments to clarify that the definition does not apply to farming practices that do not require tillage or disturbance of the ground (such as haymaking and topping of pasture).

C2.1.3.2. Analysis

Rule 3.11.5.2(4)(c)

724. This provision imposes an upper slope limit of 15 degrees on cultivation and grazing.

725. State of the environment reporting on New Zealand's land resources estimates that around 192 million tonnes of soil is lost into waterways and the ocean each year, contributing to about 1.7 percent of global sediment despite New Zealand comprising only 0.2 percent of the global land area.90 A large part of this is due to natural erosion, however modelling indicates that 44 percent of the soil entering waterways each year comes from pasture – equivalent to 84 million tonnes of soil.91 Excess sediment in waterways has a range of adverse effects on freshwater ecosystems, including decreased water clarity, damage to fish gills and invertebrates, reduction in benthic environments, decreases in invertebrate species and increased contaminants (which are transported by sediment).

726. Of the 2.5 million hectares of land in Waikato, the National Land Resource Inventory has identified over one million hectares are affected to some degree by erosion.92 Monitoring by WRC showed that over the period 2002 – 2007 the area of bare ground exposed by all forms of soil disturbance doubled from 1.37% to 2.85%.93 The primary contributor to this increase was cultivation, which increased areas of bare soil from 0.14% to 0.81% (a six-fold increase).94 Water quality monitoring has shown that sediment levels in

[90] Ministry for the Environment & Stats NZ. (2018). *New Zealand's environmental reporting series: Our land 2018.* Page 76.
[91] Ministry for the Environment & Stats NZ. (2018). *New Zealand's environmental reporting series: Our land 2018.* Page 76.
[92] Waikato Regional Plan, section 5.1.
[93] Environment Waikato. (2009). *Changes in soil stability in the Waikato region from 2002 to 2007.* Environment Waikato Technical Report 2009/30, pages v-vi.
[94] Environment Waikato. (2009). *Changes in soil stability in the Waikato region from 2002 to 2007.* Environment Waikato Technical Report 2009/30, pages v-vi.

the Upper Waikato River are low to moderate, and high in the Lower Waipā and Waikato Rivers. All areas show some deterioration.

727. It is well established that there is increased risk of soil erosion under mechanical cultivation with increasing slope. The Soil Conservation Technical Handbook (the Handbook) lists a number of factors which can initiate and accelerate soil erosion, including cultivating slopes and overgrazing by domestic farm animals.[95] The Handbook guidelines are to avoid conventional tillage on slopes greater than 13 degrees where possible, and to only use minimum tillage on slopes of 13-20 degrees when coming out of long term pasture.[96] Overall, the Handbook recommends utilising minimum or no-tillage cultivation systems to conserve soil.[97] Similarly, Volume 2 of Visual Soil Assessment recommends avoiding cultivation on slopes greater than 12 degrees in order to prevent or minimise soil erosion.[98] The Handbook also notes that overgrazing can adversely affect soil properties and that the extent of damage is influenced by a range of factors including slope, soil type, pasture cover and stocking rate.[99]

728. Policy 8.3 of the RPS requires the maintenance or enhancement of freshwater bodies by (among other matters) reducing sediment entering water bodies. Additionally, Policy 14.1.1 states that regional plans will control the effects of activities to maintain soil quality and reduce the risk of erosion, including soil disturbance and maximising retention of soil on site and in situ. Objective 5.1.2 of the WRP is to achieve a net reduction of accelerated erosion across the region.

729. Cultivation is managed under PC1 in two ways. Farming activities with nitrogen losses of greater than 15kg/ha/year must have an FEP under Rules 3.11.5.3 or 3.11.5.4 that, in accordance with Schedule 1, requires avoiding cultivation on slopes over 15 degrees unless contaminant discharges can be avoided (Schedule 1(2)(f)(i)) and an assessment of appropriate land use and grazing management to improve soil condition and minimise diffuse discharges (Schedule 1(2)(d)). Farming activities with nitrogen losses of less than 15kg/ha/year can only cultivate or graze land with a slope of 15 degrees or less as a permitted activity. On slopes greater than 15 degrees, resource consent is required.

730. Given the sedimentation issues in the Waikato and particularly the Waipā River catchments, and the known adverse effects of cultivation on soil stability, Officers do not recommend deleting Rule 3.11.5.2(4)(c) in its entirety as requested by many submitters. This would not achieve the outcomes sought by the RPS, WRP, or PC1.

731. Although site-specific management practices can reduce the effects of cultivation, Officers do not recommend a permitted activity rule with standards based on these practices for two reasons: there is not enough certainty about which measures should be selected and their effectiveness for a particular site to ensure the objectives sought are met, and there are difficulties in adequately capturing these activities for use in a permitted activity standard. Officers consider these management practices are more appropriately considered and enforced through conditions on a resource consent which can be tailored to the individual activity and area.

732. Clarifying the meaning and measurement of slope has been addressed elsewhere in this report in relation to stock exclusion and is not repeated here.

733. Many submitters have sought amendments to the Rule 3.11.5.2(4) to make it more permissive (for example, by increasing the specified slope) or to change the focus of the restriction (for example, by enabling light stock grazing (such as sheep) or restricting cultivation to a percentage of a farm's area). These requests have not been supported by accompanying evidence.

[95] Ministry for the Environment. (2001). *Soil conservation technical handbook*. Part A, page 2-3.
[96] Ministry for the Environment. (2001). *Soil conservation technical handbook*. Part B, pages 1-1 and 1-2.
[97] Ministry for the Environment. (2001). *Soil conservation technical handbook*. Part B, page 1-6.
[98] Shepherd, G., Ross, C., Basher, L. & Saggar, S. (2000). *Visual soil assessment, Volume 2: Soil management guidelines for cropping and pastoral grazing on flat to rolling country.* Page 21.
[99] Ministry for the Environment. (2001). *Soil conservation technical handbook*. Part A, page 9-7.

734. Officers agree that the restrictions as worded may pose practical difficulties for farms, particularly for grazing and pasture renewal. However, there are well known risks to the environment from cultivating on slopes. The Hearing Panel may wish to consider allowing limited cultivation as part of a pasture renewal cycle as a permitted activity, subject to standards. The reason being that this a necessary practice if these areas are to be retained as productive pasture. Officers consider these standards should include:

- A maximum area per year (for example, 10% of the farm area)
- Minimum setbacks from water bodies (for example, five metres)
- Restricting the frequency of cultivation (for example, once every five years)
- Restricting the crops sown to pasture, namely not allowing fodder crops to be cultivated on the steep hill country

735. Given the increased risks from erosion as slopes increase, Officers also consider 20 degrees would be a maximum that the Hearings Panel should consider for pasture renewal purposes.[100]

736. Officers have not incorporated these possible amendments into Rule 3.11.5.2(4) at this stage. However, after hearing the evidence during the hearing, should the Panel indicate that they favour this option, or that they wish to see how such a rule might be framed, then an amended Rule will be included in the end of hearing Reply Report.

737. Rule 3.11.5.2(4)(c) aims to manage both cultivation and grazing on slopes over 15 degrees. Any cultivation method that exposes bare soil to the elements will almost certainly result in some level of sediment loss. However, the effects of grazing on slopes are not as certain. Overgrazing is known to contribute to soil instability, [101] but the risks from grazing on slopes generally are not so straightforward. Grazing may have more or less impact on soil stability depending on a range of factors, including soil type, pasture cover, stock type and stocking rate, in addition to slope.

738. Rule 3.11.5.2 applies to farming activities with nitrogen losses of less than 15kg/ha/year. Generally, these are likely to be less intensive activities such as sheep and beef farming. Around half of all sheep and beef farms in New Zealand are on hill country.[102] The restriction on grazing slopes of greater than 15 degrees is likely to have a disproportionately onerous impact on relatively low-intensity sheep and beef farms in the Waikato and Waipā River catchments.

739. Officers doubt there is sufficient evidence to support the current restrictions on grazing on hill country slopes, and welcome input from submitters on this matter. The Land Use Capability Handbook states that formation of cross-slope stock tracks tends to occur above 25 degrees, indicating a visible level of soil instability.

740. Accordingly, Officers recommend splitting Rule 3.11.5.2(4)(c) into two parts. The first would deal with cultivation and would retain the slope limit of 15 degrees. The second part would deal with grazing and include a higher slope limit. At this stage, pending the hearing of submitter evidence, Officers have not recommended a precise upper slope limit for grazing. This will be revisited in the end of hearing Reply Report.

741. At this stage, noting that some adverse effects from grazing would also be mitigated by provisions in PC1 requiring stock exclusion from water bodies, Officers suggest the slope threshold could be either:

a. maintained at 15 degrees for cattle and increased to 25 degrees for other stock; or
b. increased to 25 degrees for all stock.

[100] The Land Use Capability Survey Handbook 3rd Edition (Lynn et al, 2009 at page 137) states that slopes over 20 degrees are difficult to plough, but that slopes between 20 and 25 degrees are occasionally cultivated for pasture improvement.
[101] Ministry for the Environment. (2001). *Soil conservation technical handbook*. Part A, page 9-7.
[102] Beef + Lamb. (2018). *Fact sheet: Hill country sheep and beef farms.* Retrieved from https://beeflambnz.com/knowledge-hub/PDF/FS077-hill-country-sheep-beef

Definition of cultivation

742. In response to A M Fullerton, Officers note that there is already a definition of cultivation in the Glossary. Officers note the support from N J Henderson and agree that direct drilling and recontouring should remain exclusions from the definition.

743. Minimum tillage is a general term that refers to cultivation methods which aim to disturb as little soil as possible by not turning soil over. Strip tillage is a form of minimum tillage cultivation that disturbs only the portion of soil that is to contain the seed row. Because these methods do not disturb the entire soil surface, they generally result in less soil movement and erosion than traditional intensive tillage methods.

744. Officers consider there are minimal risks to water quality from direct drilling of seed and no tillage practices as the soil surface remains intact. Although there is less disturbance with minimum and strip tillage methods, Officers consider it is the intent of the definition was only exclude cultivation methods (namely not restrict those methods through the operation of Rule 3.11.5.2) where there is no soil disturbance. However, Officers acknowledge that this will considerably restrict the practical cultivation options available to farmers. If the Panel wished to provide for minimum tillage, the definition could be amended accordingly. In that case, Officers consider it would be appropriate to provide a 'limit' on what qualifies as minimum tillage, for example where no more than 30% of the cultivated area is tilled.

745. Officers agree with Federated Farmers that the definition should not apply to farming practices where there is no tillage or disturbance of the ground, but do not consider any amendments are necessary to achieve that outcome. Haymaking and topping are not methods of cultivation and the definition excludes all no tillage practices, which would include haymaking and topping.

746. With regard to recontouring land, while that practice results in significant disturbance of the soil which in turn results in a significant a short-term risk of erosion prior to the new pasture establishing, in the long term the recontoured land will generally be less prone to erosion. On that basis Officers recommended the retention of 'recontouring land' in the list of exclusions in the definition, especially if it enables such activities as battering of the banks of incised streams and other actions to reduce sediment loads in the medium to longer term.

747. Overall, no changes to the definition are recommended.

C2.1.4. Grazing of winter forage crops

C2.1.4.1. Submissions

Rule 3.11.5.2(4)(d)

748. Few submitters support the restrictions on the in situ grazing of winter forage crops. Those in opposition have highlighted the importance of forage crops for sustaining stock through winter and as part of a cropping programme. Common reasons for opposing the provision include that the restrictions are:

- Unnecessary and untenable
- Impractical or not achievable
- Likely to impact the financial viability of farms

749. Most submitters in opposition seek to delete either Rule 3.11.5.2 in its entirety or Rule 3.11.5.2(4)(d) specifically. Some submitters have sought changes to the provision or alternative approaches. These can be summarised as requests to:

- Clarify what crops constitute "forage crops" (New Zealand Grain and Seed Trade Association, G & C Kenna, Gavins Limited, C & A Paterson, J T Findlay)
- Clarify what period winter covers (New Zealand Grain and Seed Trade Association, Genetic Technologies Ltd)

- Remove sub-clause 4(d) and manage grazing of winter forage crops through FEPs (Federated Farmers, J Bailey)
- Allow grazing of winter forage crops as a permitted activity subject to best management practices being implemented (FANZ, T Stokes)
- Base restrictions on soil type (Schuler Brothers Ltd)
- Limit restrictions to grazing of winter forage crops occurring:
  - within ten metres of a waterway (Ata Rangi, Southern Pastures Limited Partnership, Theland Tahu, Waeranga Partnership)
  - on areas greater than 20 hectares (G Treweek)
  - on properties with waterways (C & K McGrath, K McGrath)
- Provide for grazing of winter forage crops where stock are removed from the crop after grazing (G & C Kenna)

750. Additionally, Beef and Lamb seek unspecified amendments to provide for some winter grazing of forage crops below a minimum area or with criteria contained within the rule to reduce the risk of loss from critical source areas.

751. In relation to their concern regarding what period winter covers, Genetic Technologies Ltd state that research shows 1 April to 30 August is the riskiest period where there is low or nil pasture growth and high rainfall. The submitter seeks amendments to the rule and the definition to clarify the types of crops considered a winter forage crop and to specify the period considered to be 'winter'.

Definition: Forage crop

752. Forest and Bird support the definition and seek that it is retained.

753. In their submission on Rule 3.11.5.2, G & C Kenna, Gavins Limited, C & A Paterson and J T Findlay seek amendments to define winter forage crops and note there is uncertainty about whether annual grasses are included.

754. New Zealand Grain and Seed Trade Association oppose the definition and seek clarification about the use of the term "forage crop" in Rule 3.11.5.2. The submitter also seeks clarification on what a forage crop is and how this is determined, and notes that the definition includes pasture species. No specific amendments are sought.

755. In relation to the definition, Genetic Technologies Ltd seek amendments to exclude annual and/or permanent ryegrass from the definition. Similarly, G Kilgour, A McGovern and Waipāpa Farms Ltd and Carlyle Holdings Ltd seek amendments to the definition to exclude any grass grown for the purpose of hay or silage. In their submissions on Rule 3.11.5.2(4)(d), L & M Bennet also seek to exclude annual grass.

C2.1.4.2. Analysis

Rule 3.11.5.2(4)(d)

756. Forage crops are primarily used to sustain animals through the winter months when grass growth is lower and rainfall higher, and may form part of a pasture renewal programme. Crops commonly used include swedes, kale and chow. Grazing on forage crops is characterised by break fencing, relatively high stocking rates and close to or total de-vegetation of the paddock, contributing to the transportation of contaminants (including sediment) to waterways. The main environmental effects associated with grazing of forage crops are:

- Effects on water quality in downstream receiving environments from run-off containing sediment, phosphorus and microbial pathogens.
- Effects on soil quality from long-term compaction, reduced air and water exchange.
- Poor or no erosion control, particularly on sloping land and gullies.[103]

[103] Monaghan, R. (2012). *The impacts of animal wintering on water and soil quality.* AgResearch, prepared for Environment Southland. Page 5.

757. WRC has conducted research about the winter grazing management practices in the Waikato and Waipā River catchments using a sample of farmers from the area. This research showed that approximately 11 percent of farmers grew a winter forage crop.[104] Of this 11 percent, 78 percent grew a winter forage crop to fill a feed deficit and 80 percent did so for pasture renewal.[105] Of the farmers who grew a winter forage crop, 78 percent usually let stock graze the crop to bare soil.[106]

758. On this basis, Officers consider it is appropriate to manage the environmental effects of grazing of winter forage crops through PC1 and do not recommend deleting Rule 3.11.5.2(4)(d) as requested by many submitters. Due to the known adverse effects arising from grazing of forage crops, Officers do not consider it would be appropriate to manage this activity solely by using best management practices as permitted activity standards.

759. However, there may be opportunities to provide for limited grazing of winter forage crops in situ and, in these situations, minimum standards for management practices could be included.

760. Submitters have sought a range of amendments to the provisions. Generally, Officers are not convinced that the amendments sought would achieve the outcomes sought in PC1. However, Officers recognise that winter forage crops are essential components of farming systems, both for sustaining animals when grass growth is low and as part of pasture renewal programmes. Similarly to cultivation, the Hearing Panel may wish to consider providing for limited grazing of winter forage crops as a permitted activity, subject to standards. Officers consider these standards could include ones similar to the standards recently adopted by the Southland Regional Council in the decisions version of their Water and Land Regional Plan, including:

- A maximum area per year (for example, 5% of the farm area)
- Minimum setbacks from water bodies (for example, 5 or 10 metres)
- Implementation of good farming practices such as:
  - Grazing stock from the top of slopes to the bottom
  - Backfencing
  - Transportable water troughs
  - Portable feeders
  - Maximum mob sizes

761. Mindful that there is the potential for national direction on this issue form central government, at this stage Officers have not recommended any such provisions for inclusion in Rule 3.11.5.2(4), but will revisit this matter in the end of hearing Reply Report following the consideration of any evidence presented regarding what suitable minimum standards might be.

762. Officers acknowledge that grazing of forage crops on land with a slope of greater than 15 degrees will also be affected by the restrictions on cultivation in Rule 3.11.5.2(4)(c). The reason being that if that steep land cannot be cultivated as a permitted activity then the forage crop (which requires cultivation unless it is direct drilled) cannot be planted. As there are increased risks from soil exposure on increasing slopes, Officers consider it is appropriate that cultivation for forage crops on slopes greater than 15 degrees is managed through a resource consent rather than as a permitted activity.

763. New Zealand Grain and Seed Trade Association and Genetic Technologies Ltd have questioned the period of time considered to be "winter". Officers agree the reference to "winter" in the rule introduces uncertainty. Officers recommend a change to the definition, discussed below, to rectify this.

[104] Waikato Regional Council. (2015). *Sheep and beef winter grazing management practices in the Waikato and Waipa River catchments: qualitative study 2013.* Waikato Regional Council Technical Report 2014/37. Page 27.

[105] Waikato Regional Council. (2015). *Sheep and beef winter grazing management practices in the Waikato and Waipa River catchments: qualitative study 2013.* Waikato Regional Council Technical Report 2014/37. Pages 28-29.

[106] Waikato Regional Council. (2015). *Sheep and beef winter grazing management practices in the Waikato and Waipa River catchments: qualitative study 2013.* Waikato Regional Council Technical Report 2014/37. Page 30.

Definition: Forage crop

764. A number of submitters have questioned what crops are considered forage crops. The definition of 'forage crop' is critical to the understanding and application of Rule 3.11.5.2(4)(d) and Officers agree with submitters that clarification is needed about what crops the definition is intended to cover. It is also noted that the rule refers to "winter forage crop", which creates some uncertainty in combination with the definition.

765. In terms of environmental effects, Officers understand there is a distinction between grazing on forage crops and on pasture – while significant or total de-vegetation occurs with the former, ground cover is generally retained in the latter. As outlined earlier in relation to cultivation, exposing bare soil to the elements significantly increases the risks of erosion and contaminant loss to waterways. As such, Officers recommend adopting the relief sought by Genetic Technologies Ltd, G Kilgour, A McGovern and Waipāpa Farms Ltd and Carlyle Holdings Ltd to exclude pasture from the definition, and also to align the definition with the phrase "winter forage crop" by adding a date range in.

C2.1.5. Setbacks

C2.1.5.1. Submissions

Rule 3.11.5.2(4)(e)

766. The fencing setbacks outlined in Rule 3.11.5.2(4)(e)(ii) relate to stock exclusion which is discussed elsewhere in this report and not repeated here.

767. Few submitters support the 5 metre setback from water bodies for cultivation in Rule 3.11.5.2(4)(e)(i). Reasons include:

- 5 metres is generally too large
- The opportunity cost of the loss of productive land (and associated lack of compensation)
- Costs of maintaining the 'retired' strip of land adjacent to the waterbody, including weed and pest control

768. Many submitters have sought either deletion of the requirement altogether or a reduction in the setback from 5 metres to 1, 2 or 3 metres. Eleven submitters seek to apply setbacks only on land with a slope of less than 15 degrees.

769. Other submitters have sought alternative approaches, including:

- Excluding drains (P T Scott)
- Replace with a 0.5m setback for land within a drainage district
- Replacing blanket setbacks with the ability to tailor setbacks to individual farms through FEPs (S L M Croft, Genetic Technologies Ltd)
- Reduce setbacks on peat soils (P A L Walker)

770. Eight submitters have sought clarification of the relationship between the cultivation setback and the general fencing setbacks in Schedule C. Those same submitters have also sought clarity on where to measure setbacks from, especially on undulating ground. Two submitters consider the setbacks should align with the general fencing setbacks in Schedule C.

Definition of setback

771. Forest and Bird support the definition and seek that it is retained. Gavins Ltd and A M Fullerton support the definition with amendments to clarify what the 'bed' is and to add a picture or diagram for clarity (respectively).

772. Federated Farmers oppose the definition and seek amendments to clarify that setbacks are measured from active beds and permanent wetlands. Fonterra oppose the definition and seek amendments to clarify how the distance should be measured,

C2.1.5.2. Analysis

Rule 3.11.5.2(4)(e)

773. The use of vegetated buffers between cultivated areas and streams is a widely used and well-studied management practice for reducing non-point source pollution and studies consistency identify that wider buffers trap more sediment.[107] Officers acknowledge that there are always many variables that affect sediment and microbial contaminant transport – slope, buffer width, rainfall, soil type, and vegetation type to name a few. Although setback distances that vary according to the slope of the landscape have been shown to be more efficient for filtering sediment lost from pasture, practically a standard setback distance is more readily understood and applied. Holmes et al (2016) found that a 5 metre wide vegetated buffer with stock exclusion was the minimum required to achieve an in-stream fine sediment cover below 20%.[108] Above 20% fine sediment cover, there is a demonstrated decline in the number of macroinvertebrate taxa due to habitat reduction.[109]

774. As discussed in the stock exclusion section, Officers recommend shifting all of the stock exclusion and setback provision to Schedule C, to ensure consistency and simplicity. That does have the effect of introducing setbacks that vary depending on slope. There will always be a balance to be struct between simplicity and achieving outcomes in an efficient manner, and the provisions of the recommended Schedule C are considered to do this.

Definition of setback

775. Regarding the submission by Gavins Limited, Officers note that 'bed' is already defined in the RMA and do not consider further clarification is necessary.

776. Officers consider the amendments sought by Fonterra to align the definition with terminology and descriptions already included in the Plan. This would assist with the concerns outlined by A M Fullerton with regard to the definition.

777. The use of 'active bed' is discussed in the stock exclusion chapter, and Officers suggest that may provide some certainty for the measurement point. Officers also consider the use of 'permanent' is incongruous given the definition of 'wetland' in the RMA includes areas which are intermittently wet.

778. Overall, no amendments to the definition are recommended.

Recommendation on submissions:

5. Accept all those submissions that supported the plan provisions which are recommended to remain unchanged or largely unchanged

6. Reject those submissions who sought the deletion of the Plan Provisions which are recommended to remain unchanged or largely unchanged

7. Accept, or accept to the extent, those submissions that sought the changes recommended as set out in the revised plan provisions

[107] See, for example, Zhang, X., Lui, X., Zhang, M. & Dahlgren, R. (2010). *A review of vegetated buffers and a meta-analysis of their mitigation efficacy in reducing nonpoint source pollution*. Journal of Environmental Quality.

[108] Holmes, R., Hayes, J., Matthaei, C., Closs, G., Williams, M., & Goodwin, E. (2016). *Riparian management affects instream habitat condition in a dairy stream catchment*. New Zealand Journal of Marine and Freshwater Research

[109] Burdon, F.J., McIntosh, A.R., & Harding, J.S. (2013). *Habitat loss drives threshold response of benthic invertebrate communities to deposited sediment in agricultural streams*. Ecological Applications, Vol. 23(5):1036-1047.

8. Reject, or reject to the extent, those submissions that do not support the changes recommended as set out in the revised plan provisions

C3. Certified Industry Schemes[110]

C3.1.1. Summary of this section and recommendations

779. Certified Industry Schemes (CIS) are entities that have been approved by the Chief Executive Officer of WRC as meeting specific requirements for supporting the preparation of FEPs and overseeing their ongoing implementation. The CIS concept is intended to manage permitted activities with a comparable level of scrutiny to consented activities, but with the CIS providing the oversight instead of WRC. The certification process is set out primarily in Schedule 2. Farming activities registered with a CIS are permitted and those not registered will generally require resource consent.

780. Most submitters support in principle the proposal to establish and use CISs as a method for achieving the objectives of PC1. However, some submitters have raised concerns with the legal basis for the provisions. Most submitters, whether in support or opposition, have sought increased certainty and clarity around how CISs will operate. Many submitters have sought specific amendments to strengthen requirements around audit, monitoring and enforcement.

781. The CIS concept is a primary method in PC1 for supporting the preparation and implementation of FEPs, therefore it is closely linked to the content of Schedule 1 and the requirements for FEPs. The activity status of Rule 3.11.5.3 has a significant impact on WRC's implementation of PC1 – if not permitted, several thousand farms would require resource consent that were assumed would come under a CIS framework.

782. Key recommendations include:

1. Amending the name to Certified Sector Schemes to better align with definitions in the existing Regional Plan.
2. Generally clarifying the purpose of Schemes and the process for becoming certified through a specific policy and clarification of Schedule 2.
3. Better articulating the minimum standards that Schemes will be required to meet, including the requirements for ongoing audit and monitoring.
4. Addressing issues with the legal basis for Schemes and equity and certainty by amending Rules 3.11.5.3 and 3.11.5.4, such that farming under a Scheme will not be a permitted activity.

C3.1.2. Introduction and Provisions

783. This section discusses the use of CISs in PC1. CISs are schemes or groups that have been approved by the Chief Executive Officer of WRC as meeting specific requirements for supporting the preparation of FEPs and overseeing the ongoing implementation of those FEPs. The CIS concept is intended to manage permitted activities with a comparable level of scrutiny to consented activities, but with industry providing the oversight instead of WRC.

784. To help achieve Objective 1, Policy 2 sets out a tailored approach to reducing diffuse discharges from farming activities. Among other things, this requires:

- Defining mitigations on the land that will reduce diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens and specifying those mitigations in a FEP that is associated with either a resource consent or in specific requirements established by participation in a CIS;[111] and
- Requiring the same level of rigour in developing, monitoring and auditing of mitigations identified through FEPs whether the FEPs are established with a resource consent or through a CIS.[112]

[110] This section authored by Felicity Durand and Matthew McCallum-Clark
[111] Policy 2(a)
[112] Policy 2(b)

785. Policy 3 sets out a similar approach for managing diffuse discharges from CVP systems but this is not carried through to the rules. Policy 2 is implemented, in part, through Rules 3.11.5.3 and 3.11.5.4 which make the land use for and diffuse discharges from farming activities a permitted activity if registered with a CIS and a controlled activity if not registered (respectively). They are also implemented, in part, through Rule 3.11.5.5 which manages the land use for and diffuse discharges from CVP as a controlled activity if the land use is registered to a CIS.

786. Method 3.11.4.2, Schedule 2 and the definition of CISs set out the process for certifying Industry Schemes. Broadly:

- Industry Schemes apply to the Chief Executive of WRC for approval
- Industry Schemes are assessed against the criteria in Schedule 2
- Approval is at the discretion of the Chief Executive of WRC, based on his/her satisfaction that the scheme will effectively deliver on the assessment criteria

787. In summary, the policy framework for the establishment and use of CISs is established through the following provisions:

- Method 3.11.4.2
- Schedule 2
- A definition of CIS in the Glossary
- Policies 2 and 3
- Rules 3.11.5.3, 3.11.5.4 and 3.11.5.5

788. The method, schedule and definition focus solely on CISs but the policies and rules address a range of additional matters. Other matters managed by these provisions are discussed elsewhere in this section of the s42A Report.

789. Over 300 submissions were received on the eight provisions which collectively outline the CIS concept. A large number of submissions lodged on the policies and rules in particular were generic in nature and opposed the core methods of PC1. These submissions are addressed more generally elsewhere in this report, and the recording of these submissions and the analysis is not repeated here. It was often unclear whether the submission supported or opposed the entirety of the CIS concept in PC1 or whether the submission responded only to its use in the provision identified. As such, this section refers generally to the numbers of submitters and focuses instead on the key themes raised by submitters.

790. Broadly, 46 submissions support the use of CISs in PC1 and seek that the provisions are retained, while 13 oppose and seek that the provisions are deleted. Most submitters either support or opposed in part, and generally subject to the amendments sought in their submissions.

791. This part of the report addresses the key themes from submissions across the range of CIS provisions, those being:

- Legal basis for the provisions
- Effectiveness of CISs
- Alternative approaches
- General uncertainty about the CIS provisions
- Audit, monitoring and enforcement

792. Due to the number of amendments sought by submitters, the following sections discuss the submissions and the Officers' responses but do not include recommendations. A full copy of the relevant provisions with changes recommended by the Officers is included at the end, with footnotes indicating the submission which the change responds to.

C3.1.3. Legal basis

C3.1.3.1. Submissions

793. Five submitters oppose the concept of a CIS in its entirety on the basis that it is, at best, an inappropriate delegation or transfer of WRC's functions, powers and duties, and at worst, unlawful. Specifically:

- Wairakei Pastoral Ltd believe the development and approval of CISs is outside the functions, powers and duties of WRC under the RMA or the LGA and seek the deletion of Method 3.11.4.2 and either the deletion of Rule 3.11.5.3 or a variation or plan change to formally incorporate specific Schemes by reference.
- Fish and Game oppose and seek deletion of all references to CISs on the basis that it delegates powers and responsibilities of WRC to external people and organisations without appropriate statutory process or consideration.
- Forest and Bird and DoC oppose the concept of CISs because they consider it would allow WRC to effectively outsource its statutory duties, including responsibility for ensuring farms are operating in accordance with the plan.
- Oji Ltd believe the concept allows WRC to reserve to a third party, without any checks and balances, the right to determine what is sustainable management in a manner that is ultra vires.

794. Although supporting the concept in part, HFM also question the vires of third parties determining matters that are the responsibility of WRC.

795. DoC, Fish and Game, J Lawson, Oji Ltd and V & N van der Voorden oppose Rule 3.11.5.3 specifically because they consider it does not comply with section 70(1) of the RMA. Section 70(1) requires that before a regional council includes a permitted activity rule in a plan that allows the discharge of a contaminant to water or to land where the contaminant may enter water it must be satisfied that none of the following effects are likely to arise in the receiving waters after reasonable mixing:

- The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials
- Any conspicuous change in the colour or visual clarity
- Any emission of objectionable odour
- The rendering of fresh water unsuitable for consumption by farm animals
- Any significant adverse effects on aquatic life.

796. DoC considers that the available information on water quality in the Waikato Region shows that land use activities have led to discharges to water and to land that have resulted in significant adverse effects on aquatic life, including on the Banded Kokopu. The other submitters do not specify how they consider Rule 3.11.5.3 will not comply with section 70(1).

797. Oji Ltd also considers that Rule 3.11.5.3 does not adhere to the standards for permitted activities developed through case law, in particular the requirement for permitted activity rules to be:

- Certain and capable of objective assessment; and
- Comprehensible to a reasonably informed person (who is not an expert).

798. Oji Ltd also believe the rule fails to take into account the broad definition of effects (including cumulative and temporary effects) and the creation of a permitted baseline and the effects this may have to the determination of resource consent applications more broadly.

799. Most submitters in opposition to CISs because of its questionable legal basis seek to delete all uses of the term from PC1. Wairakei Pastoral Ltd alternatively seeks the inclusion of specific CISs through future changes to the plan. To address the issues it has raised with CISs, Oji Ltd seeks either:

- That Rule 3.11.5.3 be deleted; or
- That Rule 3.11.5.3 is amended so that the CIS is required to have resource consent as a restricted discretionary activity under a new Rule 3.11.5.8 with applications that address the criteria in Schedule 2 and a requirement for participants to provide the Scheme with the following:
  - Information to be provided to WRC (per Schedule B).
  - Information regarding compliance with standards to be provided on request (per Method 3.11.4.2 as amended by the submitter's requests).
  - Overseer calculations (per clause 2(e) of Schedule 1).

C3.1.3.2. Analysis

800. Submitters in opposition consider the concept, and in particular Rule 3.11.5.3, is inappropriate or unlawful. This is for two reasons: firstly, that the 'delegation' of powers to an external body in Rule 3.11.5.3 is ultra vires, and secondly, that Rule 3.11.5.3 does not comply with section 70(1) of the RMA.

801. The first point was addressed in legal submissions for the Council at the opening of the Block 1 hearing, where it was acknowledged that there were some deficiencies, but that these could be resolved by wording changes.

802. Officers agree that Rule 3.11.5.3 may not comply with section 70(1) due to the uncertainty about the effects occurring on individual properties (including cumulatively if the assumed very large number of properties are within the CIS framework) and the effectiveness of mitigation measures in place or proposed through FEPs to address those effects.

803. As outlined earlier in this report, for PC1 to give effect to the Vision and Strategy and the NPS-FM, provisions need to ensure no further decline in water quality in the Waikato and Waipā catchments. Additionally, Objective G of the Vision and Strategy requires the "avoidance of adverse cumulative effects, and potential cumulative effects" on the health and wellbeing of the Waikato River. The matters of control in Rules 3.11.5.4 and 3.11.5.5 go some way toward implementing this direction by specifying that the WRC will reserve control over the actions and timeframes for undertaking mitigation actions that maintain or reduce diffuse discharges.[113] There is no comparable requirement for permitted activities under Rule 3.11.5.3. The primary conditions in Rule 3.11.5.3 to manage the adverse effects of the diffuse discharges from farming activities relate to the preparation and implementation of FEPs.[114]

804. Without confidence that the 'minimum actions' for FEPs are sufficient to avoid the types of effects outlined in section 70(1) and adverse cumulative effects, Officers consider that permitted activity status, and use of CISs in Rule 3.11.5.3, may result in a high risk that effect is not given to the Vision and Strategy or the NPS-FM, or that the plan's objectives are not achieved. In part, this is influenced by a lack of clear accountability and responsibility under the notified framework.

805. As an alternative to the currently proposed permitted activity framework, Oji Ltd consider the CIS could be brought into a consenting framework. Similarly, HFM has requested a more certain process for CISs such as a through a resource consent.

806. As the primary legal issues relate to the permitted activity status, Officers consider an alternative option would be to retain the existing policy framework for CISs but with an alternative activity status for farmer members. This would ensure a 'level playing field' for all farming activities and strengthen WRC's ability to monitor these activities through consent conditions, as well as addressing the issues raised regarding

[113] Rule 3.11.5.4 – Matters of control ii and iii, Rule 3.11.5.5 – Matters of control ii and iii.
[114] See conditions 5, 6, 7 and 8.

compliance with section 70(1). The most logical choice would be to closely align with the framework in Rule 3.11.5.4.

807. However, Officers acknowledge that this will significantly increase the plan implementation burden for WRC. The section 32 report[115] states that approximately 5000 farms in the Waikato and Waipā catchments will require FEPs, and that the CIS concept is a method for delivering these with comparable oversight to a resource consent process without generating 5000 individual resource consent applications. If farming activities required resource consent, WRC would need to reconsider its implementation process to ensure that there was capacity to process this number of applications. It may be necessary to stage implementation over a longer period or to prioritise particular areas or types of activities.

808. Changing the activity status would also considerably reduce the incentive offered by the current framework (i.e. membership of a CIS means a resource consent is not required), although this could be mitigated to some extent by 'tailoring' the matters of discretion in Rules 3.11.5.3 and 3.11.5.4 to provide for a more narrow and focused consenting pathway for activities registered to a CIS.

809. If the CIS concept is retained, but within a consenting framework, Officers consider there is a risk that either no CISs establish or landowners do not see enough benefit in joining one, resulting in farming activities predominantly being managed under Rule 3.11.5.4 and therefore needing resource consent. Although there are some benefits to a CIS outside the permitted activity status (in particular the access to professional support for preparing and implementing FEPs), the Hearing Panel may wish to consider whether this is strong enough to retain the CIS provisions.

810. On balance, given the Officers' recommendation to amend Rule 3.11.5.4 to be a restricted discretionary activity rule, Officers consider that there is little if any utility in retaining Rule 3.11.5.3 if it is also amended to be a restricted discretionary activity rule. Having the same consent status for farms having or not having CIS membership provides no regulatory incentive to become a member of a CIS. At this stage (subject to hearing the evidence on this matter) Officers favour deleting Rule 3.11.5.3. The other provisions relating to CIS's should however be retained, given the non-regulatory benefits of a CIS discussed in the preceding paragraph.

811. However, should the Panel be minded to retain Rule 3.11.5.3, an amended version of it recast as a restricted discretionary activity is included in the tracked-changes version of PC1, thereby allowing the Panel to see how such an amended rule could be framed. We have included it in a separate box to provide a visual reminder that it is not an approach favoured by the Officers. Recommended amendments to Rule 3.11.5.4 assume that Rule 3.11.5.3 is deleted.

812. Notwithstanding the Officers' favoured deletion of Rule 3.11.5.3, it has been assumed at this stage that other references to CIS's will be retained, and so detailed recommendations on all of the CIS provisions are outlined in the attached tracked-changes version of PC1.

C3.1.4. Effectiveness

C3.1.4.1. Submissions

813. Oji Ltd considers that the CIS provisions do not provide certainty that adverse effects from the use of land for farming activities, and their associated diffuse discharges, will be avoided, remedied or mitigated. Further, Oji Ltd considers it is not clear that the rule will be effective in achieving the objectives. This is partly due to the issues the submitter has raised with the legality of the provisions. Oji Ltd seeks adoption of an alternative approach which is discussed elsewhere and not repeated here.

[115] Page 154

814. Strang and Strang Limited, HFM and CNI Iwi Land Management Ltd consider there are no specific requirements for improvements to farming activities operating under a CIS. Strang and Strang Limited also believes there may be a conflict of interest if farmer-owned organisations run Certified Industry Groups.

815. A Robson and Save Lake Karapiro Inc consider that audited self-management does not work in industries with a history of poor compliance and is therefore inappropriate for PC1. Similarly, V & N van der Voorden believe CISs are essentially self-monitoring and are likely to be ineffectual due to a lack of oversight and accountability. These submitters seek the deletion of CISs from PC1.

C3.1.4.2. Analysis

816. The role of CISs in PC1 is to support the preparation and implementation of FEPS, not to achieve the objectives of PC1 in and of themselves. It is the FEPs which provide the mechanism for managing adverse effects to an agreed standard and for defining improvements (if any). Although CISs will be responsible for preparing FEPs, they will do so based on the requirements for FEPs set out in Schedule 1. As such, Officers consider that the concerns raised by Oji Ltd, Strang and Strang Limited, HFM and CNI Iwi Land Management Ltd regarding CISs are more appropriately addressed in relation to Schedule 1 which sets out the requirements for FEPs (including the required level of improvement, if any).

817. The concerns raised by A Robson, Save Lake Karapiro Inc and V & N van der Voorden relate to audit, monitoring and enforcement. The submitters seek deletion of the provisions to address their concerns, however Officers consider there are opportunities to address this aspect of the CIS concept in PC1. Audit, monitoring and enforcement of CISs is addressed later in this section – in summary, Officers support the requests from submitters for greater clarity about how this will occur and have proposed amendments to Schedule 2 to strengthen the minimum standards for CISs in this regard.

818. A caucusing process is in place to amend Schedule 1 to improve the requirements and process for FEPs. These changes will improve compliance oversight for all FEPs, whether or not they are part of a CIS. The flow on effect for CISs is that the audit, monitoring and enforcement components of Schedule 2 can then focus on the performance of CISs rather than the FEPs. These amendments are outlined and discussed in detail later in this section.

C3.1.5. Alternative approaches

C3.1.5.1. Submissions

819. A & S Dudin seek amendments to Rule 3.11.5.3 so that all farming activities are treated equally. The submitter considers that the dairy industry already has an Industry Scheme that would meet the requirements to become certified but that the drystock industry does not have the resourcing to establish one, resulting in unfair treatment of the different industries. Similarly, Open Country Dairy requests unspecified amendments to Rule 3.11.5.4 to ensure farmers operating under a consent process achieve outcomes no worse than those working within a CIS.

820. Oji Ltd, Pukerimu Farms Limited, Waiawa Farms, Save Lake Karapiro Inc, Strang and Strang Limited and HFM seek amendments to introduce a Best Management Practice or BPO approach in PC1, and particularly Rules 3.11.5.4 and 3.11.5.5, whereby farming activities operating at Best Management Practice or BPO standard would be permitted activities and those unable to meet those standards would require resource consent. Oji Ltd suggests a new Schedule setting out the detail of these practices.

821. In relation to Policy 2, Forest and Bird seek amendments to require all farming activities to use good management practice by 2019, moving to best management practice where further reductions in diffuse discharges are necessary.

C3.1.5.2. Analysis

822. It is likely that some industry groups will be in a better position to develop a CIS due to the type of work already undertaken by those groups. However, in itself this is not sufficient reason to delete the CIS option. Amending the activity status of Rule 3.11.5.3 to mirror Rule 3.11.5.4 would go some way in ensuring there is equity in the approaches to managing all types of farming activities. However, as noted above, if that occurs then there is little point in differentiating between CIS farms and non-CIS farms in the rules. Officers are not clear what outcomes Open Country Dairy is referring to in its relief sought so are unable to respond to this request.

823. With respect to Best Management Practice or BPO, Officers are recommending changes to ensure farmers operate in accordance with good farming practice principles. This is described in the s42A section on Schedule 1 (Requirements for Farm Environment Plans). Officers consider that the option of a Permitted Activity rule for farms operating at Best Management Practice or BPO would not be appropriate as each farm would need to be individually assessed to see if they are operating in a way that would meet permitted activity criteria. This would not provide the necessary level of certainty for permitted activities.

824. Officers prefer the approach in PC1, where the rules require FEPs which are tailored to a specific farm environment, prepared by suitably qualified and experienced people. As discussed earlier, Officers consider it would be most appropriate if FEPs were scrutinised - through a resource consent process so that there is greater certainty around what is expected of farming activities, a clearer monitoring and compliance framework can be established to ensure necessary on-farm management changes actually occur, and to avoid any legal risk associated with complying with section 70(1).

C3.1.6. General uncertainty about CIS provisions

C3.1.6.1. Submissions

825. Huirimu Farms Ltd, Ata Rangi, Southern Pastures Limited Partnership, G Kilgour, A McGovern and Waipāpa Farms Ltd and Carlyle Holdings Ltd consider there is a lack of clarity about the operation and administration of CISs. E Allan considers that it is not possible to meaningfully comment on the CIS concept as there are currently no CISs.

826. G Kilgour, A McGovern and Waipāpa Farms Ltd and Carlyle Holdings Ltd consider PC1 does not provide clarity on what a CIS is. G Kilgour seeks unspecified amendments to clarify CISs while A McGovern and Waipāpa Farms Ltd and Carlyle Holdings Ltd seek amendments to outline the intent and purpose of a CIS and to ensure there is transparency about what constitutes a CIS. HFM seek amendments to include a more certain process for CISs, such as operating under a resource consent.

827. Most of these submitters seek amendments to the CIS provisions to include more information about these matters and increase certainty about the administration and operation of CISs but have not provided any specific wording.

828. Fonterra consider the provisions, and Schedule 2 in particular, should establish a basis for certification that is as clear and non-discretionary as possible and seek a range of amendments to improve the wording and terminology used in PC1.

829. FANZ, Federated Farmers, Fulton Hogan, GBC Winstone and HortNZ seek to delete reference to water quality targets in Schedule 2. FANZ and Federated Farmers consider CISs do not achieve water quality targets on their own but instead support the achievement of PC1's objectives through professional advice and audit of actions, while Fulton Hogan and GBC Winstone consider the terminology is inconsistent with the NPS-FM and may create confusion.

830. HortNZ is concerned that the CIS concept does not provide for acceptance of Good Agricultural Practice schemes and that data collection and reporting requirements are onerous and focused on process rather

than outcome. Federated Farmers is concerned about the level of information sharing and seeks amendments to specify that members retain access to their information.

831. AFFCO and Tuakau Proteins Limited identify that the term "industry" is already defined in the plan and excludes primary production, which is the primary focus of the CIS concept. Mercury NZ Limited are seeking to include a definition for "regionally significant industry" and are concerned that use of the term "industry" in "Certified Industry Scheme" may inappropriately signal that these schemes are all regionally significant. All three submitters seek to replace the term "Certified Industry Scheme" with "Certified Sector Scheme".

C3.1.6.2. Analysis

832. Officers agree that some of the CIS provisions are unclear to an extent that may affect their ability to be implemented as intended. In particular, Officers consider there is a lack of clarity about:

- the purpose of CISs
- the intent of Method 3.11.4.2
- the standards listed in Schedule 2
- the term Certified Industry Schemes

Purpose of CISs

833. One of the primary methods for achieving the objectives of PC1 is the preparation and implementation of FEPs. The rules as notified were constructed so that these actions either occurred through resource consent under Rule 3.11.5.4 whereby WRC is the agency requiring the FEP and overseeing its implementation, or as a permitted activity by joining a CIS whereby the CIS is the agency requiring the FEP and overseeing its implementation. In essence, Officers understand that one of the primary features of CISs was to prepare and oversee the implementation of FEPs.

834. Given the number of submitters who question the purpose or intent of CISs or feel there is a general lack of clarity about their operation, Officers recommend a range of amendments to Method 3.11.4.2, Schedule 2 and the definition of CIS. These provisions form the basis for the CIS concept, which is then applied through Policies 2 and 3A, and Rules 3.11.5.3, 3.11.5.4 and 3.11.5.5.

Intent of Method 3.11.4.2

835. Method 3.11.4.2 outlines the process for establishing CISs, refers to formal agreements between parties and includes a list of matters that agreements will include. It is not clear whether the formal agreements relate to a contractual agreement between CISs and their members or between CISs and WRC. Additionally, it is not clear how the matters for inclusion in an agreement relate to the standards in Schedule 2. Some of the matters in the method seem to duplicate Schedule 2 standards while others appear focused on the responsibilities of WRC (e.g. ensuring consistency across CISs).

836. Fish and Game seek to delete Method 3.11.4.2. Other submitters have sought unspecified amendments to improve the clarity and certainty of the CIS concept. In response, Officers recommend deleting Method 3.11.4.2 and instead including new Policy 3A setting out the purpose and scope of CISs to provide a clearer policy framework for the approval and use of CISs in the rest of PC1. Additionally, amendments to Schedule 2 (discussed below) are recommended to address concerns by submitters. Proposed wording for this new policy is attached to the end of this section.

Standards in Schedule 2

837. The matters listed in Schedule 2 are variously referred to in PC1 as criteria, standards, requirements and assessment criteria. Officers consider this inconsistency has confused the intent of Schedule 2. Officers understand that the matters in Schedule 2 are intended to establish minimum standards for CISs and that the Chief Executive's approval is based on whether the application demonstrates that the CIS will meet those minimum standards. As such, Officers recommend adopting the amendments sought by Fonterra to ensure all references to the matters in Schedule 2 are to "standards".

838. Officers agree with Fonterra that the basis for certification (i.e. the matters in Schedule 2) should be as clear and non-discretionary as possible. Fonterra and other submitters have requested a range of specific amendments to Schedule 2 to address their concerns. Officers support the intent of many of these amendments where they seek to clarify or specify standards in more detail. The changes recommended by Officers are set out at the end of this section.

839. Officers agree with submitters that the reference to achieving water quality targets in Schedule 2 is inappropriate as this is presumably not the purpose of CISs, and that the wording generally in Schedule 2(A)(1) is unclear. Accordingly, Officers recommend deleting Schedule 2(A)(1) and amending the introductory paragraphs to better reflect the purpose of CISs and their policy foundation. That said, whether CISs should have some clear 'environmental performance' criteria is an unresolved issue, and would appear fundamental to the expectations for what CISs may achieve. To address this matter, it may be appropriate to some 'environmental performance' criteria to the list of matters recommended for inclusion in the amended version of Schedule 2. Officers will revisit that in the end of hearing Reply Report after considering any evidence on the issue.

840. HortNZ has not outlined how it considers the CIS concept does not provide for acceptance of Good Agricultural Practice schemes or sought specific relief in relation to this concern, so Officers are unable to respond. Similarly, Officers are unsure what information Federated Farmers is referring to but generally consider that matters relating to information sharing would be addressed through the contractual agreement between the CIS and its members.

Definition of Certified Industry Schemes

841. Officers recommend adopting the relief sought by AFFCO, Tuakau Proteins Limited and Mercury NZ Limited to replace the term "Certified Industry Scheme" with "Certified Sector Scheme". Officers agree that the term "industry" is already defined in the plan in a way that is inconsistent with its use in the term "Certified Industry Schemes". Mercury NZ Limited has sought this amendment for different reasons, namely that the submitter seeks to include a new definition of "regionally significant industry". That proposal is addressed elsewhere in this report and is not repeated here.

C3.1.7. Audit, monitoring and enforcement

C3.1.7.1. Submissions

842. A Robson, Save Lake Karapiro Inc, V & N van der Voorden and DoC oppose CISs in part due to concerns about auditing and monitoring. J T Findlay also opposes the use of CISs due to the additional costs imposed by monitoring and auditing of CISs as a whole as well as individual FEPs.

843. Waikato Dairy Leaders Group believes use of CISs in a permitted activity framework can be justified if there are appropriate checks and balances in the CISs, including that the WRC retains its monitoring and compliance functions. The submitter seeks that activities managed under Rule 3.11.5.3 are subject to the same amount of rigour as those managed under Rule 3.11.5.4, including the development, monitoring and enforcement of FEPs. Similarly, Fonterra Shareholders Council consider that the same standards must be met whether a farm is operating under a CIS or under a resource consent.

844. Tangata whenua submitters, P McLean, Waahi Pa Marae Committee and CNI Iwi Land Management Ltd raise concerns with the ability to enforce compliance with FEPs under a CIS and consider the WRC must retain the ability to review and, where necessary, revoke certification of a Scheme if performance outcomes are not achieved. Where this occurs, tangata whenua submitters, P McLean and Waahi Pa Marae Committee seek that either:

- Non-compliant farming activities are required to apply for resource consent as a restricted discretionary activity under Rule 3.11.5.6; or

- The activity status in Rule 3.11.5.3 is amended to controlled, with Schedule 2 setting out the matters of control.

845. In response to its concerns about enforcement, CNI Iwi Land Management Ltd consider the criteria in Schedule 2 must include having in place appropriate governance arrangements, management systems, compliance monitoring and enforcement processes, procedures and resources.

846. Beef and Lamb seek amendments to a range of provisions to expand the criteria for CIS auditing and reporting processes. Federated Farmers note that consistency in approach and robust auditing will be critical to the success of CISs but do not seek any amendments.

847. Tangata whenua submitters also seek that copies of all audit and monitoring reports received from CISs are provided to Waikato and Waipā River Iwi while CNI Iwi Land Management Ltd seek that they are made publicly available.

848. In regard to Schedule 2, HortNZ consider that CISs should provide independent assurance that farm risk assessments and actions contained in FEPs are completed. The submitter seeks the deletion of Schedule 2(A)(1), (B) and (C), and an addition to Schedule (A)(3) to provide for competency assessment and checks for people generating and monitoring FEPs in line with relevant industry qualifications agreed with WRC.

849. New Zealand Pork Industry Board note that there is support for a CIS that meets international best practice. The submitter seeks amendments to Schedule 2 incorporate reference to ISO 17065 (Conformity assessment – Requirements for bodies certifying products, processes and services) and ISO 19011 (Guidelines for auditing management systems).

850. Timberlands Limited are concerned that the compliance action pathway for members of CISs who are not complying with their FEP is not clear. They seek amendments to Schedule 2 to clarify the compliance action pathway to be followed should a CIS member not follow or meet deadlines in their FEP. The submitter suggests that non-compliant members should automatically become subject to Rule 3.11.5.6 (and therefore require resource consent as a restricted discretionary activity).

C3.1.7.2. Analysis

851. Policy 2(a) and Method 3.11.4.2(b) make it clear that monitoring and possibly auditing of FEP implementation is an intended function of CISs. Schedule 2 as the Officers recommend it be amended would require CISs to have a statement of the Scheme's capability and capacity for monitoring and assessing the implementation of FEPs (B.1) and refers to auditing of FEPs to be conducted by an independent body (D.1).

852. Although there is clearly intended to be monitoring and auditing of FEPs by CISs, independently from the preparation of them, Officers agree with submitters that there was a lack of information about the acceptable standard for these activities in Schedule 2 as notified. The policies and method are silent on compliance and enforcement, however their inclusion in Schedule 2 indicated those matters were also intended to be managed by CISs. Should the panel wish to retain the CIS instrument, consideration will need to be given to the role that the CIS would play in approving and in auditing FEPs, and how any actual or perceived conflicts of interests would be managed.

853. Officers consider Schedule 1 is the appropriate place to establish and apply a consistent approach to monitoring and auditing that will apply to all FEPs, whether or not they are part of a CIS. However, there is still a need for CISs to demonstrate to WRC, and the public more generally, that they are performing the required functions to an acceptable standard. For this reason, Officers have recommended the amendments to Schedule 2 to clarify the audit requirements in relation to the performance of CISs (separately from the audit of FEPs) discussed above.

854. Officers consider the proposal by NZ Pork to include reference to two international standards (ISO 17065 and ISO 19011) has merit, but without access to the content of those standards the Officers are not able to fully assess this proposal. At a general level, Officers support the intent to provide clearer guidance and direction in Schedule 2 on the process for certifying Industry Schemes and conducting audits.

Recommendation on submissions:

9. Accept all those submissions that supported the plan provisions which are recommended to remain unchanged or largely unchanged

10. Reject those submissions who sought the deletion of the Plan Provisions which are recommended to remain unchanged or largely unchanged

11. Accept, or accept to the extent, those submissions that sought the changes recommended as set out in the revised plan provisions

12. Reject, or reject to the extent, those submissions that do not support the changes recommended as set out in the revised plan provisions

C4. Stock exclusion[116]

C4.1. Summary of this section and recommendations

855. Schedule C of PC1 sets out the main requirements for stock exclusion. The exclusion of cattle, horses, pigs and deer from water bodies is one of the main PC1 responses to the high levels of microbial contaminants in large parts of the Waikato and Waipā catchments.

856. This is one of the most heavily submitted on elements of PC1. Many submissions seek the complete removal of stock exclusion requirements, while others seek substantial amendment, primarily to make the provisions more flexible and require less fencing. Other submissions seek more certainty in the provisions, and some consider the notified provisions are inadequate.

857. While central government suggested some consistent national stock exclusion regulations a few years ago, these have not progressed and have no current status. That said, many submitters have suggested they should be adopted, or have taken guidance from them. To complicate matters, it is possible that further central government directions regarding stock exclusion will appear in the next few months.

858. Key recommendations include:

1. Keeping stock exclusion requirements as a key part of PC1, through Schedule C.
2. Removing inconsistencies between the rules and Schedule C, and adoption of some elements of the draft national regulations, particularly around stock crossings.
3. Requiring stock exclusion on a wider range of smaller rivers, streams and drains.
4. Not making a specific recommendation on the slope thresholds for fencing, but recognising that the existing Schedule C provisions are unrealistic in not having any maximum slope threshold.
5. Identifying that temporary, virtual and other kinds of stock exclusion are appropriate.

C4.2. Introduction

859. Stock exclusion is the temporary or permanent exclusion of stock from the bed and banks of waterbodies and wetlands. Stock exclusion prevents direct deposition of contaminants into waterways, as well as preventing trampling damage to the beds and banks of rivers wetlands, riparian margins, and lake and riverine habitats.

860. Adverse effects on water quality are highly likely when stock have unrestricted access to the beds and banks of rivers, streams and lakes. Biophysical and management factors such as stock numbers, the length of time confined to an area, soil type, slope and rainfall can all affect the extent of these adverse effects. As outlined in the s32 report, avian and ruminant pollution was detected in all of the five tested streams sampled in the Waikato region using faecal source tracking. No human pollution was detected at any of the study sites, with ruminant pollution generally dominating other contaminant sources following specific rainfall events[117].

861. There are three key pathways for agricultural sources of microbial contaminants to enter waterbodies:

- Artificial drainage;
- Direct deposition into the channel or stream bank; and
- Overland flow.

[116] This section authored by Matthew McCallum-Clark and Naomi Crawford
[117] Proposed Waikato Regional Plan Change 1- Waikato and Waipa River Catchments Section 32 Evaluation Report, page 65.

862. During low flow conditions, when recreational activities such as swimming are most likely, direct deposition of contaminants into waterbodies poses one of the greatest risks to human health. Fencing off critical source areas, and the provision of appropriate riparian management can provide mitigation for microbial contamination.

863. The benefits to waterways of livestock fencing for stock exclusion also include reduced suspended sediments as a result of decreased faeces input and from reduced bank/bed disturbance and erosion, as well as increased riparian margin plant growth which results in improved filtering and potentially shading.

864. Evaluation of monitoring data from 2009 to 2014[118] showed that 43 out of 62 monitoring sites throughout the Waikato catchment exceeded the then National Bottom Line for *E.coli*[119]. In response, the approach in PC1 was to enable the use of land for stock grazing provided that stock do not have un-restricted access to waterways. Sheep and goats were not specifically included as part of this approach as it is generally accepted that they do not have the same affinity for entering water as other stock types such as cattle, horses, deer and pigs, and therefore pose less risk of giving rise to adverse effects on waterbodies.

865. Schedule C of PC1, which sets out the requirements for stock exclusion and the associated rules, are additions to the existing WRP Rules 4.3.5.4 to 4.3.5.6. The existing rules within the WRP focus on the disturbance to the beds and banks of water bodies and the associated adverse effects of sediment in waterways and erosion of banks, while the proposed new rules relate to farming activities.

866. Specifying stock access as a prohibited activity within PC1 was considered by the CSG. However, this was set aside in favour of rules focused on land use activities and linking stock exclusion to the FEP process.

867. The stock exclusion rules focus on excluding all stock (except for sheep and goats), and requiring fencing and livestock crossing structures, while also recognising that individual properties have specific situations that could be dealt with as part of a risk assessment process under a FEP process.

868. It is accepted that in many cases fencing will be difficult to install and maintain and will come at considerable cost to landowners. It is possible that stock exclusion will be more reasonable on a cost and practicality basis to dairy farmers than dry stock farmers due to the actions already taken to fence cows out of streams over the last decade. Dairy farms also generally have flatter topography and greater access to power for electric fences and reticulated water systems making the requirements less onerous. In contrast, dry stock farms may have a greater range of topography with more rolling to steep land, require reticulation of alternative water supplies, and may also graze deer which typically require more resources for fencing.

C4.3. Pre-hearing Meetings

869. Informal meetings have been held between WRC s42A report writers, WRC staff and a number of parties interested in the fencing and stock exclusion provisions, including the equine industry, Beef and Lamb, Federated Farmers, PLUG, DoC, Fish and Game, Forest and Bird, territorial authorities and the deer farming industry. These meetings helped improve understanding of different points of view, and records of the meetings are available.

[118] Part D.4, Appendices, Proposed Waikato Regional Plan Change 1- Waikato and Waipa River Catchments Section 32 Evaluation Report, p105.
[119] As specified in the 2014 version of the National Policy Statement for Freshwater Management 2014.

C4.4. Provisions

870. The mechanisms in PC1 for controlling stock exclusion are based on Policy 1 and Policy 2, which are implemented by Rules 3.11.5.1 to 3.11.5.6. These provisions make reference to Schedule C, which sets out specific guidance for stock exclusion, Schedule 1 which includes minimum management and risk assessment standards for stock exclusion as a part of FEPs, and also make use of several definitions in the glossary, including 'drain', 'livestock crossing structure' and 'setback'. For the purposes of this assessment these provisions are referred to as the 'stock exclusion provisions'.

871. In addition to objectives and policies on water quality and giving effect to the Vision and Strategy, the RPS contains one particularly relevant policy to stock exclusion. Policy 8.3.2 states that regional plans shall manage adverse effects of activities in riparian areas including tracking and earthworks, removal of riparian vegetation, and access to the bed and banks of fresh water bodies by vehicles and stock to ensure reduced microbial contamination of fresh water bodies.

872. Of particular relevance in PC1 are Objectives 1, 3 and 6 which outline the long-term and short-term policy goals, and Policies 1 and 2 which outline progressively excluding cattle, deer, and pigs from rivers, streams, drains, wetlands and lakes. Stock exclusion must be completed in accordance with Schedule C and within three years following the dates by which a FEP is provided to Council, or no later than 1 July 2026.

873. Schedule C seeks to manage how stock are to be excluded from the following water bodies:

- Any river that continually contains surface water;
- Any drain that continually contains surface water;
- Any wetland, including a constructed wetland; and
- Any lake.

874. Rules 3.11.5.1 to 3.11.5.5 in PC1 seek to restrict cattle, horses, deer and pigs from waterbodies in accordance with Schedule C. There are a range of subtle differences in some of the rules from the requirements of Schedule C, such as:

- Rule 3.11.5.2 sets standards for farming activities on properties greater than 4.1 hectares having more than 6 stock units per hectare or used for arable cropping. The rule requires exclusion of cattle, horses, deer and pigs in accordance with Schedule C and also requires a 3m setback for new fences for cattle pigs and deer, other than for constructed wetlands and drains.
- Rules 3.11.5.3, 3.11.5.4 and 3.11.5.5 require exclusion of cattle, horses, deer and pigs in accordance with Schedule C, but also require an FEP in accordance with Schedule 1. The minimum standards in Schedule 1 are not entirely consistent with Schedule C.

875. Rule 3.11.5.6 provides for any farming land use activity not covered by Rules 3.11.51 to 3.11.5.5. This rule allows the Council relatively broad discretion to assess the activity, its potential effects and how these may be mitigated and monitored.

876. For all of the rules listed above, fencing must be completed in Priority 1 sub-catchments by 1 March 2023 and by 1 July 2026 for properties within Priority 2 and Priority 3 sub-catchments (which are listed in Table 3.11-2).

877. Schedule C also seeks to restrict any livestock entering or passing across the bed of the waterbody except when using a livestock crossing structure. Exclusions to this provision are the entry onto or passing across the bed of a waterbody by horses that are being led, or when the waterbody is entered by a feral animal.

878. Also of note, in 2016, the Government publicly signalled its intention to introduce a national regulation to exclude dairy cattle (on milking platforms) from waterways by July 2017 (detailed further below). As part of this process, the Government sought public submissions on the design of stock exclusion regulations

through the Next Steps for Fresh Water consultation document (Ministry for the Environment, 2016). Following consultation, the process appears to have been placed on hold.

C4.5. Submissions and Analysis

879. Overall, over 1300 submission points were received in relation to the stock exclusion provisions. Twenty-nine submitters support the provisions as proposed, 572 submitters support the provisions with (often substantial) amendments; 215 submitters oppose the provisions with amendments, and 460 oppose the provisions entirely. Twenty eight submitters neither supported nor opposed the stock exclusion provisions.

880. Within the range of submissions several recurring themes have been identified. These themes have been listed below and are discussed in further detail within this section of the report:

- The need (or not) to adopt the draft national regulations for stock exclusion;
- The types of waterbodies included in PC1, including any inconsistencies between definitions, schedules and rules;
- The economic impacts of, and alternatives to fencing;
- How to measure slope;
- The timeframes for stock exclusion;
- The ability to control weeds and maintain drainage capacity;
- Required setback distances;
- The exclusion of stock other than cattle, horses, deer and pigs; and
- The inclusion of stock crossings.

881. The nature of the submissions on these provisions is such that they are not easily grouped. As a result, this section includes a summary of each relevant submission point and the analysis on it.

C4.5.1. The need (or not) to adopt the draft national regulations for stock exclusion

882. A number of submissions were made in respect of the National Standards for stock exclusion. In February 2017, the Government published draft regulations addressing the issue of stock exclusion[120]. Those draft regulations were open for consultation until April 2017. There has been no further clarification from the Government as to the status of the draft regulations. However, the Government has signalled that further direction may be released in the next few months.

883. The draft regulations for stock exclusion suggested staged exclusion of all stock through fencing with the exception of sheep (refer to Table 2). Sheep are not included as they do not have the same affinity for water and do less damage to beds and stream banks than other types of stock. Table 2 identifies when stock are to be excluded from waterways under the draft regulations.

[120] Clean Water: 90% of Rivers and Lakes Swimmable by 2040, MfE, 2017

Table 2[121]:

Farm/stock type	Plains (0-3°)	Undulating/rolling land (>3-15°)	Steeper land (>15° and over)
Dairy cattle (on milking platforms) and pigs	1 July 2017 for waterways over 1 metre wide on all slopes 1 July 2020 for waterways less than 1 metre wide on the plains		
Dairy support (on either land owned/leased by the dairy farmer or third party land)	1 July 2022 for all waterways on the plains regardless of size and waterways over 1 metre wide on rolling land		Only where break feeding, by 1 July 2022
Beef cattle and deer	1 July 2025 for all waterways regardless of size	1 July 2030 for waterways over 1 metre wide	
	Where break feeding by 1 July 2022		

884. The draft regulations also have a specific set of requirements for stock crossings. Cattle, deer and pigs are able to enter the water body for the purposes of crossing as long as they are being actively driven or being supervised in one continuous movement. Bridges or culverts are only required by 1 July 2019 if stock crossings are used once or more per week.

885. The draft regulations are proposed to apply to the bed and banks of waterways (rivers, streams and drains) that are permanently flowing and where the active channel is over 1 metre wide at any point, as well as lakes, natural wetlands and permanently flowing waterways of any size on land with a slope of between 0 and 3 degrees. The requirements do not apply to ephemeral surface flows or artificial water bodies such as stock dams, irrigation storage ponds, and effluent ponds.

886. The majority of submissions oppose the stock exclusion provisions or seek substantial amendment. A number of submitters requested that the draft regulations on stock exclusion be adopted. Many submissions cite the draft regulations in support of requests that the stock exclusion requirements only apply to permanently flowing waterbodies, defined as 1m wide or greater, where the margins are on less than a 15 degree slope.

887. A large number of submitters have sought clarification as to whether the draft regulations should or would be adopted into PC1, on the assumption the Government's process was continuing. Beef and Lamb have requested stock exclusion policies and methods to be amended to match the draft regulations[122]. They would also like to manage critical source areas specific to each property, rather than 'blunt' standards such as stock exclusion through permanent fencing up to 25 degrees slope. In opposing the PC1 provisions, submitters have primarily cited the economic cost and difficulty of erecting fencing, as well as the social impacts on hill country farmers. Some seek a deletion of the fencing rules in PC1 entirely, while others seek more leniency in the requirements in line with the draft national guidelines, including seeking maps to show defined areas of stock exclusion.

888. PC1 has more stringent requirements than the draft regulations for stock exclusion with respect to the timeframes for implementation, the size of the setbacks, and the slope requirements. The draft regulations propose staged exclusion of all stock except sheep, and do not require fencing of steeper slopes. They also reference an online interactive mapping tool on stock exclusion, which is not available to WRC at this point in time.

889. More recently, the Government has signalled there will be updated amendments to the Freshwater NPS in force by 2020. Point 49 of Appendix 1 of the Cabinet paper '*Essential Freshwater*' published in October 2018 indicates that officials are developing advice on compulsory exclusion of stock from waterways after

[121] Modified from Table 2 of the Draft Regulatory Impact Statement: Stock Exclusion, February 2017
[122] Beef and Lamb New Zealand Limited submission, para 33

draft regulations had been put on hold by the previous Government. The current Government is seeking advice on regulating high risk land management practices such as intensive grazing on hill slopes.[123]

890. Overall, the Officers do not agree that the draft national regulations should be adopted. Officers understand that the previously published draft regulations are not being further advanced by Government, and submitters have not identified that they are any necessarily 'better' than any other alternative set of provisions. Officers consider that the draft regulations would not meet the requirements of reducing contaminant losses from farm land in accordance with the 80-year timeframe to achieve the water quality objectives of the Vision and Strategy. However, the Officers recommend, as set out below, to go part way towards the setback distances and slopes as outlined in the draft regulations. This outcome is proposed with a range of amendments to Schedule C.

C4.5.2. The types of waterbodies included in PC1, including any inconsistencies between definitions, schedules and rules

891. Several issues have been raised by submitters in relation to inconsistencies with terms used throughout the stock exclusion provisions in PC1.

892. Many submitters commented on inconsistencies with the terminology used throughout rules 3.11.5.1 to 3.11.5.5 which state "*cattle, horses, deer and pigs are excluded from waterbodies in conformance with* Schedule *C*" and the term *Livestock* which is used in Schedule C in reference to stock crossings. Dozens of submitters have requested that the term "Livestock" listed in Schedule C in relation to stock crossings be clarified.

893. A number of submitters have sought clarification on the term '*cattle*' and have requested that the stock exclusion provisions should only apply to cows, horses, pigs and deer[124]. Others advocate for the term '*domestic'* to be inserted in front of cattle, horses, deer and pigs in all applicable rules and schedules[125].

894. Officers note that the term 'cattle' is not defined in PC1 or the WRP. However, cattle is defined in the Oxford dictionary as "*Large ruminant animals with horns and cloven hoofs, domesticated for meat or milk or beasts of burden; cows and oxen*." While the Officers agree that removing the word *livestock from clause 3 of Schedule C,* and replacing it with the word *Cattle,* would improve the consistency of approaches across all applicable rules and schedules, only applying the rules and schedules to cows rather than cattle or domesticated animals would relax the approach and may not be consistent with Objectives 1, 3, and 6 of PC1. Therefore, the Officers do not agree with the submissions which propose a substitution of the word '*cattle*' to '*cows*' or '*domestic*' animals in all applicable rules and schedules.

895. A 'river' as defined in the RMA includes a stream, however this may not be understood by lay users of the Plan. Consequently, WRC suggested that an advice note be included to the end of Schedule C which reads "a reference to a river includes a reference to a stream", as Policy 1(c) includes stream in the list of areas to be excluded from, while Schedule C does not. To improve the consistency across PC1 and avoid any doubt, the Officers agree that Schedule C should be amended to explicitly refer to streams.

896. A wide range of submissions were received in relation to the terminology regarding the proposed waterbodies listed in Schedule C (i)-(iv), and the inconsistency of approaches in Schedule C and Schedule 1 around both the setback distances and slope. Many submitters have suggested that the stock exclusion provisions should only apply to all permanently flowing waterbodies 1m or greater[126]. Some submitters wish to exclude small waterways from all fencing requirements. Others believe that fencing requirements should only apply to waterways with a measurable minimum flow, with voluntary options for fencing of

[123] Ministry for the Environment and Ministry for Primary Industries. 2018. Appendix 1 – Cabinet paper. *Essential Freshwater: Healthy Water, Fairly Allocated*. Wellington.
[124] For example: Riverheads Ltd, Schuler Brothers Ltd
[125] For example: Sieling Farms, WRC
[126] M Hansen, Nelson Farms Partnership

minor waterways[127]. Some submitters want to remove the fencing requirements for wetlands and springs altogether[128].

897. A number of submissions seek further clarification around the definition of water bodies[129]. Some requested a definition aligned with the Sustainable Dairying Water Accord 2013[130]. The Accord sets expectations for stock exclusion which include exclusion from waterways and drains[131] greater than one metre in width and deeper than 30 cm, and significant wetlands. A number of submitters request that a waterway of this size be the minimum required to trigger exclusion from stock. Some submitters were unclear as to whether they sought waterbody definitions as per the Clean Water proposed stock exclusion guidelines or[132] the Sustainable Dairying Water Accord. Some submitters have suggested that there should be exemptions from stock exclusion for low intensity farming[133]. Submissions from deer farmers have highlighted the natural wallowing behaviour of deer and how that can be accommodated. Other submitters, have highlighted the need to exclude stock from waterbodies more generally, smaller water bodies and drains.

898. Federated Farmers consider it appropriate to have the same definition as per the Sustainable Dairy Accord for drains and rivers and for stock exclusion to only apply to a significant wetland (excluding constructed wetlands) and lakes which are greater than 1ha in area[134].

899. Officers note that adopting the Dairy Accord definition of a water body would exclude the myriad of waterbodies smaller than 1m and shallower than 30 cm which flow into larger waterbodies and which still provide a pathway for contaminants. However, rivers and drains are only affected by Schedule C if they are "continually flowing". Excluding cattle, horses, deer and pigs from intermittently flowing waterways was considered during the development of PC1, however it was considered impracticable, given the drawbacks of enforcing compliance. Instead, it was considered appropriate to include the consideration of stock exclusion from intermittently flowing waterways through the FEP process. Officers are of the view that there are many waterbodies that may flow for almost all of the year that ought to have stock access limited.

900. As part of the Southland Water and Land Plan process, Fonterra proposed requiring stock exclusion from water bodies with an "active bed". There is an option to adopt this definition, which may make it easier to identify and exclude swales and very minor waterways that would be impracticable to exclude stock from across the region, while also ensuring both continuously flowing and more significant ephemeral waterbodies were captured under the provisions. Officers recommend that the specific water bodies in Schedule C, should be modified, and Officers also note the option to include this active bed definition if the Panel considers it helpful and sufficiently certain. Officers note that this will mean a range of additional, smaller waterbodies will require stock exclusion, but consider that the 'continually contains water' concept is problematic, as:

    (a) it excludes a significant proportion of intermittently flowing water bodies, where research would suggest a large proportion of microbial contaminants originates from; and
    (b) 'continually contains water' is difficult to implement and enforce, as for smaller waterbodies it requires continuous monitoring to determine if, presumably for the entire length, it dries up at any time of year.

901. Officers note that deer and pigs will naturally wallow in a hollow or dip filled with water or mud. The run-off from wallows are typically high in bacteria and phosphorus laden sediment, and for this reason, wallows

[127] R Boom
[128] For example: DVL and ST Robinson Family Trust
[129] J Alcock, and J Easton, MD and CA Camp
[130] DC Saxton, P Loft, M Hansen, R and O Douglas, N Phillips, Riverheads Ltd, Matham Trust, Bolt Trust and King Country Partnership, A and J Frances
[131] The Sustainable Dairying: Water Accord, 2013, p6 defines a drain as: An artificially created channel designed to lower the water table and/or reduce surface flood risk and that permanently contains water but does not include any modified (e.g. straightened) natural watercourse
[132] Chick, AR
[133] Scott, F and J
[134] Federated Farmers of New Zealand

are known as critical source areas for contaminants[135]. This matter is not currently addressed in Schedule C. The best practice option would be to create wallows in lower risk locations or ones that are not connected to watercourses. For this reason, Officers recommend allowing for wallows for both deer and pigs, provided they are not connected to a flow path to a water body.

C4.5.3. The economic impacts of stock exclusion, and alternatives to fencing

902. A number of submitters have requested recognition of the significant costs associated with the installation of reticulated water supplies and have sought clarification of whether those costs could be offset by alternatives to fencing.[136] Other submitters seek compensation for land and income 'lost' due to the fencing requirements.[137] Some submitters seek further certainty around future land use, as capital investment in fencing will be lost if the land is required to be converted to forestry in the next few decades.[138] Some submitters have specifically asked for subsidies for water reticulation, planting of shelter trees and spraying[139], while others support voluntary options such as planting programmes to filter sediment, creation of silt traps or new wetlands, and the use of semi or permanent fencing.[140]

903. Officers note that the Local Government Act 2002 requires local authorities to consult their communities about funding and financial policies, placing the topic of subsidies outside the scope of this PC1 process. Officers are also aware that RMA plans cannot direct the executive functions of councils (such as setting fees or establishing subsidy schemes).

904. The Officers acknowledge that while fencing of waterbodies and the associated works around water reticulation (required for stock water troughs because stock can no longer drink directly from streams) may involve a significant financial cost, but those costs are an unavoidable consequence of achieving the outcomes sought by the Vison and Strategy and PC1. As identified at the beginning of this section, monitoring data shows that *E.Coli* levels in large parts of the catchment do not meet the water quality targets for microbial contaminants by a significant margin.

905. A wide range of submitters seek further clarification on the form of fencing required in order to comply with the rules and schedules[141]. Some submissions advocate for flexibility to allow for future technologies such as virtual fences[142], others seek clarification on the use of temporary or permanent fencing[143]. The health and safety issues of fencing in steep hill country, and installing power for fencing in areas with no overhead wires have also been raised as an area of concern for some submitters[144].

906. Fish and Game propose that Schedule C also includes stock exclusion by a constructed land barrier in addition to naturally formed barriers which are already included in the notified provisions.[145]

907. Officers agree that provided the stock exclusion is effective, whether the barrier is temporary or permanent, natural or constructed is immaterial. More explicit wording around different forms of fencing, such as temporary, permanent, and virtual fencing, has been included in amendments proposed for Schedule C, along with a clarification that the stock exclusion provisions do not authorise the construction of structures in the bed of a river, lake or in a wetland – other rules of the WRP address this.

[135] Deer Facts, Protecting waterways from wallow and feed pad run off. Environment 01/August 2016 Deer Industry New Zealand
[136] Glenshee Trust
[137] Stokes Shorthorn Farm Ltd, A Garret and K McKay
[138] Stokes, KS, Kent, E, H and G, Nelson Farms Partnership
[139] Lee, M and S, Craig J
[140] McGregor, CG, Lee, M and S, Kohunui Station Ltd, Upper Maire Creek Sub Catchment, Verry, A, McCluine J and M, R.P O'Connor and Sons Ltd, Taupo Lake Care Incorporated, Louise M and Maher C, Lee, M and S, Dunlop, T, Verkerk, G
[141] Aitken, DJ, Drummond Dairy Holdings Ltd, McGregor, CG, Lee, S,
[142] Ashby, JL and RJ,
[143] McGregor, CG, Lee, S
[144] Ashby, JL, Williamson, SD, Purdie, L and H
[145] Fish and Game, JF Waterworth

908. Alternatives to fencing, such as riparian planting to reduce microbial loadings to waterways, were discussed in Doole (2015)[146]. This showed that there was little benefit from riparian planting alone in relation to reducing microbial loadings from waterways. For this reason, the Officers do not agree that alternatives to fencing such as the creation of riparian plantings will be sufficient to reduce *E.coli* and sediment contaminant levels in line with the objectives and policies outlined in PC1, unless they are established in combination with fencing, or form some kind of effective barrier to stock access.

909. There is a broad range of literature in which vegetated riparian margins have been shown to have significantly greater stability than those without vegetation. However, the benefits are difficult to attain in practice due to the pulse of stream bank erosion in the short term, and the need for battering of steep banks, meaning that it can take some time for the vegetation to reach a stable equilibrium[147]. Unfortunately, riparian options were not represented in the model produced by Doole 2015, due to the difficulty of representing the period of transition as the introduced vegetation establishes and grows. However, there are a number of studies which attribute most reductions in streambank erosion to livestock exclusion[148].

910. Schedule 1 of PC1, (FEPs), which is referred to in Rules 3.11.5.3 to 3.11.5.5, requires an assessment of methods to minimise losses of sediment, nitrogen, phosphorus and microbial pathogens, such as via detention bunds, sediment traps, and constructed wetlands. Schedule 1 is to be caucused at a future date, and Officers will seek to ensure consistency with Schedule C.

C4.5.4. How to measure slope and slope thresholds

911. A number of submitters seek further clarification on how to measure slope on undulating land given the slopes listed in the Schedule 1 provisions[149]. Some submitters have advocated establishing guidelines for fencing[150]. Others consider that an area-based percentage slope across a paddock or a farm should provide guidance on what constitutes the slope thresholds for stock exclusion[151].

912. The Officers note that slope is already defined in the notified WRP as "*The steepness of the land surface. Slope is measured in degrees and to an accuracy no less than that achieved by a hand held clinometer or Abney Level*". Therefore, the Officers do not consider it strictly necessary to further define in PC1 how slope should be measured. However, there are always complexities for individual properties and situations that require more detailed guidance. If a slope threshold is set, Officers suggest that WRC produce more detailed guidance, probably by way of material published on the website, with some worked examples of how slope will be measured in accordance with the definition. In addition, Officers note that with increasing LIDAR coverage of the region, in time it may be possible in the future to produce slope maps at an appropriate level of detail from GIS systems. This has occurred successfully in other regions, for example the Proposed Regional Plan for Northland uses categories of "Lowland Areas" and "Hill Country Areas" for its stock exclusion rules and those areas are mapped and accessible on the Council's website.[152]

913. Dozens of submitters have suggested that there should not be a requirement to fence slopes over 15 degrees, where no break feeding occurs. Officers consider that to allow unlimited stock access, other than where break feeding occurs, is unlikely to be consistent with the objectives and policies of PC1. The Officers agree that there should be a consistent approach for exclusion of stock across all applicable rules and schedules for stock exclusion based on stock type and taking into account slope. As notified, Schedule C does not have any upper slope threshold – in theory, every slope, including the very steepest, require

[146] Description of mitigation options defined within the economic model for Healthy Rivers Wai Ora Project –Description of options and sensitivity analysis 28 September 2015 doc#3606268

[147] Collier, K.J., Rutherford, J.C and Davies-Colley, R.J. (2001), 'Forecasting rehabilitation outcomes for degraded New Zealand pastoral streams', *Water Science and Technology* 43, pp. 175 184.

[148] Andrew Hughes, NIWA, pers.comm

[149] Goodwright, S.A, Cameron, B, Schuler Brothers Ltd, Phillips, N, Gleeson, GB, Matahuru Farms Ltd, Waikato Regional Council

[150] Reeve, JM

[151] Phillips, N, Schuler Brothers Ltd, Gleeson, GB, Matahuru Farms Ltd

[152] https://nrcmaps.nrc.govt.nz/portal/apps/webappviewer/index.html?id=b8ca7b93e48942b9be8223e79430674c

fencing. Officers agree with submitters that there are health and safety concerns with fencing on steep land, and a risk of significant damage to steep and erodible land through tracking and machinery use. The Officers do not wish to recommend a particular slope threshold at this point in time, other than to note the health and safety, as well as environmental risks of requiring fencing on land over 25 degrees, when the benefits may also be comparatively low, due to generally lower stocking rates. It may be that requiring steeper slopes be managed under the FEP process will enable flexibility and still provide confidence that effects are being managed.

914. The Officers will revisit this matter in the end of hearing Reply Report after considering evidence presented at the hearing. A recommendation will be made on an appropriate upper slope limit for stock exclusion to be included in clause 1 of Schedule C.

C4.5.5. Timeframes for stock exclusion

915. Numerous submitters have requested changes to the timeframes set out to give effect to the stock exclusion provisions. Many acknowledge that there are physical or financial constraints on farmers that make the stock exclusion timeframes challenging and seek extensions to timeframes if risks are appropriately managed[153]. Others suggest alternatives, for example, that fencing should be undertaken at a sub-catchment community level, with major waterways prioritised first and minor waterways given longer timeframes[154]. Others would like the stock exclusion provisions to be fast tracked and believe the compliance timeframes for PC1 are too relaxed[155]. Federated Farmers seek that the timeframe extending for stock exclusion be extended to 2028 instead of 1 July 2026 as stated in Policy 2(e).

916. The Officers consider that amending the timing to include 'where possible and practical', as requested by some submitters, would make the relevant rules and timeframes much more subjective, making it difficult to give any certainty or confidence that water quality would be improved. Such an amendment would also render the PC1 provisions and any resulting resource consents unenforceable.

917. Table 3.11-2 lists the 74 sub-catchments and which priority area they fall into. Rules 3.11.5.3 and 3.11.5.4 set out the timeframes for FEPs. This is a staged approach, taken primarily due to implementation constraints. Linking the timing requirements for fencing to the FEP priority area dates, which themselves are based on water quality priorities, provides a greater degree of consistency and certainty for landowners. Officers recommend retaining this approach which is currently specified in Schedule C clause 5. The PC1 rules require that stock exclusion is to be completed three years after a FEP is developed, or at the latest by 1 July 2026. Officers consider that extending these timeframes would further delay the restoration of degraded water quality and would not adequately support the objectives and policies of PC1. Therefore, the Officers do not agree that the stock exclusion timeframes can be extended without undermining the intent and achievement of PC1.

C4.5.6. Required setback distances

918. Several submitters have sought clarification on setback distances and have proposed amendments, which are either smaller or larger than those provided in the provisions of PC1[156]. Several submitters sought clarification on the different setback distances between rules within PC1. Others consider it would be more appropriate to match setback distance to land use capability [157]. As discussed earlier, some submitters have requested that setbacks should only be required for land with a slope of between 15 and 25 degrees where

[153] For example, Fletcher Trust, Purdie, L and H, Federated Farmers of New Zealand, Dunlop T, Findlay, A
[154] Miller, AD
[155] Chandler, P and L, Gatson, J and A, Gleeson, GB, Forster, D and C
[156] Department of Conservation, Primary Land Users Group, Robson, A, Save Lake Karapiro Inc
[157] Tapp, W, Ramsey, M and C, Glenshee Trust, Clarke, H

break feeding occurs[158]. A number of submitters have suggested that setbacks described in Rule 3.11.5.2(3)(e) and (4)(e) should be the same as the Schedule 1 provisions[159].

919. As outlined in the s32 report, due to a range of site-specific factors, there is variability in the effectiveness of setbacks in intercepting contaminants before they reach water bodies[160]. While a specified distance does not provide the same benefits everywhere, in principle there are benefits from having a buffer between farming activities and a waterway. Because of different site-specific characteristics of farms, the Officers consider that the use of setbacks should be primarily specified through the FEP process. Strong guidance about setbacks should be provided through the requirements for preparing a FEP (such as specifying cultivation setbacks and minimum grazing setback distances).

920. The Officers agree with submitters that the inconsistency of approaches for setback distances for both Schedule C and Schedule 1 make it difficult to comply with Rules 3.11.5.3 to 3.11.5.5. The Officers recommend a series of amendments to correct this inconsistency. Officers note that Schedule 1 is to be caucused at a future date, and Officers will seek to ensure consistency with Schedule C.

C4.5.6.1. Weed control/maintaining drainage

921. A number of submitters seek clarification on how setbacks will be established and maintained to ensure drains can be regularly cleaned[161]. Others suggest that the implementation methods set out in the various policies should be replaced with guidelines for fencing[162]. Other submitters consider that temporary fencing should be allowed in areas that flood regularly[163].

922. The Officers note that maintaining access for machinery to clean drains is an important consideration for the provisions of Schedule C. Drains can either be sprayed or mechanically cleaned, both of which require access. As discussed in earlier, the Officers recommend that Schedule C be amended to be more explicit about the types of fencing allowed for stock exclusion purposes, allowing for the use of temporary and virtual fencing.

923. Officers note that the Schedule C setback distances for drains could contradict existing WRP Rule 4.2.18.1 (Maintaining Access for Maintenance of Artificial Watercourses and Beds of Rivers in Drainage Districts and River Control Scheme Areas within). The existing WRP rule outlines both setback distance and fence height restrictions within waterways manged by WRC or a territorial authority. The Officers recommend amendments to Schedule C to ensure consistency across both the operative WRP rule and provisions included in PC1.

C4.5.6.2. The exclusion of stock other than cattle, horses, deer and pigs

924. Auckland Council and DoC were generally supportive of Schedule C but proposed that sheep and goats should also be excluded from waterways. Other submitters have questioned the appropriateness of the provisions, given that sheep are allowed to graze within the setback distances contained in some rules[164]. DoC also suggest that additional rules should be in place to protect īnanga spawning habitat which can be grazed by livestock.

925. The aim of the approach in PC1 was to manage the direct impacts on water quality while enabling the use of adjacent land for stock grazing, provided that stock do not have un-restricted access to waterways. Sheep and goats were not included in PC1 as it was generally accepted that while they may 'camp' near to waterbodies, they do not have the same affinity for water as other stock types such as cattle, horses, deer and pigs. While there is some ambiguity around the inclusive use of 'livestock' in clause 3 of Schedule C,

[158] Balle Bros Group
[159] Boom, R, Gavins Limited, McGovern, A, Wellington Farms Ltd
[160] Healthy Rivers Wai Ora Plan for Change Draft for Discussion purposes '*Description of mitigation options defined within the economic model for Healthy Rivers Wai Ora Project*' September 2015
[161] Craig, J, Dean, M, Franklin Waikato Drainage Advisory Subcommittee, Macdonald, IS, Verry, W, Aitken, DJ
[162] Reeve, JM,
[163] Shuker, M and V
[164] McLaughlin, R and P

the Officers do not consider that sheep and goats should be included in the stock exclusion provision of PC1. In addition, the costs of fencing to exclude sheep are recognised as being higher than that required for cattle and horses.

926. Provisions for īnanga spawning habitat are, in the Officers' opinion, better dealt with through FEPs, to the extent that they can be dealt with by PC1. Officers note that īnanga typically spawn at spring tide in riparian areas that have a tidal influence. Given the setbacks encouraged in Schedule 1, Officers agree that particular emphasis could be placed on īnanga spawning habitat protection by way of excluding all stock (including sheep and goats) from these areas. In some other areas of the country, īnanga spawning areas are mapped and specific stock exclusion rules (for all stock including sheep) are in place. The Officers consider that to be a better long-term solution, but including new mapping may be outside the scope of PC1.

C4.5.6.3. The use of stock crossings

927. A number of submitters question the PC1 provisions that manage crossing of water bodies by farm animals. Some seek more permissive provisions as per the draft national regulations. Some want the ability to muster cattle up to three times a week without a livestock crossing structure[165]. Others believe that stock crossing provisions should be included in the Schedule 1 provisions of PC1[166]. Three submissions question the definition of 'livestock crossing structure'[167], two of whom[168] seek amendments to clarify the definition and expectations.

928. The draft national regulations have a specific set of requirements for stock crossings, which are somewhat inconsistent in approach to Schedule C. Cattle, deer and pigs are able to enter a water body for the purposes of crossing, as long as they are being actively driven or being supervised in one continuous movement. Bridges or culverts would only be required by 1 July 2019 if stock crossings are used more than once per week.

929. Officers note that stock crossing provisions have been included in both Schedule C and Schedule 1. Having considered all of the submissions on adopting the draft regulations, and requests to increase the crossing frequency up to three times per week, the Officers have concluded that the stock crossing provisions in the draft national regulations may helpful, and have included amendments to Schedule C as an option, if the Hearing Panel is satisfied that it will not cause a significant enforcement 'loophole'. Further, minor changes to the definition of livestock crossing structure, in line with submitter's requests, are considered to be useful to clarify the definition and ensure stock are kept out of waterbodies.

930. Schedule 1 is subject to a future caucusing session to seek an agreed revision. Officers will seek consistency with Schedule C.

Recommendation on submissions:

13. Accept all those submissions that supported the plan provisions which are recommended to remain unchanged or largely unchanged

14. Reject those submissions who sought the deletion of the Plan Provisions which are recommended to remain unchanged or largely unchanged

15. Accept, or accept to the extent, those submissions that sought the changes recommended as set out in the revised plan provisions

[165] Alcock, C and C, Dunlop, T, Murphy WS, Beef and Lamb
[166] Christian and Anderson, A, J and F
[167] *means a lawfully established structure installed to allow livestock to cross a water body*
[168] WRC and Fish and Game

16. Reject, or reject to the extent, those submissions that do not support the changes recommended as set out in the revised plan provisions

C5. Māori Treaty Settlement Land[169]

C5.1. Summary and key recommendations

931. Plan Change 1 includes provisions for the flexibility of the use of land returned under Treaty of Waitangi settlement processes and Māori freehold land under the jurisdiction of Te Ture Whenua Māori Act 1993. The relevant Māori Land provisions include Objective 5 and Policy 16.

932. Objective 5 provides for the relationship of tangata whenua with their ancestral lands and ensures other provisions of PC1 do not further inhibit the ability of tangata whenua making use of their land. Submissions related to Objective 5 were considered as a part of the Block 1 S42A report. Policy 16 provides more enabling guidance for applications for land use of Māori Land through the non-complying activity rule.

933. Many submissions were received on this topic and the general themes include that everyone should be treated the same; and an alternative, less stringent activity status to the non-complying rule should be provided for tangata whenua ancestral lands.

934. Summary of recommendations:

1. Objective 5 and Policy 16 are recommended to be retained as both provisions provide policy support when considering land use consents for Māori land. It is important to provide for Māori land provisions through the policy framework due to the historical and contemporary factors that have limited land development opportunities.
2. No recommendation has been made for an alternative activity status to the non-complying land use rule in relation to Māori Land, due to the challenging nature of the competing priorities.

C5.2. Introduction

935. This section of the report relates to PC1 provisions which provide for flexibility in the use of Māori Land. These provisions include Policy 6, Policy 7, Policy 16 and Rule 3.11.5.7 – non-complying activity rule (in terms of Māori Land only).

936. This section has been split into two subtopics for the purposes of analysis. The subtopics are:

- Submissions on how everyone should be treated the same, the argument being that flexibility should not be based on ethnicity and if flexibility is given, it should be provided to everyone.
- Submissions on an alternative activity status to give effect to Objective 5 and Policy 16

937. This section discusses the issues associated with providing flexibility for the use of Māori Land only. Submissions relating to the need for a resource consent for land use change and flexibility for all landowners are addressed elsewhere in this report. This includes the matters covered by the non-complying activity rule, Rule 3.11.5.7 and Policy 6.

938. Māori Land is defined in PC1 as 'tangata whenua ancestral lands' and has been included in PC1 to provide flexibility of use for land returned under Te Tiriti O Waitangi settlement processes between the Crown and tangata whenua, as well as Māori freehold land under the jurisdiction of Te Ture Whenua Māori Act 1993. Māori freehold Land, as defined by the Māori Land Court, is land held by individuals who have shares together as tenants in common and is commonly referred to as multiple Māori owned land.

[169] This section authored by Alana Mako and Matthew McCallum-Clark

939. Flexibility for development of Māori Land was included in PC1 due to historical and contemporary legal impediments to the use and development of Māori Land. Certain factors over time have meant that there have been specific barriers to development, which effectively resulted in the loss of decision-making control by the owners over how the land was used. This includes historic alienation of land through colonisation and assimilation, land confiscation, compulsory acquisition of Māori Land under the Public Works Act, rating law and many more examples[170]. During the development of PC1, it was identified that PC1 would create further impediments to the use of Māori Land and there was a need, because of the historical restrictions, to provide for flexibility to ensure use and development opportunities were not further inhibited. This is discussed in detail in the S32 report.

940. An economic evaluation of scenarios for water quality improvement in the Waikato and Waipā River catchments was undertaken during the development of PC1[171]. The scenario modelling undertaken was based around the simulation of four primary scenarios. Scenario 1 was identified as the most appropriate way to achieve a diverse set of goals for water quality improvement. Scenario 1 defines goals of water quality improvement for swimming, taking food, and healthy biodiversity. Additional modelling of the policy mix proposed by the CSG was undertaken against the targets of Scenario 1 for different development scenarios for iwi land. This included no, low, medium and high development of iwi land[172]. The types of iwi land that were included in the scenario modelling were iwi land in the Central North Island referred to as CNI land, predominantly in forestry at the time of the modelling[173], and iwi land held under multiple ownership referred to as MO land.

941. The results of this additional modelling of Scenario 1 targets showed various minor changes in profit scenarios and that overall, the ability to achieve the water quality outcomes, limits and targets was similar under all Māori Land development scenarios[174].

942. There are two key provisions in PC1 that provide for flexibility in the use of Māori Land.

943. Objective 5 seeks to protect and restore tangata whenua values through the integration of these values into the co-management of rivers and other water bodies within the catchment.

944. Policy 16 sets out how tangata whenua ancestral lands will be managed when considering land use change applications. The policy is intended to be implemented through the non-complying activity rule and provides guidance for how to manage Māori Land consent applications.

945. While Objective 5 is considered in the Block 1 Section 42A Report, there is some inherent overlap with this section of the Report.

946. At the outset, Officers acknowledge that there could be a perceived conflict between PC1's objective of the long-term restoration and protection of water quality and the aim of minimising new impediments to flexibility of land use through Māori Land provisions as per Objective 5(b). One priority is the long-term restoration and protection of water quality for the catchment. The other is allowing flexibility of the use of Māori Land to address past inequities and minimise future impediments. This tension is discussed further in this section.

947. In addition, Policy 7 prepares for allocation of diffuse discharge rights in the future and the principle that any future allocation should consider allowance for flexibility of development of tangata whenua ancestral lands.

[170] Coffin A 2016. Barriers to the development of Maori freehold land. Prepared for the Maori Land sub-group. Provided to Collaborative Stakeholder Group at workshop 25 4-5 April 2016

[171] Doole G, Elliott S, McDonald G 2015 Economic evaluation of scenarios for water quality improvement in the Waikato and Waipa River catchments – Assessment of first set of scenarios and Assessment of second set of scenarios

[172] Doole GJ, Quinn JM, Wilcock BJ, Hudson N 2016 Simulation of the proposed policy mix for the Healthy Rivers Wai Ora process

[173] Doole GJ, Quinn JM, Wilcock BJ, Hudson N 2016 Simulation of the proposed policy mix for the Healthy Rivers Wai Ora process

[174] Doole GJ, Quinn JM, Wilcock BJ, Hudson N 2016 Simulation of the proposed policy mix for the Healthy Rivers Wai Ora process

C5.3. Submissions that seek everyone is treated the same/not ethnicity based

948. A general theme of many submissions on Objective 5, Policy 6, Policy 7, Policy 16 and Rule 3.11.5.7 is that "everyone should be treated the same". A small number of submissions were received on this topic on Objective 5 and Policy 6 and Rule 3.11.5.7 while there were a larger number on Policy 7 and Policy 16.

949. Examples of the kinds of submission points and reasons include Franklin Waikato Drainage Advisory Subcommittee and M Dean who suggest providing the same flexibility to enthusiastic young farmers to encourage them to get into farming by developing their first run down farm, and R and W Verry who suggest PC1 should be about contaminant discharge not ownership.

950. On the other hand, there are a range of submitters who support the provisions, including Iwi groups.

951. A definition integral to this topic is tangata whenua ancestral lands. Four submissions (Tuaropaki Trust, DoC, Wairakei Pastoral Ltd, and Fish and Game) support the definition and request it is retained. Iwi of Hauraki request the definition is amended as follows:

> *Means land that has been returned through settlement processes between the Crown and tangata whenua ~~of the catchment~~, or is, at the date of notification, Māori freehold land (including general land) under the jurisdiction of Te Ture Whenua Māori Act 1993.*

C5.4. Analysis

952. Māori Land in terms of PC1 does not include land owned by Māori that doesn't meet the definition of 'tangata whenua ancestral lands' nor does it include land privately purchased by Māori. The Ministry of Justice and the Māori Land Court, in conjunction with Land Information New Zealand, identify and map all land that falls within the jurisdiction of the Māori Land Court under Te Ture Whenua Māori Act 1993 which includes Māori Freehold Land[175]. The Officers note, in the case of PC1, rules only apply to farming activities that would not occur in an urban area. In response to the Iwi of Hauraki suggested amendments to the definition of tangata whenua ancestral lands, the Officer's acknowledge that the definition as worded could be interpreted as meaning that the tangata whenua must be "of the catchment" within which the Māori land resides. That might not always be appropriate (the tangata whenua may be "of", or come from, or have their predominant rohe in another catchment) and so it is agreed the words "of the catchment" should be deleted as sought.

953. The Officer's do not find it appropriate to include general land as it was determined that land returned under Treaty settlement processes and Māori freehold land have had historical and contemporary restrictions placed on that land, whereas general land has not. Also, by including general land into the definition, broadens the scope of who the Māori Land provisions apply to.

954. The provisions for flexibility of use for Māori Land give effect to the Vision and Strategy[176] by providing for and acknowledging the relationship of River iwi according to their tikanga and kawa[177]. Providing for the relationship of River iwi and the Waikato and Waipā Rivers through Objective 5 and Policy 16, achieves Objective B, C, D and J of the Vision and Strategy. River iwi consider the health and wellbeing of the Waikato River is a reflection of the health and wellbeing of the Waikato River iwi and the wider community. The restoration of relationships between River iwi and the Waikato and Waipā Rivers and achieving the Vision

[175] Te Kooti Whenua Maori, Maori Land Court http://www.maorilandonline.govt.nz/gis/

[176] River iwi 2015. Outcome statement and principles for implementing Te Ture Whaimana – the Vision and Strategy for the Waikato and Waipa Rivers. Dated July 2015. CSG workshop 14, 10-11 August 2015

[177] River iwi 2015. Outcome statement and principles for implementing Te Ture Whaimana – the Vision and Strategy for the Waikato and Waipa Rivers. Dated July 2015. CSG workshop 14, 10-11 August 2015

and Strategy objectives will involve additional factors such as building on governance relationships and functions and iwi allocation[178]. Therefore, to give effect to and ensure the full achievement of the Vision and Strategy, providing provisions for flexibility of the use of Māori Land is important.

955. Objective 5 seeks to ensure that PC1 recognises and provides for the relationship of tangata whenua with their ancestral lands, by ensuring other provisions of Chapter 3.11 do not provide a further impediment to tangata whenua making use of their land. Officers consider submissions on Objective 5 which request that flexibility is based on contaminant loads not ownership are not appropriate as Objective 5 is purely intended to recognise the relationship between tangata whenua and their lands. Also, flexibility for the use of Māori Land should not be based on contaminant loads as the intent of providing flexibility is to address past and future inequities and impediments not past and current discharges.

956. There is clear precedent for this approach. Lake Taupō Variation 5 to the WRP included specific provisions[179] for Māori land and those provisions were implicitly endorsed by the Environment Court in 2008. Notably, clauses (d) to (f) of WRP 3.10.3 Policy 1 Tangata Whenua Values and Interests state:

(e) *That historical factors have inhibited Ngati Tūwharetoa's ability to develop their ancestral lands within the catchment of Lake Taupō.*
(f) *That the nature of Ngati Tūwharetoa's relationship with and the form of its tenure of the land in the catchment of Lake Taupō are such that members of the iwi are unlikely and in some cases legally unable voluntarily to relinquish their interest in that land and have comparatively less ability to transfer their interests to land outside the catchment than do landowners generally.*
(g) *That the unique relationship described in matters (a) – (e) above mean that it is appropriate to enable Ngati Tūwharetoa to develop their currently undeveloped or forested lands in a manner and to an extent that has no long term adverse effect on the water quality of Lake Taupō.*

957. The sentiment and intent of the Lake Taupō provisions is equally applicable to Waikato River iwi. Section 67(4)(b) of the RMA states that a regional plan must not be inconsistent with any other regional plan for the region. The intent of that statutory requirement alone provides ample justification for PC1's tangata whenua provisions insofar as they relate to undeveloped Māori land.

958. Consistent with the approach taken to the development of Māori land in the Taupō catchment under Variation 5, it was not intended that PC1's Objective 5 and Policy 16 fully enable the use and development of Māori Land. It was intended that Policy 16 would provide guidance on how to manage Māori Land consent applications rather than being a provision which enables Māori Land to be developed without consideration of contaminant loads. Land use change of Māori Land is not authorised through Objective 5 and Policy 16, those provisions provide policy guidance at the consenting stage. Therefore, Officers are of the view that it is appropriate to retain Policy 16, as consideration of this policy is integral to land use change consents for Māori Land.

959. A number of submissions request Policy 16 be deleted or reference to Policy 16 in Policy 6 be removed. Officers note that this would remove the policy guidance for Māori Land consent applications. If these applications were considered under Policy 6 alone, the decision-maker would only be able to consider whether the application demonstrated an increase in diffuse discharges or not. It would remove an important means of recognising and providing for the relationship of tangata whenua to their ancestral lands (RMA section 6e), of having particular regard to kaitiakitanga (RMA section 7a), and of taking into account the Principles of the Treaty of Waitangi (RMA section 8). It would restrict positive benefits for tangata whenua being realised now and into the future. It would also exclude guidance on determining the suitability of the land, and taking into account Best Management Practice actions. This would likely not achieve the outcomes sought by Objective 5, particularly given the recommended strengthening of Policy

[178] River iwi 2015. Outcome statement and principles for implementing Te Ture Whaimana – the Vision and Strategy for the Waikato and Waipa Rivers. Dated July 2015. CSG workshop 14, 10-11 August 2015
[179] In particular 3.10.3 Policy 1.

1 (incorporating key elements of Policy 6). Therefore, Officers consider that it is not appropriate to delete Policy 16 or remove the references to Policy 16 in Policy 6.

960. As some land is yet to be returned under Treaty settlements, iwi may not yet have had the chance to use or develop their ancestral lands. The assessment of the social, cultural and environmental costs and benefits of the provisions concerning Māori Land determined that providing iwi with the opportunity to develop such land would enable the introduction of concepts such as Maatauranga Māori which would allow teaching opportunities and inter-generational knowledge and sharing. It would also retain and protect Māori culture.[180] Without flexibility to develop previously undeveloped Māori Land, the PC1 regulatory framework may inhibit concepts such as Maatauranga Māori.

961. The Officers consider there may be confusion with the policy framework enabling flexibility of the use of Māori Land. In regard to submissions which suggest Māori land is to be treated the same as non-Māori land, Māori landowners currently still have to go through the same non-complying activity resource consent process as other landowners. The only difference is that decision-makers will have regard to Objective 5 and Policy 16 when considering a land use change consent, and it will be more likely that an application will be able to pass the policy 'gateway test' of section 104D.

962. While Policy 16 provides guidance on applications relating to Māori Land under Rule 3.11.5.7, it does not guarantee a consent will be granted. It simply obliges the decision-maker to "recognise and provide for" the matters listed in the Policy when assessing the appropriateness of the proposed land use change. In that regard, Policy 16 is caveated by appropriate land use management and water quality considerations (clauses i to iii). It is not a 'get out of jail free' provision and nor does it elevate tangata whenua centric considerations above fundamental water quality considerations.

963. PC1 clearly defines what lands are included as Māori Lands in the definition of tangata whenua ancestral lands. However, it may not be clear to others what Māori freehold land is under the jurisdiction of Te Ture Whenua Māori Act 1991 or what land has been returned under the treaty settlement processes. Officers do not consider it appropriate to include a further definition of what Māori freehold land and treaty settlement lands are, or to explicitly identify this land. However, an applicant seeking to utilise these provisions will need to demonstrate that the land in question falls under the definition of tangata whenua ancestral land.

964. Acknowledging the recognition of the historical and contemporary legal impediments to the use of Māori Land in the past by the CSG, and the CSG's view of the appropriate response to that issue through PC1 in a manner that suitably takes into account the principles of the Treaty of Waitangi (including the principles of cooperation and redress), the Officers agree that overall, it is appropriate to retain provisions that give additional flexibility for the use of Māori Land that meets the definition of 'tangata whenua ancestral lands'.

C5.5. Alternative Activity Status to enable flexibility of use of Māori Land

C5.5.1. Introduction and Provisions

965. This section covers submissions which discuss the matter of alternatives to the non-complying activity Rule 3.11.5.7 to provide for greater flexibility of use of Māori Land. The relevant provisions are Objective 5, Policy 16 and Rule 3.11.5.7. Policy 6 and Policy 7 are also relevant. However, no submissions were received on these actual provisions specifically relating to this matter.

[180] Coffin A 2016. Barriers to the development of Maori freehold land. Prepared for the Maori Land sub-group. Provided to Collaborative Stakeholder Group at workshop 25 4-5 April 2016

C5.5.2. Submissions

966. In total there were 46 submissions across the three provisions, on the non-complying activity status of Rule 3.11.5.7, including the development of Māori Land. Most support Objective 5 and Policy 16 but consider that the non-complying activity rule status of 3.11.5.7 does not give effect to the objective and policy.

967. Tuaropaki Trust seek a controlled activity rule to provide a more efficient pathway to give effect to Policy 16 in all of their submission points on Objective 5, Policy 16 and Rule 3.11.5.7.

968. There were 25 submissions on Rule 3.11.5.7 which discussed the land use change rule in terms of flexibility for Māori Land.

969. Tangata Whenua generally support Rule 3.11.5.7 to be retained as the 'hold the line' approach is the most practicable way to prevent further increases of contaminant discharges in the short-term.

970. The WRA supports Rule 3.11.5.7 as the introduction of a discretionary activity for flexible land use change on freehold land and settlement land would be inconsistent with the Vision and Strategy.

971. Iwi of Hauraki suggest adding a new restricted discretionary activity rule to read:

> *Rule 3.11.5.7 – Restricted Discretionary Activity Rule – Land Use Change for Tangata Whenua Ancestral Land*
> *Any change in the use of tāngata whenua ancestral land from that which was occurring at 22 October 2016 to an activity that does not comply with the conditions, standard or terms of **Rules 3.11.5.1 to 3.11.5.5** and the associated diffuse discharge of nitrogen, phosphorus, sediment and microbial pathogens onto or into land in circumstances which may result in those contaminants entering water is a **restricted discretionary activity** (requiring resource consent).*
>
> *Waikato Regional Council restricts its discretion over the following matters:*
> *i. Relationship of tāngata whenua with their ancestral lands.*
> *ii. The exercise of kaitiakitanga.*
> *iii. The creation of positive economic, social and cultural benefits for tāngata whenua now and into the future.*
> *iv. The use of best management practice actions for nitrogen, phosphorus, sediment and microbial pathogens for the new type of land use.*
> *v. The suitability of the land for development into the proposed new type of land use.*
> *vi. The short-term targets in Objective 3.*
> *vii. Cumulative effects on water quality of the catchment of the Waikato and Waipā Rivers.*
> *viii. The diffuse discharge of nitrogen, phosphorus, sediment and microbial pathogens.*
> *ix. The need for and the content of a Farm Environment Plan.*
> *x. The term of the resource consent.*
> *xi. The monitoring, record keeping, reporting, and information provision requirements for the holder of the resource consent.*
> *xii. The time frame and circumstances under which the consent conditions may be reviewed.*
> *xiii. The matters addressed by Schedules A, B and C.*

972. This new rule is suggested to provide for change in use of tangata whenua ancestral land. Iwi of Hauraki seek this activity status as they consider it provides appropriate discretion to WRC when considering applications for land use change of tangata whenua ancestral lands. In the submitter's view, this will acknowledge the historical context of land ownership issues. This would provide for future benefits as part of addressing the past adverse effects through the return of lands. Therefore, they consider there is an effect basis for the differential treatment of these types of lands. They also suggest amending the numbering of Rule 3.11.5.7 to Rule 3.11.5.8 as a consequence of the new restricted discretionary rule.

973. Wairakei Pastoral Ltd suggest providing for land use change as a restricted discretionary activity for all land, with specific reference to Māori land.

974. There are 18 submissions to Policy 16 on the perceived need for a land use change rule providing for flexibility of use of Māori Lands. Thirteen of those consider there is no rule to implement Policy 16 and request PC1 is amended to include such a rule. These submitters do not specify which activity status the rule should be.

975. CNI Iwi Land Management Ltd support Policy 16 to be retained although consider the non-complying 'hold the line' rule on land use change creates a new set of wrongs on land that has not contributed to water quality degradation.

976. PLUG and B. Cameron support Policy 16 but consider PC1 does not give effect to the policy. B. Cameron requests PC1 is amended to reflect Policy 16 and a similar flexibility for all property owners and enterprises is considered. PLUG does not request a specific decision.

977. Rotorua Lakes District Council (Rotorua Lakes DC) recognises the vulnerability of Māori Land to the land use change rule and to reinforce a stronger balance within assessment of applications under Rule 3.11.5.7 between contaminant reduction and providing for the well-being of Māori they consider that the following amendment is needed:

> *… Land use change that enables the development of tangata whenua ancestral lands shall be managed in a way that recognises and provides for (in increasing order of priority)…*

978. Several submitters[181] seek the retention of Policy 16 and agree that the health and well-being of the Waikato River remains the primary concern. The submitters acknowledge that the non-complying rule places a further barrier to development. However, they consider this policy provides a limited pathway to pursue opportunities to develop Māori Land.

C5.5.3. Analysis

979. Officers consider that there are two competing priorities in relation to land use change rules for Māori Land. However, the Officers agree that the non-complying land use change rule does not arguably give full effect to the PC1 objectives and policies.

980. One priority relates to allowing flexibility for development of Māori Land to address past inequities arising through the alienation of that land. Officers agree with submissions on this topic in relation to the non-complying land use change rule 3.11.5.7 potentially not giving effect to Objective 5 and Policy 16. The Officers consider that the policy framework provides flexibility for Māori Land, but this is not fully addressed through the non-complying land use change rule as currently written.

981. Another priority is to meet the strong policy direction of restoring and protecting the health and wellbeing of the Waikato and Waipā Rivers that is the underlying principle of the Waikato River Treaty Settlement Act and the Vision and Strategy. The Officers note that modelling that was undertaken considered no, low, medium and high development scenarios for 'tangata whenua ancestral lands', and none of the development scenarios prevented the meeting of the limits and targets of Scenario 1[182]. The available information suggests the impact of developing Māori Land to its productive potential may have limited effect on water quality[183]. This is because the area subject to land use change is likely to be small; land use

[181] Ngaati Tamaoho Trust Te Taiao, Te Kauri Marae, Potini Whaanau, Maungatautari Marae, Waikato and Waipa River Iwi, Te Arawa River Iwi Trust, Ngati Haua Iwi Trust, Parekawhia McLean, Waahi Whaanui Trust, Te Awamaarahi Marae Trustees, Poohara Marae, Te Taniwha o Waikato, Tūrangawaewae Marae, Te Runanga o Ngati Kea Ngati Tuara Trust, Te Whakakitenga o Waikato Incorporated (Waikato-Tainui), Maniapoto Maori Trust Board, Tuwharetoa Maori Trust Board, Raukawa Charitable Trust.

[182] Doole GJ, Quinn JM, Wilcock BJ, Hudson N 2016 Simulation of the proposed policy mix for the Healthy Rivers Wai Ora process

[183] River iwi 2016. Provision for the development of Maori land within the framework of Te Ture Whaimana o Te Awa o Waikato and Healthy Rivers Plan For Change Wai Ora He Rautaki Whakapaipai

change for CNI land is likely to be sequenced over the 28-year rotation for plantation forestry crops; and for operational reasons, the total opportunity may not be taken up[184]. Officers acknowledge that the same arguments could be made for any discrete areas of underdeveloped land, where the effects of development, considered in isolation, are often minor and difficult to quantify. However, the Officers consider that if all land not currently developed was given the same opportunity, the cumulative impact of land use change could potentially be significant.

982. Options for an alternative direction include remaining with the proposed provisions in PC1 or drafting more enabling rules for Māori Land development. Most Treaty settlement land is either not in use, not developed to its full potential or it is in forest[185]. Therefore, under Rule 3.11.5.7, changes in land use from these activities will likely be a non-complying activity. Given the overall scheme of PC1, it is likely the granting of applications to develop Māori Land, despite the Objective 5 and Policy 16 guidance, will still be subject to high policy expectations regarding losses of contaminants.

983. There are examples of WRC and other Councils providing less stringent or separate rules for specific cultural activities in terms of Māori Land, such as Chapter 3.10 of the WRP (Lake Taupō Variation 5 as discussed above), which protects Lake Taupō water quality, contains a rule that allows an additional allocation of nitrogen for the development of Māori land. Chapter E21 of the Auckland Unitary Plan[186] and provisions for development of Māori Reserve land in the Waimakariri District Plan also provide flexibility for Māori land. However, the Officers note the farming activities under discussion in PC1 address different planning issues to the latter two examples provided above.

984. Notwithstanding the Lake Taupō precedent, the Officers do not consider the request by Tuaropaki Trust for a controlled activity rule to be appropriate, as all applications would have to be granted. The Variation 5 rule referred to above (Rule 3.10.5.4) for undeveloped Māori land, while being a controlled activity rule, imposed a total nitrogen load increase cap of 11,000 kg per annum, it had a sunset date of 30 June 2017, and was limited to an increase of 2kgN per ha. It did not therefore provide an unfettered ability to develop Māori land within the catchment.

985. Officers consider the request by Wairakei Pastoral Ltd for a restricted discretionary activity for all land to be inappropriate. That would be unlikely to achieve objectives and policies, or give effect to the Vision and Strategy, as the potential cumulative effects would be potentially significant and adverse.

986. An alternative to the non-complying rule would be to provide a more enabling activity status to give effect to Objective 5 and Policy 16. An RDA rule for tangata whenua ancestral land as sought by Hauraki iwi would ensure the objectives and policies are given effect to without imposing overly onerous impediments to the use and development of Māori Land (as would occur if a non-complying rule is retained) and Council would still have discretion to decline land use applications that over-reached the need to address the reasonable use of previously undeveloped Māori land (for example if excessively nitrogen leaching activities were applied for). This would arguably still achieve Objective 5 and Policy 16, and potentially still give effect to the Vision and Strategy given the results of the scenario modelling on the area of Māori Land that could be subject to land use change which indicated it would not compromise the achievement of the PC1 water quality targets.

987. In summary a non-complying land use change rule for the development (intensification) of Māori land signals that a strong case needs to be made for that change, consistent with restoring and protecting the health and wellbeing of the Waikato and Waipā Rivers that is the underlying principle of the Waikato River

[184] River iwi 2016. Provision for the development of Maori land within the framework of Te Ture Whaimana o Te Awa o Waikato and Healthy Rivers Plan For Change Wai Ora He Rautaki Whakapaipai

[185] Doole G, Elliott S, McDonald G 2015 Economic evaluation of scenarios for water quality improvement in the Waikato and Waipa River catchments – Assessment of first set of scenarios and Assessment of second set of scenarios

[186] http://unitaryplan.aucklandcouncil.govt.nz/Images/Auckland%20Unitary%20Plan%20Operative/Chapter%20E%20Auckland-wide/2.%20Mana%20Whenua/E21%20Treaty%20Settlement%20Land.pdf

Treaty Settlement Act and the Vision and Strategy. In that regard, it is appropriate to keep the non-complying rule.

988. However, in terms of giving effect to the Māori Land provisions, particularly Objective 5 and Policy 16, the non-complying activity status of land use change Rule 3.11.5.7 could be considered overly onerous and inconsistent with the approach historically taken in the Lake Taupō catchment.

989. Consequently, the Officers reserve their recommendation on the appropriate consent category for a land use change rule for Māori land pending their consideration of legal submissions and evidence on this matter likely to be presented at the hearing. However, a firm recommendation will be included in the end of hearing Officer's Reply Report.

C5.5.3.1. Recommendation on activity status:

990. No recommendation is made at this time.

Recommendation on submissions:

17. Accept all those submissions that supported the plan provisions which are recommended to remain unchanged or largely unchanged

18. Reject those submissions who sought the deletion of the Plan Provisions which are recommended to remain unchanged or largely unchanged

19. Accept, or accept to the extent, those submissions that sought the changes recommended as set out in the revised plan provisions

20. Reject, or reject to the extent, those submissions that do not support the changes recommended as set out in the revised plan provisions

C6. Urban/point source discharges[187]

C6.1. Summary of this section and recommendations

991. PC1 includes four policies (Policies 10-13) that provide specific direction on the management of point source discharges. The existing Regional Plan already has rules for point source discharges and PC1 does not include any additional rules.

992. The submissions are extensive and detailed. Many submissions seek equivalency of treatment with diffuse (farming) discharges, and there appears to be a perception of favourable treatment of point source discharges. Submissions from industry and territorial authorities focus on specific changes to improve certainty, and in some cases seek provision for growth or other flexibility.

993. The RPS contains considerable policy direction for the management of point source discharges, and regionally significant industry and infrastructure.

994. Key recommendations include:

1. Maintaining each of Policies 10-13 as policies that apply to point source discharges only, and not seeking equal application to diffuse discharges.
2. Including definitions of regionally significant industry and regionally significant infrastructure (from the RPS)
3. Generally tightening the requirements and obligations on point source dischargers, to provide better alignment with the Vision and Strategy and the 'direction of travel' indicated by PC1.
4. Providing clarity around BPO, offsets and consent duration

C6.2. Introduction and Provisions

995. This section discusses the management of point source discharges within PC1. PC1 includes four policies (Policies 10-13) that provide specific direction on the management of point source discharges. The WRP already includes rules that manage point source discharges, and PC1 does not include any additional rules or propose any changes to the existing point source discharge rules. As such, PC1 is intended to provide more specific guidance, at the policy level, to guide the assessment of resource consent applications for point source discharges. It is intended that these policies assist in ensuring that such activities are managed to achieve the new objectives introduced in PC1.

996. The rule framework in the WRP results in most large point source discharge consents being considered under a discretionary activity rule.[188] The Section 32 report states that while the existing consenting regime has been effective in achieving investment in infrastructure upgrades and other mitigation to improve the quality of discharges, the current framework provides a lot of flexibility in decision making and has resulted in a reliance on precedent to guide such decisions, with little targeted guidance.

997. In brief, the provisions introduced through PC1 in relation to point source discharges include:

- Policy 10, which provides specific direction relating to point source discharges associated with the continued operation of regionally significant infrastructure and regionally significant industry
- Policy 11, which relates to the application of the BPO for managing adverse effects and the use of offset measures
- Policy 12, which provides direction relating to the consideration of water quality targets

[187] This section authored by Liz White and Matthew McCallum-Clark
[188] 3.5.4.5 Discretionary Activity Rule – Discharges – General Rule

- Policy 13, which provides direction relating to consent duration for point source discharges

998. At a broad level, these policies are intended to provide clearer guidance on these types of discharges, which gives effect to the Vision and Strategy and NPS-FM, in relation to management of nitrogen, phosphorus, sediment and microbial pathogens.

999. There are a large number of submissions which comment on the approach taken to point source discharges generally (i.e. across all four policies). There are also submissions that may only comment, or seek a change in relation to one of the policies, but where the comment equally applies to the approach taken to point sources generally. As a consequence of this, this part of the report is structured as follows:

- Submissions that raise common issues across Policies 10-13 generally
- Remaining specific submissions on each of Policies 10-13

1000. The recommendations on all four polices are contained at the end of this section.

C6.3. Pre-hearing Meetings

1001. Informal meetings have been held between WRC s42A report writers, WRC staff and territorial authorities as a group, South Waikato DC, Watercare Services Limited (Watercare), the Oil Companies, and DoC, Forest and Bird and Fish and Game, as well as with a number of primary sector organisations. These meetings helped understand different points of view, and records of the meetings are available.

C6.4. Common Submissions on all Four Policies

1002. This section of the report addresses submissions which comment on the approach taken to point source discharges generally (i.e. across all four policies). This includes submissions that may only comment, or seek a change in relation to one or two of the policies, but where the comment equally applies to the approach taken to point sources generally and is therefore better analysed together with other similar submissions.

C6.4.1. Providing policy direction in relation to point source discharges only

1003. There are a large number of submitters that oppose the approach taken in Policies 10-13 to point source discharges[189]. In essence, various submitters see the approach as treating point source discharges differently to diffuse (or non-point source) discharges, and instead seek that a common approach is taken. These include:

- Submitters who seek that the policies are amended to include non-point source discharges.[190]
- Submitters who seek changes to the policies so that the approach taken to point source discharges is more comparable with that taken to diffuse discharges.[191]
- Submitters who seek that the policies are amended to include short-term and long-term targets for point source discharges.[192]

[189] This includes G H Anderson, who opposes the policies, but does not state the decision that is sought.
[190] For example, D C Finlay, M A Fuller, R & W Verry, Wairakei Pastoral Ltd, Wiremu Trust, B J Chapman, J K Chapman V J Chapman, Chhagn Bros Co Ltd, Living Foods Ltd.
[191] For example, Eight Mile Farms Ltd, FANZ, Genetic Technologies, A S Wilcox & Sons Ltd, D L Wilson, S June.
[192] For example, LWAG.

1004. The majority of submitters who oppose the approach taken to the policies applying to point source discharges only are concerned that the approach treats diffuse and point source discharges differently, with some considering that the approach 'favours' point source discharges. Comments include:

- Point source discharges should be assessed in the same way as diffuse discharges. All sources of discharges to water bodies should be treated the same[193]. The issue is the contaminants in the river, regardless of their source.[194]
- All sectors should be making the same reductions in discharges.[195] For example, if agriculture and horticulture are expected to reduce their emissions, then the urban community should have clear short and long term targets outlined in PC1.
- Equal recognition/treatment should be given to agriculture/primary production, as a regionally significant industry, as is given to other regionally significant industries.[196]
- The collective effect of Policies 10-13 result in the appearance of urban areas being given a 'soft treatment'.[197]
- The way that point source discharges and diffuse discharges are treated should be the same, to reflect investment made in infrastructure associated with both and so that that there is the same certainty around investment and infrastructure as is given to point source discharges, for example consent duration of 25 years, ability to use offsetting and so on.[198]
- As Policies 1 and 2 require reductions of diffuse discharges in the short term, policies 10-13 may result in a double standard between how point source and diffuse discharges are managed.[199] This means that that land users may be being asked to help offset point source discharges from regionally significant infrastructure and industry (RSI&I).
- While policies 10-13 will provide guidance for the rules in Chapter 3.5 when determining resource consent applications, there are no policies to guide decision makers regarding diffuse discharges from farming activities.[200]

1005. Conversely, the Oil Companies seek that Policies 10-13 are amended to clarify that PC1 applies *predominantly* to farming activities. They are concerned that PC1 could be applied to other non-farm related discharges including dewatering or stormwater discharges. They propose various options to achieve this, including amendments to the introduction or advice notes, or additions to the policies to refer to discharges *from pastoral farm land.*

C6.4.2. Reviewing and disclosing point source discharge consents

1006. Another common theme across submissions relating to Policies 10-13 is submitters who seek a review of point source discharge consents. This includes those who seek that all point source discharges are reviewed immediately, and those who seek that a review is undertaken within a specified timeframe, such as 10 years, to bring them into line with PC1.[201]

1007. Eight Mile Farms Ltd and C Tully also seek that point source discharge contaminant levels in each sub-catchment are disclosed within the plan, and (C Tully only) that the costs of mitigation are disclosed.

[193] For example, P J & K M Neale.
[194] For example, E Henson.
[195] For example, C & V McKenzie, F J Turton, Genetic Technologies.
[196] For example, Hort NZ, Huirimu Farms, B, J, K & J Osborne, PLUG, J. Reeves, FANZ.
[197] For example, ACRE.
[198] For example, J D and R E Holland, A J H Keighley, M. Wilson, C J McKie, D R & C A McKie, A S Wilcox & Sons Ltd, B J Chapman, J K Chapman V J Chapman, Chhagn Bros Co Ltd, PLUG, Wai Shing Ltd, R & W Verry.
[199] For example, Eight Mile Farms Ltd
[200] Wairakei Pastoral Ltd
[201] For example, E Henson, Huruimi Farms Ltd, B, J, K & J Osborne., C & V McKenzie, Pamu Farms, G H Anderson, C Tully.

C6.4.3. Group submissions on sub-catchment management and sources of contaminants

1008. There are a number of submitters[202] who make similar comments about Policies 10 – 13 and seek the same or similar decisions across one or all of the policies. These submitters generally support the thrust of each policy, but seek various amendments. This includes that one or more of the policies are extended to diffuse discharges (as per above), including that aspects of the policy framework also be applied to diffuse dischargers, such as the requirement to adopt the BPO.[203] In addition, these submitters also generally consider that the policies should be amended to adopt a sub-catchment management approach to ensure collaborative and fair management of resources within each sub-catchment. Further, they seek that PC1 is extended to manage all matters influencing the health and wellbeing of the Waikato River and its catchments, including koi carp/pest fish species, point sources, and hydro-dams. Some also comment on the need to measure and monitor point source discharges.

C6.4.4. Analysis

1009. As noted in the introduction above, the approach taken to point source discharges in PC1 is limited to providing more specific policy guidance. No amendments are proposed to the current rules that apply to point source discharges in the WRP.

1010. Many submitters consider that PC1 unfairly targets farmers, and that point source discharges are not being managed to the same extent. On the contrary, Officers note that point source discharges such as discharges from municipal wastewater treatment plants, storm water systems, dairy factories, meat processing plants and so on, have been managed for many years through comprehensive consent processes. These consent processes have involved individually assessing the environmental effects of these discharges, and imposing conditions that include source control of contaminants (such as requirements for Trade Waste Bylaws that reduce contaminants entering stormwater systems), wastewater treatment requirements, and monitoring programmes. Costs to communities and businesses of complying with such consents have often been considerable. These consent processes have led to considerable reductions in the effects of some point source discharges over the last few decades, particularly municipal discharges.

1011. In terms of how point source discharges are managed, Officers consider that the crux of a number of these submissions relate to whether diffuse and point source discharges can be managed in the same way, and even if this were possible, whether this would be a more appropriate way to achieve the Plan's outcomes (or not).

1012. The Officers consider there is an inherent difficulty in attempting to manage point source discharges in the same way as diffuse discharges, because they are fundamentally different. Point source discharges can be measured and monitored, and the direct effects of such discharges on water bodies can be more easily identified. Management of the discharges involves direct management of waste streams, treatment systems and outputs. By comparison, diffuse discharges come from land use activities that cumulatively affect water bodies and are therefore more difficult to measure or monitor. Because of their nature, management of diffuse discharges is also more usually focussed on managing cumulative effects from a number of land users, where individuals make improvements that incrementally improve water quality. Conversely, point source discharges are more usually managed on an individual basis.

1013. The RPS also provides different direction, in its implementation methods, regarding point source discharges (section 8.3.1) and non-point source discharges (8.3.3). While some of this direction overlaps – for example providing for mitigation or offsetting of adverse effects only where they cannot be avoided or remedied – the direction is generally more specific to each type of discharge. The approach taken in PC1 to provide separate policy direction for point source discharges and for diffuse discharges is therefore consistent with

[202] For example, P K Balle, C Buckley, B Cameron, M Denize, S. Goodwright, G. Holmes, D Jefferis, A J Logan, D S Mackenzie, M Muir, D M & LA Munro, C & V Nicholson, W & K Oliver, J Roberts, M I & R J Twining, R. Walker, Woodacre Partnership, D, L & Y Yule.

[203] B Chapman, M J Denize, S A Goodwright, G Holmes, D Jefferis, A J Logan, D S Mackenzie, C & V Nicholson, J Roberts, L M Shaw & B J Hall, M I & R J Twining, R Walker, Woodacre Partnership, D, L & Y Yule.

the RPS. Because of all of the above, Officers do not consider that point source discharges and diffuse discharges can be managed in the same way, and any attempt to do so would not be a more appropriate approach to achieve PC1's objectives.

1014. Notwithstanding the above, Officers consider that it is important to consider the equitability of the approach taken to different sectors, so as to ensure that the overall package of management proposed through PC1 is as fair and equitable as possible. In a general sense, and subject to the specific changes recommended, Officers consider that the approach taken to point source discharges in PC1 is appropriate and proportional to that taken to diffuse discharges. This includes the direction in Policy 12 relating to consideration of the contribution of the discharge in relation to short and long-term targets, and Policy 11, in relation to adoption of the BPO to address adverse effects. While a number of submitters raise generic concerns that PC1 favours point source/urban discharges above diffuse/rural discharges, specific aspects of concern with Policies 10-13, including specific changes sought as to how the policies should be re-worded to addresses these perceived imbalances, have not been identified.

1015. In relation to the submission from the Oil Companies, Officers do not agree that Policies 10-13 should be amended so that they apply predominantly to farming activities. In an informal meeting, it was confirmed to the Oil Companies that is not the intent of the policies, which instead are intended to guide the management of all point source discharges. The change sought would in effect mean that no additional guidance would be provided regarding point source discharges from other activities.

1016. In terms of the submissions seeking a review of all point source discharges, Officers do not consider that this is necessary or appropriate. Rather, Officers consider that it is more appropriate that the WRC maintains its discretion to review all consents once this plan change becomes operative or on a case-by-case basis as each discharge consent comes up for renewal. PC1 clearly sets a 'direction of travel' which point source dischargers are now very aware of.

1017. Officers also do not see any benefit in stating all contributions to contaminant levels in each sub-catchment within the Plan. There are also practical difficulties in disclosing the costs of mitigation, which will differ between activities and vary depending on different circumstances and over time as technologies change. Even if this could be estimated, it is also not clear what benefit there is in disclosing this, nor is it necessary to assist in achieving the Plan's objectives.

1018. In relation to those submitters who seek that point source discharges should be taken into account in a sub-catchment approach and that PC1 be amended to be more holistic in terms of sources influencing the Waikato River catchments, it is noted that these wider issues are discussed elsewhere in this report. In terms of the comments within these submissions regarding the need to measure and monitor point source discharges, it is noted that these are matters are routinely considered in any consenting process and Officers do not consider that there is a need to amend Policies 10-13 in this regard. Officers also note that to the extent that the Panel might agree to take a sub-catchment approach, then any point source discharges should be taken into account in such an approach.

C6.5. Policy 10

1019. Policy 10 supports the continued operation of regionally significant infrastructure and regionally significant industry.

C6.5.1. Submissions - Summary

1020. There are approximately 134 submissions on Policy 10. These include those who support the policy and seek its retention, those who support the policy but seek changes to it, those who oppose the policy and

seek changes to address their opposition to it, and those who oppose the policy. A number of these include submissions that have been addressed in the broader topics discussed above.

1021. The summary of submissions made on Policy 10 is set out under the following topics:

- General support for the policy
- Alignment of the policy title, with its direction.
- The relationship between Policy 10, and Policies 11 & 12.
- Amending Policy 10 to require more of regionally significant infrastructure and industry
- Extending Policy 10
- Other matters

C6.5.2. General support for the policy

1022. There are 18 submitters who support the policy and do not seek a change to it. Some of these, however, seek that RSI&I is defined within the plan to provide greater clarity and certainty about the application of the policy. Consideration of these submissions is set out further below. The reasons given for support include that the policy provides for regionally significant infrastructure and industry and allows strategic long term planning to be undertaken by asset managers.

1023. HFM also support the policy and seek its retention, *subject to appropriate amendments to strengthen the policy.* No specific amendments are however identified as to what strengthening is required.

C6.5.3. Alignment of the policy title, with its direction

1024. Some submitters[204] raise concerns that the title of Policy 10 does not align with the direction within the policy itself. As such, they seek amendments to better identify that it relates to point source discharges from RSI&I, rather than it relating to the discharges being regionally significant.

C6.5.4. The relationship between Policy 10, and Policies 11 & 12

1025. Several submitters seek that Policy 10 is amended to make it clear that Policies 11 and 12 also apply to discharges under Policy 10[205]. These submitters consider that if Policy 10 is not qualified by reference to policies 11 and 12, it appears inconsistent with Objective 3, the NPS-FM and the Vision and Strategy. For example, ACRE state that the policy could currently be interpreted as not requiring an improvement in levels of pollutants from point source discharges, whereas PC1 should aim for reductions in these discharges. They consider that without making it explicit that Policies 11 & 12 also apply to discharges associated with RSI&I, territorial authorities and industries will be given "cart blanche" to do whatever they want if the project is significant.

1026. In a similar vein, Fish and Game, while recognising the role and significance of RSI&I, consider that the policy is too strongly worded and is inappropriate as a stand-alone provision. They consider that the policy wording is such that it does not require reduction in discharges, despite requiring this for diffuse discharges. They seek either that Policy 10 is deleted, or that it is added as another consideration under Policy 12.

1027. Related to this, W M Stachurski supports the concept of offset measures, as per Policy 11, but opposes consents being granted for point source discharges for RSI&I without offset measures. He seeks that all contributors to point source discharges, including RSI&I, provide plans for either future mitigation or offset measures.

[204] For example, FANZ, Fonterra, Fulton Hogan, GBC Winstone, J Swap Ltd, Stevenson Resources Ltd.
[205] For example, Fonterra and Fulton Hogan GBC Winstone, J Swap Ltd, Stevenson Resources Ltd.

C6.5.5. Amending Policy 10 to require regionally significant infrastructure and industry 'to do more'

1028. As set out in the previous section, there are a number of submission points made in relation to Policy 10 that relate to a wider concern with how PC1 addresses point source discharges. While the wider consideration of those submissions is set out above, some of these submissions make particular points in relation to Policy 10 that are identified and discussed further below. Changes sought include:

- Deleting Policy 10 so that only Policies 11-13 apply to point source discharges.
- Amending the policy so that agriculture is recognised as a regionally significant industry and given equal weight.[206]
- Requiring RSI&I discharges "to comply with the plan rules" by 1 July 2026.[207]
- Amending Policy 10 to increase controls on these types of point source discharges.[208]
- Amending Policy 10 to provide for or require councils to improve stormwater management systems. For example, providing for: systems and infrastructure to stop stormwater runoff; the treatment and proper disposal of runoff from gutters and streets; or the requirement for a 5 year staged plan to detect and eliminate dry weather cross-connections of sewerage into storm water; overflows should not be acceptable in weather events that are more frequent than a 5-year storm. [209]

1029. Reasons given for the changes sought include:

- Point source discharges should be treated the same as diffuse discharges. Discharges associated with particular industries or sectors should not be treated differently to other industries or sectors, and management approaches should be equitable between all sectors.[210]
- These types of discharges should not be prioritised over environmental outcomes.[211]
- Opposition to providing a priority or "let-out" for some infrastructure and industry activities to continue their point source discharges, potentially protecting poor operators.[212]
- That as the majority of towns along the Waikato River and its tributaries do not meet the government standards for discharge to water, they should be required to comply with these sooner.[213]
- That improvement of these types of point source discharges will likely result in greater benefits and with costs spread across more people (such as urban ratepayers).[214]
- Policy 10 fails to recognise inputs for human faecal material to rivers and tributaries via infrastructure cross-connections.[215]

1030. In addition to the common submission themes identified above, there are also a range of more specific submission points made in relation to Policy 10 that in some way or other seek that the policy is amended to be more stringent on RSI&I point source discharges.

1031. Forest and Bird (in addition to other or alternate changes set out earlier), also seek that point source discharges from RSI&I are considered in establishing any nutrient allocation approach, that they meet best practice, and undertake measures to ensure water quality targets are achieved.

[206] For example, Hort NZ, Huirimi Farms Ltd, Charion Investment Trust, Fletcher Trust, Maihiihi Farmers Group.
[207] For example, B Ward.
[208] For example, R D Okell, D Dean, A Robson & Save Lake Karapiro Inc.
[209] For example, Tirohanga Settlers and Sports Association, Pamu Farms, D Dean.
[210] For example, J G L Reeves & A L Taylor, J M Hahn, Hort NZ, Huirimi Farms Ltd, B, J, K & J Osborne, Pamu Farms, Tirohanga Settlers and Sports Association.
[211] For example, B Ward.
[212] For example, Forest & Bird, M L Wallace.
[213] For example, B Ward.
[214] For example, Buist Family Trust.
[215] For example, Pamu Farms.

1032. The Waikato and Waipā River Iwi Joint Submission[216] consider that the drafting used in Policy 10 could create a situation where the Council must decide whether to grant resource consent to *provide for* the continued operation of regionally significant infrastructure and regionally significant industry, irrespective of whether the targets for the four contaminants would be achieved. They seek that the policy is amended so that it directs that the Council "*have regard to*" the continued operation rather than providing for it, as they consider this is appropriate. They consider that this acknowledges that some point source discharges are necessary, while better reflecting that the Council has discretion to make a balanced decision on resource consent applications on a case-by-case basis.

1033. C Falconer supports the policy in part, but considers that there is a need for clear rules and timeframes for improvements to be made. As such, he seeks that Policy 10 is amended to include a clause that *the ultimate goal is no point source discharges by 2026.*

C6.5.6. Extending Policy 10

1034. BT Mining Ltd consider that the policy is currently unclear as to whether it enables the growth of, or establishment of new, RSI&I. As such, they seek that the policy is explicitly amended to also provide for the growth of, and establishment of new, RSI&I. They consider that as well as recognising and providing for the continued operation of RSI&I, it is important to make provision for growth of existing infrastructure and industry, as well as the establishment of new RSI&I. They consider that without such provision, *it is hard to see how people in the Waikato region will be able to provide for their social and economic well-being over time given that it is highly unlikely that the population of the Waikato will decrease*. Several other submitters[217] also seek that the policy is extended to development of RSI&I, for similar reasons, provided that achievement of Objectives 1 & 3 is not compromised.

1035. Hamilton CC states that the policy should be applied to new or extended infrastructure in order to accommodate growth in accordance with the RPS. Hamilton CC seeks that an additional clause is added as follows: *Continued operation of regionally significant infrastructure associated with the provision of municipal water supply, wastewater and stormwater services, including where this is in response to growth in urban development to give effect to the Waikato Regional Policy Statement.* This stems from concerns regarding PC1 not containing a definition of "regionally significant infrastructure", and their view that the policy does not provide sufficient recognition and protection for municipal water service providers, in light of the statutory obligations of these providers. Rotorua Lakes DC also seek the same addition, with the additional reference at the end of the clause to *and Territorial Authority Spatial Plans.* They consider that greater recognition and allowance is required for expansion and intensification of urban development to give effect to the RPS and spatial plans.

1036. Watercare seeks that Policy 10 is amended to include future development of regionally significant infrastructure to service future growth, as currently the policy only provides for continued operation of existing infrastructure and does not recognise the need to provide for its growth. They state that the NPS-UDC requires planning for the provisions of infrastructure services that must be given effect to.

1037. Oji Ltd seeks that clause (b) is amended to provide for the operation or expansion of regionally significant industry. They consider that this would strengthen the policy by applying a net benefit approach to regionally significant industrial point source discharges, where the environmental benefits of conversion of more land to forestry may result from an increased demand by expanding regional processing capacity. Wairakei Pastoral Ltd states that clause (b) does not give full effect to Policy 4.4. in the RPS, and seek that it is extended to provide for development of regionally significant industry (and primary production).

[216] Including 18 individual submissions by Waikato and Waipā River Iwi.
[217] Fulton Hogan, GBC Winstone, J Swap Ltd and Stevenson Resources Ltd.

1038. Conversely, Tirohanga Settlers and Sports Association raise concerns regarding how expansions of existing, or establishment of new point source discharges will be assessed, raising concern as to whether this would require further reductions in diffuse discharges.

1039. The NZTA seek that *Safe and efficient functioning of the existing and planned state highway network* is added as a new clause to the policy. It states that not all state highways within the catchment are defined as regionally significant infrastructure, but are still critical to the community that they serve. It also considers that new significant infrastructure such as the Waikato Expressway, where it has a new alignment, may not meet the definition of regionally significant infrastructure. It seeks that existing and future regionally significant roading infrastructure is also provided for under Policy 10. The NZTA also considers that providing for the "continued operation" of such infrastructure is too narrow as this does not provide for factors such as safety, efficiency and resilience.

1040. Graymount (NZ) Ltd seek that the following additional clause is added to Policy 10: *Continued operation of existing quarrying and mining industry activities that are associated with the extraction and manufacture of products from natural resources and that due to geophysical constraints, are unable to be relocated outside of the catchment*. They state that the unique circumstances associated with their operations and the use of such confined resources means that the additional criterion is added.

1041. WRC, while supporting Policy 10, state that at the time of flooding, the primary function of flood and drainage infrastructure is to mitigate the effects of flooding. As such, they consider that this requirement needs to take precedence over the achievement of water quality objectives, with respect to moving contaminated water from one place to another. They seek that clause (a) is extended to include including the need for flood and drainage infrastructure to convey water during flood events.

1042. Federated Farmers seek that Policy 10 is amended to recognise the importance of the flood control scheme locally, regionally and nationally; and that, at times, water quality may be poor due to the operation of this key infrastructure. In their view, there has been a high level of investment in these assets, they are essential, and local landowners have no control over contaminants from other catchments entering those water bodies in their sub catchment through the operation of the flood scheme.

1043. M J Lumsden supports the policy, but seeks that it is amended to include “that nothing in this plan shall take precedence over the ongoing use of the regions significant flood control and drainage structures operational requirements”. He considers that the flood control scheme is a major infrastructure asset that while impacting the lower region, benefits the wider economy and provides protection for national infrastructure. He notes that flood control managers cannot control the nature of the receiving waters or the quality and volumes of discharges for the drainage scheme infrastructures.

C6.5.7. Other

1044. DoC seek that Policy 10 is amended to ensure discharges are undertaken in a manner that recognise and provide for the values of individual water bodies. They state that to do this, the specific values of waterbodies need to be identified as required under the NPS-FM and is critical to implementing appropriate freshwater objectives for waterbodies. They also consider that point source discharges should be considered as part of any land-based allocation regime (which they have sought is implemented immediately), but in the absence of this, the achievement of water quality goals needs to be considered when considering all resource consent applications for point source discharges. It is not clear exactly what changes DoC seek to the policy to address these matters.

1045. Hamilton CC and Rotorua Lakes DC seek a new policy following Policy 10 in relation to the consideration of land use changes on discharges. Specifically, the submitters seek a policy that directs when considering a consent application to discharge contaminants from a changed land use, any changes in contaminant load or profile from the current land use are considered as well as the contaminants associated with the new activity.

1046. Hamilton CC also seek a new policy to provide direction for the re-consenting of existing municipal and industrial point source discharges. The proposed policy dictates that at the time of renewal the consent shall incorporate the requirements of the Vision and Strategy, water quality objectives and limits and targets into the consent conditions whilst recognising the benefits to the community of the continued operation of such activities.

C6.5.8. Definitions

1047. A number of submitters who support the policy, including those who support it in part, but seek amendments, also seek that definitions are included in PC1 for either regionally significant infrastructure, regionally significant industry, or both.[218] Some of these submitters, for example Fulton Hogan and Oji Ltd, state that it is required as the RPS definition directs that regionally significant industry will be identified in district and regional plans. Oji Ltd also seek to ensure that, in particular, the definition clearly encompasses the Kinleith Industrial Park.

1048. The submitters seeking a definition for regionally significant industry, generally seek that it is defined as meaning "*industry based on the use of natural and physical resources in the region which have benefits that are significant at a regional or national scale. These may include social, economic or cultural benefits*." Several then seek that a list of what regionally significant industry includes is listed within the definition, with the specific industries requested including:

- Dairy manufacturing sites
- Meat processing plants and rendering plants
- Wood processing plants
- Mineral extraction activities
- Pulp and paper processing plants
- Renewable energy generation

1049. Where specific wording is provided for a definition of regionally significant infrastructure, it generally is: Means municipal wastewater treatment plants, water supply treatment plants and bulk water supply, wastewater conveyance and storage systems, municipal supply dams and ancillary infrastructure. Taupō DC seeks to ensure that the definition of regionally significant infrastructure includes stormwater infrastructure.

1050. AFFCO seek that the definition of point source discharge is amended so that it refers to industrial and municipal wastewater systems, and deletes reference to these being 'consented'. They consider that the latter reference is problematic because any new point source activity, or an activity seeking renewal or variation of an existing and expired consent would not, in their view, be covered by the definition.

C6.5.9. Analysis

1051. The RPS includes direction relating to both regionally significant infrastructure, as well as regionally significant industry. In relation to the former, Objective 3.12 seeks that development of the built environment, including infrastructure and associated land use occurs in an integrated, sustainable and planned manner which enables positive outcomes, including by, e) recognising and protecting the value and long-term benefits of regionally significant infrastructure.

1052. Regional Policy Statement Policy 6.6 pertains to regionally significant infrastructure (and energy resources), and directs that the management of the built environment ensures that particular regard is given to (amongst other things), the protection of the effectiveness and efficiency of existing and planned regionally significant infrastructure, and the benefits that can be gained from its development and use. Section 6.6.1

[218] For example, Trustees of Highfield Deer Park, AFFCO and BT Mining, DoC, Fonterra, Fulton Hogan, GBC Winstone, J Swap Ltd, SWDC, Stevenson Resources Ltd, Tuakau Proteins Ltd, Matamata-Piako District Council, Mercury NZ Ltd.

(Plan provisions) then directs that regional plans include provisions that give effect to Policy 6.6, including that management of the built environment f) provides for infrastructure in a manner that: i) recognises that infrastructure development can adversely affect people and communities…

1053. In relation to regionally significant industry, RPS Policy 4.4 directs that management of natural and physical resources provides for the continued operation and development of regionally significant industry and primary production activities by a number of methods that generally relate to recognising the values of these activities, managing their adverse effects, and managing access to the resources for these activities. Section 4.4.1 (Plan provisions) directs that regional plans should provide for regionally significant industry (and primary production) in a number of ways, including by ensuring the adverse effects of these activities are avoided, remedied or mitigated.

1054. It is important to note that while the RPS contains direction relating to both regionally significant industry and primary production (in Policy 4.4), the RPS also provides different direction as to implementation methods for point source discharges and for non-point source discharges, and therefore anticipates that each will be managed differently to achieve the overarching direction.

1055. In considering the direction in the RPS in relation to RSI&I, it is also important to bear in mind the overall direction in the RPS in relation to water quality. For example, Objective 3.14 seeks to maintain or enhance the mauri and identified values of freshwater bodies. Policy 8.3 directs that the effects of activities on fresh water bodies is managed to maintain or enhance its identified values, including by reducing various identified contaminants. Policy 8.5, specific to the Waikato River catchment, directs that Te Ture Whaimana o Te Awa o Waikato – the Vision and Strategy for the Waikato River – is recognised as the primary direction-setting document for the River.

1056. The Officers consider the above provisions provide guidance and direction that supports having specific policy relating to RSI&I. This will assist in ensuring, in relation to the management of point source discharges, that the direction in the RPS is met, including recognising the value and long-term benefits of regionally significant infrastructure and providing for the continued operation and development of regionally significant industry while managing its adverse effects on water quality. Officers therefore agree with those submitters that support the policy.

1057. In relation to submissions seeking that the title to the Policy be amended, Officers agree that the titles of all Policies potentially create confusion and are recommending that all titles be deleted.

1058. Officers consider that while the direction in the RPS justifies the specific policy direction for point source discharges associated with RSI&I in Policy 10, this direction does not extend to Policy 10 'trumping' other considerations. In particular, the approach taken must also give effect to RPS Objective 3.14, Policy 8.3 and Policy 8.5 as well. Officers agree that the more enabling focus of Policy 10 cannot be read without considering Policies 11-13. For example, providing for the continued operation of RSI&I would not negate the need to adopt the BPO (Policy 11) or to take into account the contribution made by the discharge to the catchment loads and the achievement of targets (Policy 12). PC1 is written in a way that requires all relevant policies to be read together, without specific statements to that effect, and Officers recommend that continues. That said, Officers are conscious of a risk of 'cherry-picking' policies or parts of policies, and if the Panel were of a mind that this risk ought to be reduced, suitable wording requiring these policies to be read together could be added.

1059. As noted in the previous section, there are a number of submitters who consider point source and diffuse discharges should be treated more comparably, or that the approach taken favours urban discharges over rural sectors. As noted above, Officers consider that the approach taken to RSI&I is, in a general sense, consistent with the RPS. Further, the policy will apply to point source discharges from large scale activities, such as community-scale wastewater treatment systems, dairy factories, hydro schemes and so on. Conversely, diffuse discharges are made up of many individual farm-scale discharges and therefore are not related to individual activities that on their own are regionally significant. As such, Officers consider that a

different approach should be taken to implement the RPS direction in relation to diffuse discharges associated with primary production, than that taken in relation to regionally significant industry, while still ensuring that the benefits and value of primary production activities are appropriately recognised.

1060. With particular reference to those submissions seeking provision or requirement for improvement of stormwater management systems, Officers consider that changes to Policy 10 are not required to address this. Specifically, consideration of improvements to stormwater management systems will already need to be considered as part of the re-consenting process for any systems, including demonstration of the BPO.

1061. Officers do, however, consider that it is appropriate to consider the language of the direction used in Policy 10, and in particular, whether the policy should direct that the continued operation of RSI&I is *provided for* or *had regard to*. As referred to above, Officers note that the relevant directions in the RPS requires that (our emphasis):

- the value and long-term benefits of regionally significant infrastructure are recognised and protected
- particular regard is given to the protection of the effectiveness and efficiency of existing and planned regionally significant infrastructure, and the benefits that can be gained from its development and use.
- infrastructure is provided for in a manner that recognises that infrastructure development can adversely affect people and communities
- the management of natural and physical resources provides for the continued operation and development of regionally significant industry, including by avoiding, remedying or mitigating its adverse effects.

1062. Officers note the High Court decision of Wylie J in *New Zealand Co-operative Dairy Co Ltd v Commerce Commission* where His Honour commented:

> *We do not think there is any magic in the words "have regard to". They mean no more than they say. The tribunal may not ignore the statement. It must be given genuine attention and thought, and such weight as the tribunal considers appropriate. But having done that the tribunal is entitled to conclude it is not of sufficient significance either alone or together with other matters to outweigh other contrary considerations which it must take into account in accordance with its statutory function.*

1063. It is evident therefore that the phrase "have regard to" does not provide certainty of outcome. Conversely, the term "provide for" is defined[219] as meaning "*to cause something to happen in the future*". If Council wishes the outcomes in clauses a) and b) of Policy 10 to be consistently achieved in the future then the notified words "provide for" should be retained.

1064. Officers note that the enabling RPS policies are often tempered by a requirement to manage the adverse effects of this activity. "Providing for" the RSI&I does not preclude adverse effects being avoided, remedied or mitigated. Indeed, that is a mandatory outcome dictated by section 5 of the RMA and as the Panel will be aware section 104 of the RMA (consent decision-making) is subject to Part 2 of the RMA. Accordingly, there is no need to 'temper' the policy by simply parroting the section 5 "avoid, remedy or mitigate" mantra.

1065. Officers do not consider that a direction to cease all point source discharges by 2026 is necessary to achieve the Plan's objectives, nor is it appropriate, taking into account the costs and benefits associated with this approach. Officers have also considered whether Policy 10 should be extended to expansion of existing, and development of new, RSI&I. Given the Vision and Strategy clearly identifies that additional adverse

[219] https://www.merriam-webster.com/dictionary/provide%20for

effects on the Waikato River are unacceptable, it would seem inappropriate to provide explicit policy support.

1066. In relation to submissions specifically related to flooding, the recommended inclusion of the RPS definition of RSI below will mean that flood control infrastructure managed by WRC will be covered by Policy 10. Other flood control infrastructure will not enjoy that policy support, but because flood scheme discharges do not generally add to existing catchment loads (as they divert and discharge water that is already in the wider river system), those discharges should not be hindered by other provisions of PC1.

1067. In relation to DoC's submissions, the wider matters raised in relation to the determination of values in accordance with the NPS-FM are addressed elsewhere in this report.

1068. With regards to the request from Hamilton CC and Rotorua Lakes DC regarding a new policy to recognise land use changes, Officers consider that it is not necessary to make such amendments. The assessment of effects undertaken for any particular discharge may consider any changes in contaminant loads and Officers consider that the appropriateness to do so should be determined on a case by case basis. Officers therefore consider the wholesale direction to undertake such an assessment is not necessary.

1069. Hamilton CC also sought an additional policy in relation to the renewal of existing municipal and industrial point source discharge consents. Officers consider the policy as suggested by Hamilton CC is not required as the actions proposed in the policy will already occur during the consent process. In particular, all discharge consents will need to consider the relevant objectives and policies of PC1 and the relevant positive and adverse effects in accordance with section 104.

1070. In relation to the definitions for RSI&I, Officers agree that it would provide clarity to include definitions for these within the Plan. The RPS includes the following definitions for RSI&I:

> ***Regionally significant industry*** *- means an economic activity based on the use of natural and physical resources in the region and is identified in regional or district plans, which has been shown to have benefits that are significant at a regional or national scale. These may include social, economic or cultural benefits.*
>
> ***Regionally significant infrastructure*** *– includes:*
> *a) pipelines for the distribution or transmission of natural or manufactured gas or petroleum;*
> *b) infrastructure required to permit telecommunication as defined in the Telecommunications Act 2001;*
> *c) radio apparatus as defined in section 2(1) of the Radio Communications Act 1989;*
> *d) the national electricity grid, as defined by the Electricity Industry Act 2010;*
> *e) a network (as defined in the Electricity Industry Act 2010);*
> *f) infrastructure for the generation and/ or conveyance of electricity that is fed into the national grid or a network (as defined in the Electricity Industry Act 2010);*
> *g) significant transport corridors as defined in Map 6.1 and 6.1A;*
> *h) lifeline utilities, as defined in the Civil Defence and Emergency Management Act 2002, and their associated essential infrastructure and services;*
> *i) municipal wastewater treatment plants, water supply treatment plants and bulk water supply, wastewater conveyance and storage systems, municipal supply dams (including Mangatangi and Mangatawhiri water supply dams) and ancillary infrastructure;*
> *j) flood and drainage infrastructure managed by Waikato Regional Council;*
> *k) Hamilton City bus terminal and Hamilton Railway Station terminus; and*
> *l) Hamilton International Airport.*

1071. Officers consider that for regionally significant infrastructure, it is most appropriate to take the definition from the RPS, which in any case covers the various infrastructure specifically referred to in submissions and

therefore addresses those submissions. The definition could either copy the text from the RPS, or just refer to the RPS definition.

1072. For regionally significant industry, Officers note that the RPS anticipates that these will be identified in regional and district plans. However, the definition also says which has been shown to have benefits that are significant at a regional or national scale. Officers therefore do not agree with listing the various industries as sought, in absence of justification that these industries meet the RPS definition. Officers therefore prefer, at this stage, that the definition generally repeats the RPS definition (as sought by submitters) but that it not be extended at this stage to list specific industries.

C6.6. Policy 11

1073. Policy 11 relates to application of the 'Best Practicable Option' and mitigation or offset of effects of point source discharges.

1074. The policy requires the adoption of the BPO to avoid or mitigate the adverse effects of point source discharges that contain specified contaminants. It also provides for offsets to be proposed where all adverse effects cannot be practicably avoided or mitigated, subject to meeting the four criteria in the policy.

C6.6.1. Submissions - Summary

1075. As noted earlier, these are various submissions that seek changes to Policy 11 to extend it to cover diffuse as well as point source discharges. As these submissions have been dealt with earlier, they are not repeated here. There are also some submitters who seek changes to Policy 11 that are essentially the same or similar to matters raised in relation to Policy 10, and for which the position of Officers is as set out in relation to Policy 10.[220]

1076. There are 21 submitters who support the policy and do not seek amendments to it. HFM also support the policy and seek its retention, *subject to appropriate amendments to strengthen the policy.* No specific amendments are however identified as to what strengthening is required.

C6.6.1.1. General opposition

1077. E Henson opposes Policy 11 and seeks its deletion as in his view it *allows polluters to keep on polluting and to defeat the clean water mitigation efforts that we are practising*. Huirimu Farms Ltd oppose the policy as they consider it only moves the problem and could penalise dischargers in the sub-catchment where the water quality targets are not met. They seek that the policy is amended so that it does not benefit potential polluters. P J & K M Neal oppose the policy, both as part of wider concerns (addressed earlier) regarding the treatment of diffuse and point source discharges, and also because they consider that offsetting in a separate sub catchment has no gains for local rivers. The particular relief sought in relation to Policy 11 is not specified. A Robson and Save Lake Karapiro Inc seek that Policy 11 is deleted, and pollution levies are used instead. They state that Meta-analysis of Offset programs shows they rarely work in practice.

1078. Forest and Bird seek that all references to offsets are removed from the policy, as they consider that offsets are not appropriate in a water quality context. B Ward also opposes the use of offsets, particularly where they are in an alternative location, as he does not consider this will meet Objective 1. He therefore seeks that the use of offsets is deleted from PC1.

[220] For example, C Falconer and DoC

C6.6.1.2. Requirement to avoid or mitigate all adverse effects

1079. There are a number of submitters who oppose the direction in Policy 11, to avoid or mitigate *all adverse effects*, or where that is not practicable, offset. Reasons given include:

- The approach is inconsistent with the RMA which is not a "no effects" statute[221]
- The total removal of all adverse effects is in many cases infeasible and impractical and mitigation should be relative to the scale of the effect in light of the PC1 objectives, river values and timeframe[222]
- The CSG referred to offsetting where it is not practicable to avoid or mitigate any adverse effects, an offset measure may be proposed...[223]
- The policy requires the BPO to avoid or mitigate all adverse effects, whereas the RMA requires the consideration of options to determine the best practicable one to "prevent or minimise" adverse effects[224]
- The requirement to mitigate adverse effects means that in situations where mitigation can be undertaken, no matter how small, but an offset may be a more appropriate measure to implement, this is currently precluded by the policy.[225]

1080. To address these concerns, submitters seek that:

- *all* adverse effects is replaced with any,[226] any significant[227], any significant residual[228] or more than minor[229] adverse effects
- The second sentence is largely deleted and replaced with *BPO in the context of point source discharges will be interpreted to include the ability to propose an offset measure in an alternative location or locations, provided that the: …*[230]
- Amendments are made to ensure all adverse effects are not required to be avoided, mitigated or offset[231]
- The policy should also allow for remediation.[232]
- The policy should be amended to require consideration of options to determine which is the BPO to prevent or minimise adverse effects[233]
- Avoid or mitigate all is replaced with prevent or minimise and any residual effects replaced with reference to the residual effects[234]
- Delete or mitigate[235]
- Amend the policy to apply a hierarchy where firstly avoidance and then mitigation of adverse effects from point source discharges are achieved as far as reasonably practicable before off-setting can be considered[236]

C6.6.1.3. Relationship between application of the BPO and offsetting

1081. BT Mining consider the wording is unclear as to whether or not offset measures are required, even after the application of the BPO if there are residual adverse effects. They consider that requiring more than the

[221] For example, GBC Winstone, J Swap Ltd and Stevenson Resources Ltd, Watercare
[222] For example, Contact
[223] For example, AFFCO.
[224] For example, Watercare
[225] For example, Hamilton CC
[226] For example, AFFCO, Fonterra
[227] For example, Contact, GBC Winstone, J Swap Ltd and Stevenson Resources Ltd
[228] For example, Watercare
[229] NZ Pork Industry Board
[230] For example, AFFCO
[231] For example, Contact
[232] For example, BT Mining
[233] For example, Watercare
[234] For example, Genesis Energy Ltd
[235] For example, Hamilton City Council
[236] For example, DoC, Fish & Game

BPO seeks environmental betterment and places inappropriate obligations and costs on a consent holder. They seek that it is written:

> *…Best Practicable Option as at the time the resource consent application is decided to avoid, remedy or mitigate the adverse effects of the discharge. An applicant may propose an offset measure in an alternative location or locations to the proposed point source discharge and the positive effects of that offset measure must be taken into account when assessing the overall effects of the proposed discharge and the conditions of any consent. Any such offset measure must:*
> - *Be for the same contaminant or contaminants;*
> - *Occur preferably within the same sub-catchment in which the primary discharge is proposed to occur but if this is not practicable within the same Freshwater Management Unit or a Freshwater Management Unit located upstream; and*
> - *Remain in place for the duration of the consent and able to be secured by the conditions of the resource consent*

1082. Fonterra and others generally support the approach taken to BPO and offsetting but do not consider it appropriate to combine these in a single policy, seeking changes to the policy to split it into two.

1083. Watercare are also concerned that the wording of the policy is convoluted and imprecise, and seek that it be amended to reflect best practice RMA policy drafting and split into two separate policies, one dealing with the BPO and the other with offsetting. No specific drafting changes are provided.

1084. Lumbercorp NZ Ltd, NZ Steel and Tuakau Proteins Ltd seek that the policy is amended to avoid it being interpreted as requiring the avoidance, remediation or mitigation of adverse effects of a point source discharge extends beyond the application of the BPO. As such they seek that the start of the policy's second sentence is deleted, and replaced with *BPO in the context of point source discharges will be interpreted to include the ability to propose an offset measure in an alternate location…* They raise concerns regarding how the offset provisions relate to the implementation of the BPO, and support an approach where the total obligation on point source discharges is achievement of the BPO with the option of offsetting as an alternative to one or more conditions of the BPO.

1085. Matamata-Piako DC and South Waikato DC both seek that the policy be amended to clarify that offset measures can be used as part of measures to avoid, remedy and mitigate adverse effects. Taupō DC seeks that the policy is amended to ensure that offsetting is considered as a mitigation measure rather than only after all other avoidance and mitigation methods have been considered.

1086. Oji Ltd seeks that Policy 11 is amended *to make it clear* that: the adoption of the BPO is the principle mechanism for achieving Objective 3; an offset is not additional to, but may form part of the BPO; and the discharge will not require a 10% (or other standardised numeric) reduction in discharges towards the short or long term water quality targets, above the adoption of BPO. They consider that the policy as currently drafted goes substantially beyond the BPO in requiring the avoidance or mitigation of all adverse effects through the use of offsets. They state that as neither the BPO nor offsetting approach is applied to activities with diffuse discharges, inequities result between the management of activities.

C6.6.1.4. Significant toxic adverse effect (Clause a.)

1087. Clause a. of Policy 11 requires that the primary discharge *does not result does not result in any significant toxic adverse effect at the point source discharge location.* J Allen considers that clause a. requires amendment to define the descriptor *significant*. A number of submitters[237] seeks clarification regarding what is a *significant toxic adverse effect.* B Ward questions who will decide what is 'significant', and states that all pollution is the same. As such, he seeks that *significant* is deleted from the clause. Forest and Bird seek that reference to significant toxic effects is replaced with significant adverse effects. Hamilton CC seek that the phrase at the point source discharge location is deleted, as a discharge might not have a significant

[237] B Chapman, M J Denize, S A Goodwright, G Holmes, D Jefferis, A J Logan, D S Mackenzie, C & V Nicholson, J Roberts, L M Shaw & B J Hall, M I & R J Twining, R Walker, Woodacre Partnership, D, L & Y Yule.

toxic effect but may have an effect downstream. Fish and Game consider that the clause should be amended to refer to any significant or toxic adverse effects as part of ensuring that there is sufficient rigour around offsetting.

1088. Genesis seek that clause a. is deleted. The exact reason for the deletion of the clause is not clear, but is assumed to be part of their addressing their concern that greater clarity is needed around the inclusion of offset measures and consistency with the RMA.

C6.6.1.5. Same contaminant (Clause b.)

1089. Clause b. of Policy 11 requires that the offset measure proposed must be for the same contaminant. A number of submitters[238] seek that the policy is amended so that the offset measure is not required to be for the same contaminant. Reasons include that this would provide greater flexibility and allow for innovation, potentially resulting in net improvement in water quality and to encourage the implementation of water quality improvements that might not otherwise be undertaken. Rotorua Lakes DC proposes the following alternate wording for the clause:

> *The purpose of any offset measure shall be able to ensure a net improvement in water quality in the specified sub-catchment of Freshwater Management Unit that exceeds the residual adverse effects of allowing the primary discharge.*

C6.6.1.6. Same sub-catchment (Clause c.)

1090. Clause c. of Policy 11 requires that the offset measures occur preferably within the same sub-catchment as the primary discharge, but if this is not practicable, then within the same FMU, or an FMU located upstream.

1091. Fulton Hogan and others[239] seek that *preferably* is deleted from the clause. Some of these submitters[240] also seek that *within the same sub-catchment* is replaced with *within or upstream of the sub-catchment*. Genesis seek that the clause is amended to delete reference to the "primary" point source discharge. R & W Verry seek that it is amended to ensure that offset measures occur in the same sub-catchment, as they state that otherwise the sub-catchment targets in table 3.11-1 will need to be altered. Matamata-Piako DC and South Waikato DC seek that the policy be amended so that offsets can be in alternate locations or sub-catchments.

1092. Taupō DC seeks that the policy is amended *to recognise the significant contribution made to date by the Taupō district communities*, and to provide for offsetting in the Lake Taupō catchment as the FMU above the Waikato River. They state that as geographically offsetting is not possible for their council, they would like the opportunity to offset in the Lake Taupō catchment.

C6.6.1.7. Consent conditions (Clause d.)

1093. Fonterra and others[241] do not consider that a consent condition will always be the most appropriate mechanism for securing an offset. As such, they seek that clause d. is amended to add …*<u>or another legally binding mechanism</u>*.

1094. Fish and Game, who generally seek changes related to providing greater rigour around offsetting, seek that d. is amended as follows:

> *Offset measure ~~remains in place for the duration of the consent and~~ is secured by consent condition <u>and, if necessary, a bond in order to ensure it is achieved and maintained in the long term preferably in perpetuity; and</u>*

[238] G Kilgour, Hamilton City Council, Rotorua Lakes Council, .
[239] Fonterra, GBC Winstone, J Swap Ltd and Stevenson Resources Ltd.
[240] GBC Winstone, J Swap Ltd and Stevenson Resources Ltd.
[241] Fulton Hogan, GBC Winstone, J Swap Ltd and Stevenson Resources Ltd

C6.6.1.8. Other

1095. Fish and Game seek a range of changes intended to provide more rigour around the use of offsetting, including that off-setting should provide for a net gain. This would be achieved by adding the following additional clause to the policy: Offset measure results in a predicted net decrease of the contaminant in the receiving environment.

1096. The WRA states that the policy makes offset mitigation optional by using the word 'may', and only specifies a lessening of adverse effects through offset mitigation. They seek that the policy is amended to explicitly require offsets and to result in a net contaminant loss improvement.

1097. In addition to other changes, Genesis considers that any proposed offset measures should be at the discretion of the applicant, therefore seeking that the second sentence of the policy is amended to read: …an offset measure may be proposed by that person in an alternative location...

1098. Several councils[242] seek that the policy is clarified to allow for more than one offset measure, and to allow for offsets to be staged over the period of the resource consent. In regard to the latter, reasons include that a staged approach is sensible when managing an increasing contaminant load from growth, and that it is consistent with the Local Government Act 2002 requirements.

1099. In addition to other changes sought, which are discussed earlier, Hamilton CC seeks a range of changes to the policy to address a number of matters, several of which relate to improving clarity regarding what stage in the consent process the BPO is to be determined; what the 'primary discharge' is; the meaning of the policy; and the purpose of any offset measure. To achieve this, they seek that the policy is amended as follows:

> *Require any person undertaking a point source discharge of nitrogen, phosphorus, sediment or microbial pathogens to water or onto land in the Waikato and Waipā River catchments to adopt the Best Practicable Option to avoid or mitigate the adverse effects of the discharge (the primary discharge), ~~at the time a resource consent application is decided.~~ Where it is not practicable to avoid ~~or mitigate~~ all adverse effects, ~~an~~ one or more offset measures may be proposed. Offset measures may apply in an alternative location or locations to the ~~point source~~primary discharge, ~~for the purpose of ensuring positive effects on the environment to lessen any residual adverse effects of the discharge(s) that will or may result from allowing the activity~~ provided that the*:
>
> - *The purpose of any offset measures shall be to ensure a net improvement in water quality in the specified sub-catchment or Freshwater Management Unit that exceeds the residual adverse effects of allowing the primary discharge.*
> - *When a resource consent application is decided, decide also the Best Practicable Option, details of any offset measures, and the required timing for implementation of the Best Practicable Option and any offset measures. Allow implementation of the Best Practicable Option and any offset measures to be staged.*

1100. GBC Winstone, J Swap Ltd and Stevenson Resources Ltd consider that the policy should be amended to ensure that the offset measure is monitored to confirm its effectiveness. To achieve this, and to provide greater clarity, they seek that the wording *for the purpose of ensuring positive effects on the* environment *to lessen any residual adverse effects of the discharge(s) that will or may result from allowing the activity* is deleted from the stem of the policy and the following additional clause is added: *The offset measure is monitored and results in a net reduction in adverse environmental effects caused by the contaminant(s) being offset in the Point Source Discharge on the Waikato or Waipā River catchment;*

1101. WRC seeks that Policy 11 is amended so that flood management and drainage infrastructure are not required to mitigate contaminants that are sourced from land use activities within catchment. They state

[242] Hamilton CC, Matamata-Piako DC and South Waikato DC

that it was not intended for the policy to require mitigation or offset for infrastructure that primarily moves water already containing contaminants from one place to another, as they convey rather than add contaminants to the environment.

1102. Tangata whenua submitters seeks that the phrase at the time a resource consent application is decided be deleted from the policy, as they consider the requirement to consider the BPO should not be limited only to resource consent applications, noting that what is the BPO can change over time. They also seek an addition to refer to "net" positive effects and to refer to offsetting residual adverse effects, rather than reference to "lessening" these residual effects. They also seek a correction to the title of the policy.

1103. P Meier raises concerns about the potential for overlap between mitigation measures proposed as part of a FEP and the requirement to obtain consent, and seeks that that no additional resource consents be required where such measures are included within an FEP. He also seeks that the Plan should incorporate policies relating to mitigation activities where there are one-off impacts, for example, one-off sediment discharges associated with earthworks that are for mitigation measures, should not, in his view, require consent.

1104. W & K Oliver support Policy 11 but seek that the policy is amended so that offsets are only available to infrastructure of significant sub-catchment and regional importance, as a last resort, and only within the sub-catchment where the discharge occurs. They state that otherwise communities may be threatened economically as wealthy point source discharges buy up offsets to discharge in another sub-catchment, which they consider would conflict with Objectives 2 and 4.

1105. R J Turner seeks that the policy is amended to address Hamilton City and Raglan sewerage spillages and other urban storm water runoff which adversely effects water quality. He also states that further work is required to address the oil slick from Waipā's roadway and the effects on flow and algae build-up resulting from the hydro dams on the Waikato River.

C6.6.2. Analysis

1106. The analysis is set out following the same topics as identified above.

C6.6.2.1. General Opposition

1107. Section 70(2) of the RMA directs that before a regional council includes in a regional plan a rule requiring the adoption of the BPO to prevent or minimise any actual or likely adverse effect on the environment of any discharge of a contaminant, the council has to be satisfied that the inclusion is the most efficient and effective means of preventing or minimising those adverse effects on the environment, having regard to the nature of the discharge and the receiving environment and other alternatives. In this instance, PC1 does not introduce a rule requiring the adoption of the BPO, but it does direct, at a policy level, that the BPO is adopted. Officers consider, in relation to submitters opposing the policy, that in order to remove the requirement for the BPO to be adopted, it would be appropriate to demonstrate what other alternative approaches might be more appropriate.

1108. Notwithstanding this, Officers consider that it can be difficult to reconcile BPO with the direction set in the Vision and Strategy. Officers consider that it is counter-intuitive that the policy direct that the BPO must be adopted, in circumstances where the Vision and Strategy may indicate a more beneficial outcome is appropriate. For example, the BPO might only require a certain level of mitigation because of the prohibitive costs of undertaking greater mitigation, but an applicant may need to choose to either pay these costs or undertake a different activity to achieve the Vision and Strategy. Officers therefore consider that the policy should be amended to make it clear that BPO is the minimum required.

1109. In relation to submissions opposing the use of offsets, Officers consider that offsets are not unusual in an RMA setting, notwithstanding that they are more commonly used in relation to biodiversity. Officers consider that there are situations or opportunities where offsets would provide a good outcome in a water

quality context, and potentially achieve these outcomes in a more efficient way. Officers therefore consider it appropriate to retain Policy 11.

C6.6.2.2. Requirement to avoid or mitigate all adverse effects

1110. Officers accept that there is a difficulty with the wording of the policy, in that it currently requires avoidance or mitigation of all adverse effects, and this is not always practicable, feasible or necessary. However, Officers do not consider that the policy should be amended to apply only to 'significant' effects, because there is a difficulty with this approach when dealing with the management of cumulative effects. This is because a single discharge may not have a significant adverse effect, but in order to achieve the objectives of PC1, offsetting may still be appropriate and necessary to address its adverse effects. This is particularly important given the direction in the NPS-FM to avoid over-allocation. Although relating to a different context, Officers consider that the hierarchy approach referred to by DoC and Fish and Game is most appropriate, with reference to any rather than all adverse effects.[243]

1111. Officers agree that the RMA definition of BPO refers to "preventing or minimising" adverse effects. However, to 'prevent' something happening is the same as to 'avoid' it happening. Also, while 'minimising' means to reduce something to the smallest possible amount, the imposition of mitigation measures generally has the same effect, namely the aim of the mitigation is usually to reduce the scale and intensity of adverse effects so that they are as small as possible. Consequently, Officers to not consider the chapeau of the policy needs to be amended to replace the words "avoid or mitigate" with the words "prevent or minimise".

C6.6.2.3. Relationship between application of the BPO and offsetting

1112. Officers agree that the drafting of the policy, which addresses both the application of the BPO and offsetting may cause some confusion as it blends two separate concepts. Therefore, Officers recommend splitting these out into two separate paragraphs to assist in providing greater clarity.

1113. Beyond this, Officers note that the policy does not require offsetting, but does require that the BPO is adopted. However, the policy does allow for an offset to be used where a consent might otherwise be declined, because application of the BPO alone might not be enough to achieve the outcomes sought, and an offset could allow for a consent to be granted. Officers do not agree that that application of the BPO alone will always be sufficient to achieve the objectives of PC1 and note that Policy 11 must be read together with Policy 12, which requires consideration of the targets in PC1.

1114. Officers also note that some of the matters raised by submitters in relation to Policy 11 relate to wider concerns which are addressed elsewhere in this report and not repeated here (for example, the application of the BPO to diffuse discharges, 10% reductions and so on).

C6.6.2.4. Significant toxic adverse effect (Clause a.)

1115. In relation to submitters seeking clarity on what are significant toxic adverse effects, Officers consider that 'significance' is a relatively well-known term in an RMA setting, and requires a case-by-case assessment. However, Officers consider that effects that are at a *toxic* level would likely be significant, even if offset elsewhere. While risking some duplication, Officers therefore recommend that the policy is amended as sought by Fish and Game, to refer to *any significant or toxic adverse effects…* This may also go some way to address submitters (as set out earlier under 'general opposition') who have concerns that allowing for offsetting allows for local rivers to be polluted provided gains are achieved elsewhere. Officers consider it unnecessary to delete *at the point source discharge location* as it is unlikely that these effects would occur downstream but not at the discharge location.

[243] Officers note the common use of 'any adverse effects' in the RMA, such as s70(2).

C6.6.2.5. Same contaminant (Clause b.)

1116. Officers do not agree that clause b. should be amended to allow for an offset measure to be proposed for a different contaminant. Officers note that most all contaminants are cumulative across sub-catchments, and consider that not offsetting the same contaminant could have adverse effects downstream.

C6.6.2.6. Same sub-catchment (Clause c.)

1117. In relation to clause c. Officers note that the current wording of the clause seeks to balance the general direction that the offset measures should be within the same sub-catchment, with some flexibility to consider a wider offset. Officers note that some submitters seek that the policy is strengthened so that the offset can only occur in the same sub-catchment, while others seek greater flexibility that offset measures in the same catchment are not *preferred.* Officers consider that additional direction toward the same sub-catchment is warranted, so that actions of others in the same sub-catchment are not made irrelevant.

C6.6.2.7. Consent conditions (Clause d.)

1118. Officers agree with submitters who seek that clause d. be extended to provide for the use of another legally binding mechanism rather than referring only to consent conditions. In relation to Fish and Game's request to refer to the requirement for a bond and require this to be preferably in perpetuity, Officers consider that this addition goes too far and note that the offset is only required to be for the duration of consent, not in perpetuity.

C6.6.2.8. Other

1119. To the extent that submitters seek that the policy 'requires' offsets, Officers note that offsets must be volunteered by applicants and cannot be required by a council. The intent of the policy is instead to provide guidance regarding when offset measures are appropriate. Therefore, Officers do not consider it appropriate that the policy direct that an offset measure should or must be proposed. However, to provide greater guidance on the importance of considering offsets, Officers consider that the policy could be amended to encourage such measures being proposed.

1120. In relation to requests that the policy more explicitly state that that offset measures must result in a net decrease in contaminants or net improvement in water quality, Officers consider that in this situation, the most relevant consideration is how the discharge and any offset contributes to the achievement of PC1's limits and targets. In this regard, Policy 11 must be read together with Policy 12, when considering the appropriateness of any offset measure.

1121. Officers do not consider that the change sought by Genesis is necessary as it is implicit that the offset measure must be proposed by an applicant.

1122. In relation to providing for more than one offset measure and for offsets to be staged, Officers consider that the policy does not preclude this happening, and these can be considered on a case-by-case. As such, no amendments are considered necessary.

1123. In relation to the changes to the wording sought by Hamilton CC that are not otherwise covered above, Officers do not consider the changes sought would make the policy clearer, and note that splitting the policy into two separated parts may assist in addressing some of the submitter's concerns regarding clarity in any case.

1124. In relation to submitters' requests to ensure the monitoring of offset measures, Officers consider this is essential, but is almost always a part of any resource consent granted for an activity of a scale that might require an offset.

1125. With regards to WRC's concerns about the application of the policy to flood management and drainage infrastructure, it is noted that the policy only requires that the BPO is adopted; it does not require offsets. The circumstances of any consent application for this type of discharge would need to be considered when

determining the application, including consideration of whether the discharge increases or simply moves contaminants. Changes to the policy are not considered necessary to more explicitly address the particular circumstances of flood management and drainage consents.

1126. In relation to submissions seeking that *at the time a resource consent application is decided* is deleted from the policy, Officers note that the policy may be applied when conditions of a consent are reviewed, and therefore recommend the phrase be deleted. Officers are unclear what changes to the policy might be necessary to address P Meier's concerns regarding overlap between mitigation measures proposed as part of an FEP and the direction in Policy 11. Therefore, no changes are recommended in relation to these submissions.

1127. Officers do not agree that offset measures should only apply to significant infrastructure, as Officers consider that in relation to offsets, it is more important to consider the effects associated with a discharge that cannot be avoided or mitigated, and how the offset would assist in meeting the water quality targets. In response to concerns that offsetting may result in economic threats to local communities, Officers note firstly, that offsetting is the final step in addressing effects and that the potential economic effects on local communities can be considered in any particular circumstances.

1128. In relation to R J Turner's submission, Officers consider that the matters raised are in many cases not dealt with in PC1, or otherwise covered when considering Policies 10-13 in the round.

C6.7. Policy 12

1129. Policy 12 provides additional considerations for point source discharge consents, in relation to the water quality targets. It directs that consideration is given to the contribution that a point source discharge makes to the specified catchment loads, and how it effects the achievement of PC1's target, taking into account a range of specified matters.

C6.7.1. Submissions – Summary and Analysis

1130. The nature of the submissions on this policy is such that they are not easily grouped into like topics. As a result, this section includes a summary of each relevant submission point and the analysis on it.

1131. There are 18 submitters who support the policy and do not seek amendments to it.[244]

1132. E Henson opposes the policy. Oji considers that Policy 12 is inappropriate and unreasonable if the intention is that it applies obligations, in relation to the targets in Objectives 1 & 3, that are additional to the BPO required by Policy 11. They state that no equivalent policy applies to diffuse discharges, and consider that the effect of the policy is to place the burden for water quality improvements primarily on point source dischargers, despite their comparative contribution to water quality issues. They also have concerns regarding how consent applications will be assessed against the targets. Their view is that the requirement to adopt the BPO is the most appropriate way to achieve the objectives of PC1. Accordingly, they seek that Policy 12 is deleted. If retained, they seek that the stem of the policy is deleted and replaced with In assessing consent applications for point source discharges, take into account, and that and for new point source discharges the application of *the best practicable option* is added to the end of clause b. Further, they seek that clause c. is amended to delete reference to *and meet the water quality targets specified above* and replaced with *or occur at a point in time,* reference in d. to *treatment* plant upgrades is deleted

[244] Including Ata Rangi 2015 Limited Partnership, Balance, Contact, DoC, Federated Farmers, Genesis, Graymont, King Country Energy Ltd, Mercury NZ Ltd, M & A Passau, Rotorua Lakes Council, Taupo DC, Trinity Lands Ltd, Tuakau Proteins Limited, Waikato DDC, Waipā DC, Wairarapa Moana Inc, Waitomo DC.

so that it applies equally to other existing industrial discharges, not only treatment plants. Further, they seek that a new clause e. is added as follows:

> *For new or expanded regionally significant industry, the social and economic benefits of the proposal including the extent to which a net increase in lower discharging land uses create a net benefit to the environmental health of the river(s).*

1133. Officers agree in a broad sense with the supporting submitters, that the policy is appropriate to provide more specific guidance on matters that should be considered in relation to point source discharges. This aligns with the overall intent that Policies 10-13 provide a more integrated set of provisions to ensure that consideration of point source discharge applications better aligns with the objectives of PC1. As such, Officers do not agree that the policy should be deleted. Similarly, Officers do not agree with the alternate wording proposed by Oji Ltd. Officers consider that the effect of the changes is to remove consideration of the water quality targets in PC1 from the consideration of point source discharge consents. Officers do not agree that relying only on the BPO will always be sufficient to meet the Plan's objectives, nor to give effect to the Vision and Strategy. Officers also note the various submissions outlined earlier by parties who seek to ensure that equitable treatment is given to diffuse and point source discharges. Officers consider that removing consideration of the contribution a point source discharge makes to water quality targets would not be consistent with the treatment of diffuse discharges.

1134. Fish and Game seek that the 'additional' is deleted from the title of the policy, and that the policy wording is deleted and replaced with the following:

> *Impose conditions and discharge standards on point source discharges to ensure that the reduction targets and timeframes in Tables 3.11-1 and 3.11-2, and the sub-catchment nitrogen leaching reductions in Schedule E, can be met, based on a consideration of the contribution mode by the discharge to the nitrogen, phosphorus, sediment and microbial pathogen catchment loads, and having regard to:*
>
> *a. The relative proportion of nitrogen, phosphorus, sediment and microbial pathogens that the particular point source discharge contributes to the catchment; and*
> *b. Whether it is appropriate to stage future mitigation actions to allow investment costs to meet the water quality targets specified above to be spread over time.*
> *c. The need to favour caution and environmental protection where the information available is uncertain or inadequate.*

1135. These changes to the policy title are sought on the basis that the policy sets out fundamental considerations for these discharges, rather than just being additional matters to be considered. In terms of the alternate policy wording, this relates to the submitter's view that the cumulative effects of all discharges need to be taken into account. They state that clause b. is a more relevant consideration in the duration of a consent and should therefore be shifted to Policy 13, and that clause d. is already provided for in Policy 11.

1136. Officers do not agree to the changes sought to the substance of the policy as the directive nature of the wording would suggest that on any given point source discharge consent it can be determined exactly what reductions or measures would be required in relation to a single discharge to achieve the targets – often for cumulative and temporal effects this can be difficult. Officers also consider that this issue is in part dealt with by recommended changes to the objectives and policies elsewhere in this Report, which seek to set a clearer 'direction of travel' for all discharges.

1137. Officers do not agree that clause b. is a more relevant consideration in relation to consent duration and therefore do not agree that the clause should be shifted to Policy 13. Officers do not consider that past reduction measures are a good indicator of what a consent term should be; rather the current clause allows consideration of the extent to which the measures undertaken have or will contribute towards achieving the targets.

1138. Officers agree that clause c. should be amended so that rather than being focussed on the ability to undertake staging to spread costs, it is focussed instead on whether such staging is appropriate. Clause d. is addressed further below in relation to other submissions.

1139. In terms of the additional clause sought by Fish and Game to explicitly refer to the precautionary principle, Officers do not consider that this is appropriate in relation to discharges, where due to their nature, there is always a level of uncertainty. Officers consider that there are already appropriate ways to address this uncertainty including the ability to undertake consent reviews and the inclusion of adaptive management-focussed conditions.

1140. The Waikato and Waipā River Iwi Joint Submission[245] have concerns that the policy may be used to avoid upgrading point source discharge infrastructure to reduce contaminants to achieve Objectives 1 & 3. As such, they seek that the policy refer to loads *within a sub-catchment*, rather than *catchment loads*, and that *likely* is deleted, so that reference is to the achievement of the short term targets rather than their likely achievement. In addition, they seek that sub-clause d. relating to financial considerations, is deleted. They have concerns that this clause could be used to avoid meaningful reductions of the contaminants being made and note that Policy 11 already provides guidance on the potential for the use of offsets when application of the BPO may not achieve the required reductions. Officers note that the catchment versus sub-catchment approach is part of a wider issue raised by these submitters which is addressed elsewhere. Officers are comfortable with the removal of *likely*. Officers agree that clause d. is not appropriate to ensure the achievement of Objectives 1 & 3, because it implies that application of the BPO (which includes financial considerations) is sufficient, whereas the application of the BPO alone may not be enough to achieve the outcomes sought in PC1. Officers therefore agree that clause d. should be deleted.

1141. FANZ seek that the wording of the Policy be amended, as follows, so as to ensure that Objectives 1 and 3 are not compromised: …on the likely achievement of the short term targets in Objective 3 or the progression towards the 80-year targets in Objective 1, so that these objectives are not compromised, taking into account...

1142. Fonterra and others[246] consider that stronger terminology is required in the policy to give effect to the NPS-FM, and to be consistent with the terminology within the NPS-FM. They seek the following changes:

> *Additional considerations for point source discharges in relation to water quality targets*
> *~~Consider~~ Assess the contribution made by a point source discharge to the nitrogen, phosphorus, sediment and microbial pathogen catchment loads and the impact of that contribution on the likely achievement of ~~the short-term targets^ in~~ Objective 3 or the progression towards the desired 80-year water quality states ~~targets^~~ in Objective 1, taking into account..:*
> *c. The ability to stage future mitigation actions to allow investment costs to be spread over time and contribute to meeting Objectives 1 and 3 ~~the water quality targets^ specified above;~~ and..."*

1143. Officers note that some of the changes sought relate to wider points raised by the submitters in relation to terminology, which are addressed elsewhere in this report. Officers do not consider that replacing consider with assess improves the policy as a requirement only to assess the contribution does not provide direction as to what such an assessment leads to. However, Officers consider that the policy can be improved in terms of how it references the relevant targets, and in particular, rather than referencing Objectives 1 and 3, which in turn reference Table 3.11-1, Officers recommend that the Policy refer directly to Table 3.11-1 as well. As a consequence of this, there is no requirement to add the additional reference to the objectives not being compromised that is sought by FANZ.

1144. WRC seek that the following additional clause is added to the policy: That flood and drainage infrastructure is not contributing to catchment loads but conveying water for flood management purposes. The reason for this change is not clear. They also seek that the references to water quality targets in the policy is

[245] Including 18 individual submissions by Waikato and Waipā River Iwi.
[246] Fulton Hogan, GBC Winstone, J Swap Ltd, Stevenson Resources Ltd.

amended so that the referencing is consistent. Consideration of how the targets are referenced is addressed above. In relation to the new clause sought, Officers consider that justification for the addition is required. The Officers' preliminary view is that where infrastructure does not contribute to catchment loads, the policy would not be a relevant consideration in any case because it only relates to point source discharges that make a contribution to catchment loads.

1145. Lumbercorp NZ, NZ Steel, Hamilton CC and South Waikato DC seek that the start of the policy is amended to explicitly refer to the consideration required by the policy being made when determining/considering a resource consent application for a point source discharge. Officers note that referring to the determination of a resource consent application is consistent with the terminology used in Policies 10 and 13 and agree with adding this to make Policy 12 clearer.

1146. Hamilton CC also seek that where applicable is added at the end of the stem of the policy. They consider that this would clarify that some considerations will not always be applicable. Officers do not consider that the addition is required because this is self-evident.

1147. Hamilton CC consider that clause b. of the policy requires amendment to clarify its meaning, seeking that it is worded *Past modelling, monitoring and technology upgrades undertaken to ~~model, monitor~~ understand and reduce the discharge of…* Similarly, J M Hahn seeks that clause b. is amended to delete reference to modelling and monitoring the discharge, so that the reference is only to the reduction of the discharge. Officers consider that the wording of clause b. should be focussed on the reduction that past technology upgrades have led to – rather than simply whether modelling or monitoring has been undertaken. As such, Officers recommend that clause b. is amended to remove reference to modelling and monitoring.

1148. Hamilton CC also seek that the policy is amended so that the following matters are also taken into account in point source discharge consent applications:

> *e. Seasonal climatic conditions affect biological processes within water bodies and wastewater treatment plants, which means the contaminant assimilative capacity of the waterbodies and the contaminant reducing capacity of the plants change with the seasons; and*
> *f. Other natural processes within waterbodies that affect the waterway's capacity to assimilate contaminants*

1149. Officers consider that the policy is aiming at the achievement of the relevant targets. To the extent that the factors identified by Hamilton CC apply to any specific point source discharge they will be relevant to consideration of the achievement of targets. However, Officers do not consider that they should be factors to consider in their own right, as they shift the focus of the policy and imply that there may be additional flexibility to rely on these factors rather than concentrating on the achievement of the relevant targets.

1150. J M Hahn states that amendments to the policy are needed so that it focusses on actions. She seeks that clause d. is amended so that it is only for a 10-year period. Officers note that the policy provides direction for the matters to be considered in any consent process. In this way, it is not clear how the policy being focussed on actions would assist with this. As set out above, Officers recommend that clause d. be deleted.

1151. Watercare seeks that the policy is strengthened so that decision makers are directed to have particular regard to the specified matters, rather than only taking them into account, as they consider that the matters raised are important and relevant to assessment of resource consent application. They also seek that clause b. is separated into two parts, with the first relating to technology upgrades and the second to monitoring and modelling, as they consider the two parts currently mixes different concepts. Officers note that in response to other submissions, changes are recommended to clause b. to provide clarity and this may address the submitter's concern in relation to this. In relation to have particular regard to, Officers consider that this potentially elevates these matters to a level of significance similar to s7 matters and do not recommend a change.

1152. Siesling Farms seeks that the policy is extended to include a new clause e., relating to the relative costs of upgrading or replacing existing effluent storage systems versus the benefits it achieves. Officers consider that the point of the policy is to consider the relationship between the discharge and the water quality targets. Consideration of investment costs to achieve these targets is more about timing and staging and is part of the consideration required in determining what is the BPO. Officers therefore do not agree that the addition is appropriate.

1153. Forest and Bird seeks that the timeframes in the policy are amended to align with the alternate timeframes sought elsewhere in the submission, as they consider the existing timeframes are inappropriate. This is discussed elsewhere in this report. For completeness it is noted that if the Hearings Panel agree with changes to the timeframes, Policy 12 may require consequential changes. They seek that clause b. is deleted or amended so that it only applies to existing regionally significant infrastructure. Officers consider that this clause is a relevant consideration for any point source discharge and do not agree that it should be limited to regionally significant infrastructure. They also state that the reference in the title to "additional" considerations suggests the policy has less weight than others, and state that clause c. provides for an inappropriately permissive regime to apply to point source discharges; however they do not seek changes in relation to these parts of the policy. In relation to the "additional", Officers have in any case recommended this deletion as a result of other submissions.

1154. The WRA seek that Policy 12 is strengthened to *include a provision stating that no further degradation* shall *be permitted.* This relates to a concern that the point source provisions should be amended to ensure this pathway for contaminants does not increase the contaminant load to the Waikato River. Officers consider that the policy already achieves this, in more explicit terms, by requiring consideration of the water quality targets, which in turn require an improvement in water quality. Officers consider that this is a more appropriate link to the achievement of the objectives than a blanket statement relating to *no further degradation*.

1155. B Ward raises a number of concerns with the policy and generally opposes it. The concerns appear to largely relate to how the policy applies to point source discharges when compared with the submitter's experience with the regulation of dairy effluent systems. It is not clear what changes to the policy are sought to address the submitter's concerns. As such, Officers do not recommend changes in response to this submission.

C6.8. Policy 13

1156. Policy 13 provides direction on the matters to be considered when determining the appropriate duration for any point source discharge consent.

C6.8.1. Submissions - Summary

1157. There are 15 submitters who support the policy and do not seek amendments to it.[247]

1158. Mercury NZ Limited seek that the stem of the policy is amended to expressly refer to consents granted "for point source discharges" to provide greater clarity.

1159. B Hathaway, J Hathaway and J A Russell seeks that clause a. of the policy is deleted, as they consider that consent terms exceeding 25 years could restrict potential advances in contamination reduction. In addition to their broader concerns regarding how diffuse and point source discharges are treated in PC1, B, J, K & J Osborne seeks that Policy 13 is amended so that the duration of consents is shortened to allow for advances in technology to be incorporated as they become available, and so that consents fit the timeframes of the

[247] Ata Rangi 2015 Limited Partnership, Balance, Contact, Federated Farmers, FANZ, Graymont, King Country Energy, Lumbercorp, NZ Steel, M & A Passau, Southern Pastures Limited Partnership, Waikato District Council, Waipā District Council, Wairarapa Moana Inc, Waitomo District Council.

next set of short term water quality goals. A Robson and Save Lake Karapiro seek that the timeframe is reduced to 10 years, with 10 year automatic rollover if audits are clean. They considers that the 25 year timeframe is too long to respond to innovations and public demand for improvement. In their view, the automatic rollover would provide certainty around investment for conforming consent holders.

1160. B Ward opposes clause a. of the policy, raising concerns regarding consent having been granted with a 23 year duration for sewerage plant discharges, which in his view do not meet government or regional council standards.

1161. Tangata whenua submitters consider that it may be appropriate in some situations for a point source discharge to be granted with a consent duration of greater than 25 years, but consider that this should not be the mandatory starting point for consent duration for point source discharges. As such, they seek that clause a. is amended to delete reference to A consent term exceeding 25 years, where…

1162. Matamata-Piako DC and South Waikato DC seek that clause a. is amended to refer to 30 years instead of 25, and that the following is added to the end of clause b. *while taking into account the timing and cost to the communities associated with implementing such measures.* They consider that the rationale for adopting a 25 year consent term is unclear and consider that 30 years is consistent with the planning framework required for infrastructure strategies under the Local Government Act. They also consider it appropriate to provide for staged investment and staged implementation of contaminant reduction measures, to take into account a community's ability to fund the measures, and seek that this consideration is added to clause b.

1163. Taupō DC seek that Policy 13 is amended to provide a consent term of 35 years, in order to protect the investment that communities will need to make.

1164. Oji Ltd seek that clause a. is deleted, stating that it is unnecessary and inappropriate, as it implies that a long term consent will only be considered where the applicant achieves reductions or the mitigation of all effects as per Policies 11 & 12. They consider that this is inconsistent with sustainable management and note that case law has established appropriate factors for the consideration of consent duration.

1165. DoC supports the intent of the policy but seeks that it is amended to include a common catchment expiry date for consents, rather than a blanket 25 year term. They consider this approach useful to ensure that the targets for a particular catchment can be reviewed in consideration of all contaminant discharges.

1166. Fish and Game seek that Policy 13 is deleted, as they consider that it does not include the full range of matters that case law indicates is relevant. They state that in some circumstances it may not be appropriate to provide for a consent terms of 25 years. In the alternate, they seek that clause c. is amended to refer to <u>*substantial*</u> *contaminant…* and that clause a. is deleted and replaced with the following:

> *<u>a. Alternative methods of discharge, technology improvements or other changed circumstances that may arise in the future</u>*
> *<u>aa. The sensitivity of the receiving environment and the adequacy/certainty of information that is available; and</u>*
> *<u>ab. The applicant's past record of responsiveness to adverse effects including past technology upgrades undertaken to model, monitor and reduce the discharge of nitrogen, phosphorus, sediment or microbial pathogens within the previous consent term and their success; and</u>*

1167. Fonterra and others[248] support the intent of the policy and seek amendments to improve its clarity and robustness, with clause a. being amended as follows: *A consent term exceeding 25 years, where the applicant demonstrates ~~the approaches set out in~~ <u>that</u> Policies 11<u>, 11A</u> and 12~~,~~ will be ~~met~~ <u>complied with</u>; and …* These submitters (but excluding Fonterra) also consider that a consent term of 35 years is warranted

[248] Such as Fulton Hogan, GBC Winstone, J Swap Ltd and Stevenson Resources

where the requirements of the specified policies are met, and seeks that exceeding 25 is replaced with of 35.

1168. Forest and Bird considers that the most important consideration in terms of consent duration is the extent to which the activity will ensure that the water quality targets are met. They consider that reference to Policies 11 and 12 in clause a. are too ambiguous to rely on that in relation to b. and c. consider that the achievement of water quality targets is more important than cost and certainty. They seek that clause a. is deleted and replaced with the following: Whether the applicant demonstrates that the discharges is consistent with the water quality attribute^ targets^ set out in Table 11-1.

1169. WRC raises concerns regarding the intent of the policy, particularly given the Council's ability to consider all possible consent terms up to and including 35 years. They seek that the applicant demonstrates be deleted from clause a. Further, they consider that given that Policy 12 requires that matters are taken into account, reference in Policy 13 to meeting the approaches in the former policy are problematic. As such they seek that reference to Policy 12 is removed.

1170. J M Hahn seeks that the following is added to clause b. of the policy: will meet the requirements predicted that will required at that future date, stating that to meet the targets of the plan, water quality must continually improve.

1171. Hamilton CC seek that clause c. is amended to add reference to offsets, and that an additional clause is added to the policy as follows:

> *In respect of a municipal discharge, in addition to a, b and c above, allow a consent term for a period of 35 years, where the proposed treatment of the water and any contaminants prior to discharge, and any offset measures, are predicted to ensure the standards specified in the consent will be met for the duration of the consent.*

1172. Hamilton CC notes that the investment required to ensure municipal and industrial point source discharges meet the water quality attribute targets will be significant, and therefore consider it appropriate that a longer consent period is given to provide certainty and to achieve a return on investment. They consider that the review process provided under section 128 of the RMA will still provide the Council with the ability to review consents, including to enable any new standards set in a regional plan to be met.

1173. Watercare considers that the policy should be strengthened so that the matters outlined in the policy must be considered by decision makers, and clause a. amended to require applicants to demonstrate the extent to which policies 11 and 12 will be met. They further seek that the need for the provision of infrastructure to meet growth demands should also be a relevant matter when considering consent duration, which they consider is consistent with the NPS-UDC. No specific wording is provided.

1174. J Allen seeks that the following additional clause is added to the policy. The views of the local community as *obtained from a timely consultation process.* He considers that as a matter of course, the local community affected directly by the discharge ought to be consulted.

C6.8.2. Analysis

1175. Officers note that the purpose of the policy is to provide direction to decision makers when considering the appropriate duration for point source discharges. Consideration of consent duration will still need to be within the parameters of the RMA and relevant case law decisions, but provides some more specific guidance to assist decision-makers, and to better ensure that consideration of consent duration is aligned with the other aspects of PC1.

1176. It is also noted that the WRP contains a general policy relating to consent duration (in Chapter 1, section 1.2.4), as follows:

Policy 6: Consent Duration

When determining consent duration, there will be a presumption for the duration applied for unless an analysis of the case indicates that a different duration is more appropriate having had regard to case law, good practice guidelines, the potential environmental risks and any uncertainty in granting the consent.

1177. As there are a number of themes raised across the submissions, the analysis is set put by topic.

C6.8.3. Clause a.

1178. Officers tend to agree with submitters who raise concerns that the current drafting of clause a. implies that 25 years is a starting point for point source discharges. Officers do not consider that this is appropriate as there are a number of reasons why a shorter consent duration may be more appropriate. Conversely, in relation to submitters who seek that the policy reference a longer consent duration of either 30 or 35 years, Officers consider that this is not necessary as the policy already allows for the consideration of exactly that, and this takes into account funding considerations where substantial upgrading is required, which will necessarily take into account any staging of mitigation measures. As such Officers do not consider it necessary to amend the policy to increase the consent term reference, nor to add further reference to matters covered in other policies.

1179. In relation to various submitters' concerns with how clause a. refers to Policies 11 and 12, Officers consider that there is a tension with the wording used in clause a. as it refers to Policies 11 and 12, and in particular agree with submitters who raise concerns that the policies referred to do not set out 'approaches' that can be 'met'. Officers also consider that where a consent application does not align with Policies 11 and 12, the most relevant consideration will be whether consent should be granted, with the possibility of a shorter consent duration perhaps being a factor in this. Conversely, where an application does align with policies 11 and 12, Officers do not consider that a longer consent term than 25 years will necessarily be appropriate and that a number of factors should be considered in granting a longer consent, not just alignment with Policies 11 and 12.

1180. Overall, Officers consider that alternate wording, similar to that sought by Forest and Bird and focussed on the demonstration of consistency with the achievement of the targets in Table 3.11-1 is more appropriate. This still allows for the consideration of longer consent durations (i.e. 30 or 35 years), but does not imply that 25 years is the 'starting' position. In this regard, the recommended changes are also expected to go some way to addressing the concerns of some submitters that a starting point of 25 years is too long as it doesn't allow for changes in technology etc.

1181. In relation to A Robson and Save Lake Karapiro's suggestion of a 10 year automatic rollover of consents subject to passing auditing, Officers do not consider that such a mechanism is available under the legal framework of the RMA.

1182. Officers note that the concerns of Oji in relation to clause a. appear to stem more from their concern regarding the requirements in, and wording of Policies 11 and 12, which is addressed above in relation to those policies. In relation to case law having established appropriate factors for the consideration of consent duration, Officers agree that case law will also be relevant to the consideration of consent duration. However, the intention of the policy is to provide specific guidance (not direction that is contrary to case law) that also assists in integrating the plan provisions, and thus making the provisions as a whole more effective at achieving the PC1 objectives. The recommended change to clause a. may in any case address some of this submitter's concerns.

1183. In relation to requiring a common catchment expiry date, Officers note that such an approach can potentially be helpful where you are wanting to apply a particular regime across all consents. However, the effect of this approach is that multiple consents will expire and require renewal at the same time,

potentially causing resourcing issues to manage all consents at once. For point source discharges, the consideration of each consent is more likely to be a consent-by-consent consideration. To the extent that such an approach might be warranted in a particular catchment, the Council could in any case undertaken a review under section 128 of the RMA.

C6.8.4. Additional clauses sought

1184. With respect to the additional clauses sought by Forest and Bird, Officers consider that there is difficulty with their alternate clause a. (considering alternative methods of discharge, technology improvements or other changed circumstances that may arise in the future), as it is not clear how a consent officer could consider as yet unknown circumstances that could arise in future. Officers consider that clause aa. (relating to sensitivity of the environment and adequacy of information) is less relevant to consideration of consent duration and more relevant to consideration of the firstly whether the consent should be granted, and what consent conditions may be appropriate. The addition of clause ab. (relating to the applicant's past record) relates to the submitter's view that this should be deleted from Policy 12 and instead included in Policy 13, and has therefore been discussed above in relation to Policy 12.

1185. In relation to requiring that the views of the local community are obtained, it is noted that the RMA allows for plans to expressly require that certain resource consent applications be notified. However, Officers do not agree that it is appropriate or necessary to require public notification for any point source discharge consent and consider it more appropriate for an assessment relating to notification to be made on a case-by-case basis.

1186. In relation to the additional clause sought by Hamilton CC, to expressly allow for a 35 year consent term for a municipal discharge, Officers consider that this duplicates the direction in the policy in any case, which already allows for consideration of longer terms in certain circumstances. Officers further consider that consideration of a longer consent duration should not be weighted towards whether the discharge is municipal in favour of other considerations.

C6.8.5. Miscellaneous

1187. In relation to Mercury NZ Limited's request to add express reference to point source discharges in the stem of the policy, Officers agree that this would provide greater clarity and is consistent with the drafting of Policies 10-12.

1188. Officers do not agree with the addition sought to clause b. by J M Hahn, as it is not clear what this is intended to mean or achieve.

1189. In relation to Watercare's submission, Officers do not agree that consideration of infrastructure provision in relation to the requirements of the NPS-UDC is a relevant consideration to add with regards to consent duration. Officers consider that it is the other matters in the policy, including the scale of investment that is more relevant and note the need to ensure alignment with the Vision and Strategy. In relation to the request by Watercare to strengthen the policy so that the matters outlined in the policy must be considered by decision makers, it is not clear what changes are required, given that the policy already directs consideration to the matters.

1190. In relation to Fish and Game's request that clause c. is amended to refer to substantial contaminant… Officers do not consider that this is necessary as depending on the particular catchment and context of any consent (e.g. the relative proportion of the catchment load) a substantial reduction may not be required.

1191. Officers do not consider it necessary to add reference to offsets in clause c. as sought by Hamilton CC, because it already refers more broadly to contaminant reduction measures, and while some examples are referred to, the list is not intended to be exhaustive and offsets are more expressly covered in Policy 11.

Recommendation on submissions:

21. Accept all those submissions that supported the plan provisions which are recommended to remain unchanged or largely unchanged

22. Reject those submissions who sought the deletion of the Plan Provisions which are recommended to remain unchanged or largely unchanged

23. Accept, or accept to the extent, those submissions that sought the changes recommended as set out in the revised plan provisions

24. Reject, or reject to the extent, those submissions that do not support the changes recommended as set out in the revised plan provisions

Appendix A – Reporting Officers

1192. The Section 42A Reporting Officers for this section of the report are:

Matthew McCallum-Clark

1193. Matthew is a resource management consultant and a director of the firm Incite. Matthew holds a Bachelor of Laws from Canterbury University, a Bachelor of Commerce (Economics) from Otago University and has undertaken a postgraduate diploma in environmental auditing through Brunel University in the UK. Matthew is a qualified and experienced independent hearing commissioner, with chair endorsement. Matthew has been a resource management consultant for over 20 years.

Urlwyn Trebilco

1194. Urlwyn is a Principal Strategic Advisor employed at WRC, currently seconded to the Water Policy Team. Urlwyn holds a Master of Social Science Degree with Honours in Geography from the University of Waikato, and has completed a Post Graduate Diploma in Resource and Environmental Planning, also at the University of Waikato. Urlwyn is an Honorary Lecturer in the University's Environmental Planning Programme and is a full member of the New Zealand Planning Institute. Urlwyn has 24 years experience in local government resource management and planning.

Alana Mako

1195. Alana is a Policy Advisor employed at WRC in the Water Policy Team. Alana holds a Bachelor of Resource and Environmental Planning with Honours from Massey University and has two years' planning experience working in local government.

Naomi Crawford

1196. Naomi is a Policy Advisor employed at WRC in the Water Policy Team. Naomi holds a Bachelor of Science and Technology and a Master's Degree with Honours in Biological Sciences from the University of Waikato, and has completed post graduate studies in Legal Principles and processes for planners and natural resource planning at Massey University and the University of Waikato. Naomi has over 11 years' experience in local government in resource management and planning.

Adele Dawson

1197. Adele is a Senior Resource Management Planner employed by Incite. Adele holds a Bachelor of Arts (Geography and Sociology) from Canterbury University and a Masters of Resource and Environmental Planning from Massey University. Adele has over 7 years of experience in resource management and planning and is a full member of the New Zealand Planning Institute.

Felicity Durand

1198. Felicity is a Senior Resource Management Consultant at Incite. Felicity holds a Bachelor of Social Science and a Master of Environmental Policy from Lincoln University. Felicity has over seven years of resource management and planning experience in both local and central government and is a full member of the New Zealand Planning Institute.

Liz White

1199. Liz is a Senior Resource Management Consultant at Incite. Liz holds a Bachelor of Arts from the University of Canterbury and a Master of Resource and Environmental Planning from Massey University. Liz has over twelve years of resource management and planning experience spanning both the public and private sectors.

Ruth Lourey

1200. Ruth is a Senior Policy Advisor employed at WRC in the Water Policy Team.

Appendix B – Relevant Submitters

(See separate document – *Section 42A report - PC1 Block 2 05 April 2019 - Appendix B - Submissions Addressed* DOC#14060932)

Appendix C – Tracked Changes PC1

(See separate document – *Section 42A report - PC1 Block 2 05 April 2019 - Appendix C - Tracked Changed PC1* DOC#14061125)