Section 42A Report

Proposed Plan Change 10: Lake Rotorua Nutrient Management

January 2017

Bay of Plenty Regional Council
5 Quay Street
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Contents

Part 1: Introduction

1.1 Purpose

1 This report has been developed by Bay of Plenty Regional Council in accordance with Section 42A of the Resource Management Act 1991 (The Act) to consider all submissions and further submissions received following the public notification of Proposed Plan Change 10 (PPC10) and to make recommendations on those submissions. The assessments and recommendations are not binding on the Hearing Panel.

2 This report:

- Outlines the statutory provisions relevant to the Plan Change process
- Discusses general issues
- Discusses/analyses both the original and further submissions received following notification of PPC10
- Makes recommendations as to whether or not those submissions should be accepted, rejected or determined as out of scope, and
- Concludes with a recommendation for changes to the PPC10 provisions based on the preceding discussion in the report.

3 A summary of all recommendations on submissions and further submissions is contained in Appendix 3 of this report. Some changes are recommended to the provisions as notified and these are contained in Appendix 2 of this report.

1.2 Authors

4 This report has been prepared by a range of Council staff and consultants who have been involved in the development and notification of PPC10 as follows:

- Rebecca Burton; Senior Policy Planner, Bay of Plenty Regional Council
- Stephen Lamb, Natural Resources Policy Manager, Bay of Plenty Regional Council
- Gemma Moleta; Policy Analyst, Bay of Plenty Regional Council
- Alastair MacCormick, Senior Lakes Technical Officer, Bay of Plenty Regional Council
- Andrew Bruere, Lakes Operations Manager, Bay of Plenty Regional Council
- Sandra Barns, Economist, Bay of Plenty Regional Council
- Simon Park, Consultant, Landconnect Ltd

5 Evidence has been filed explaining details of the three main areas informing the development of Proposed Plan Change 10:

- Stephen Lamb, Natural Resources Policy Manager, Bay of Plenty Regional Council: statement dated 17 January 2017
- Andrew Bruere, Lakes Operations Manager, Bay of Plenty Regional Council statement dated 16 January 2017

- Sandra Barns, Economist, Bay of Plenty Regional Council statement dated 12 January 2017
- Alastair MacCormick, Senior Lakes Technical Officer, Bay of Plenty Regional Council: statement dated 17 January 2017
- Simon Park, Consultant, Landconnect Ltd: statement dated 17 January 2017
- Professor David Hamilton; (Bay of Plenty Regional Council Chair in Lake Restoration) University of Waikato: statement dated 11 January 2017
- Dr James Rutherford, Emeritus Scientist – Catchment Processes; NIWA: statement dated 11 January 2017
- Lee Matheson; Managing Director & Agribusiness Advisor; Perrin Ag Consultants: statement dated 12 January 2017
- Dr Nicola Smith, Associate Director, Market Economics: statement dated 12 January 2017.
- Professor Graeme Doole, (Professor of Environmental Economics) University of Waikato: statement dated 11 January 2017.

6 My name is Rebecca Burton and I am a Senior Policy Analyst at the Bay of Plenty Regional Council. I will present to you my recommendations on a number of key issues listed under Part 4: Recommendations on Submissions and on individual submissions received on Proposed Plan Change 10 listed within Appendix 3.

7 I have the overall responsibility for preparing this section 42A report and the recommendations within it as to any amendments resulting from submissions and further submissions.

8 I hold the following qualifications: Bachelor of Science and Technology majoring in the Resource Management and a Post Graduate Diploma in Planning. I am an Associate Member of the New Zealand Planning Institute. I have 12 years' experience in planning, having been employed by the Rotorua District Council for 10 years initially as a resource consents planner, then a Senior Policy Planner. I then commenced work with GHD Consultants based in Hamilton where I was employed as a Senior Planner. I have been employed by the Bay of Plenty Regional Council since February 2016 as a Senior Policy Analyst focussing on the Rotorua Catchment.

9 Although this is a Council Hearing, I note that I have read the Code of Conduct for Expert Witnesses contained in the Practice Note issued by the Environment Court December 2014. I have complied with that Code when preparing my written statement of evidence and I agree to comply with it when I give any oral presentation.

10 The scope of part of this report relates to the policy/planning aspects of Proposed Plan Change 10; Lake Rotorua Nutrient Management. I confirm that the issues addressed are within my area of expertise as an expert policy planner.

11 Any data, information, facts, and assumptions I have considered in forming my opinions are set out in the part of the report in which I express my opinions.

12 I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

13 The literature or other material which I have used or relied upon in support of my opinions are as follows: The Resource Management Act, The Local Government Act 1974, The National Policy Statement for Freshwater Management, the Operative Bay of Plenty Regional Policy Statement, Operative Regional Land and Water Plan, the Section 32 Report, and supporting research completed for Plan Change 10: Lake Rotorua Nutrient Management.

1.3 Content of the Officer's Report

14 The purpose of this report is to bring to the attention of the Commissioners the relevant information and issues regarding Lake Rotorua nutrient management, and the required reduction of nitrogen (N) received in Lake Rotorua from the catchment, along with recommendations on the submissions and further submissions.

15 As submitters will speak and present evidence at the hearing, the recommendations contained within this report are preliminary only, relating only to the written submissions and any information accompanying that submission. The conclusions and recommendations made in this report are my own, based on the information to hand at the time of writing this report, and are not binding upon the Commissioners. It should not therefore be assumed that the Commissioners will reach the same conclusion as myself having considered all the evidence brought before the hearing.

16 A total of 92 submissions and 20 further submissions were received. Submissions received sought a range of outcomes; including amendments related to, or challenges about the science completed on lake water quality, alternative options such as the use of sub-catchment plans, the use of OVERSEER® and Reference files, and the use of nitrogen management plans as a regulatory tool. Many submissions seek amendments to the content of the provisions within PPC10.

17 Without deviating from the details contained in the submissions, which are addressed throughout this report, I consider the following to be the key issues in contention with PPC10.

1 The sustainable load and catchment load of Lake Rotorua (of nitrogen).

2 Alternatives to Plan Change 10, including the use and development of sub-catchment plans as an alternative approach to Plan Change 10.

3 The focus on nitrogen management rather than phosphorus management.

4 The continued use of Alum dosing to manage phosphorus and maintain the TLI as an alternative to rules.

5 Regulatory tools, including the use of OVERSEER® and Reference files as regulatory tools.

6 The use of Nitrogen Management Plans as a regulatory tool.

7 The level of consultation undertaken during the development of Plan Change 10.

18 This Section 42A report is structured around each of the key issues as follows:

Part 1: Introduction

Part 2: Statutory Considerations

Part 3: Plan Change 10: Lake Rotorua Nutrient Management

Part 4: Consideration of Submissions and Further Submissions

Part 5: Recommendation

Part 6: Appendices

- Appendix 1 Appendix on Compliance Platform
- Appendix 2 Recommendations on Plan Change 10: Lake Rotorua Nutrient Management
    - *Appendix 2(a) Proposed Plan Change 10; Lake Rotorua Nutrient Management – Strike Through*
    - *Appendix 2(b) Proposed Plan Change 10; Lake Rotorua Nutrient Management – Clean Version*
- Appendix 3: Individual Submission responses (planning Management Database report)

Part 2: Lake Rotorua background

2.1 Description of the Lake Rotorua Catchment

1 Lake Rotorua is the largest lake in the Rotorua district (8,085 hectares). Lake Rotorua was returned to Te Arawa via the 2004 Deed of Settlement, and the lakebed is vested in Te Arawa. This is set out in the Te Arawa Lakes Settlement Act 2006. The management of the Lakes is shared between the partners to the Rotorua Lakes Strategy Group (Te Arawa Lakes Trust, Bay of Plenty Regional Council, Rotorua Lakes Council). The Statutory Acknowledgement acknowledges Te Arawa's cultural, spiritual, historical and traditional association with the Lakes.

2 The city of Rotorua is on the south-western shore of the lake and covers about eight percent of the 53,789 hectare[1] lake groundwater catchment (Map LR1 of Plan Change 10).

3 The Lake Rotorua catchment is dominated by pastoral farming and forestry. The catchment includes around 9,000 hectares of indigenous vegetation.

4 Dairy farming occurs on about a quarter of the pastoral farming land in the catchment, dry stock landuse occupying the balance. Forestry occupies around 43% of land within the catchment.

2.2 Rotorua district economy

5 The Rotorua district economy comprises four main sectors: agriculture, forestry, geothermal and tourism[2]. District GDP increased by 3.6% in the year to June 2016, reaching $3,083m.[3] The Rotorua district economy makes up about 1.3% of the national economy and 26% of the Bay of Plenty regional economy.

6 The Rotorua district has a long history in productive forestry. Forestry land use occurs on 56,000ha (21%) of the land in the Rotorua district; of which 8,900ha is located in the Lake Rotorua catchment.[4].

7 Grazing land (pastoral) makes up 109,000ha (42%) of land in the Rotorua district. Of this, dairy farming and dry stock farming occurs on 5,000ha and 16,600ha respectively in the Lake Rotorua catchment which contains roughly 20% of the districts pastoral land. [5]. In 2012, about 11%, 43% and 27% of the Rotorua district's dairy, beef and sheep, and deer farms (respectively) were in Lake Rotorua catchment. In terms of the district's farm animals, 12% of the district's dairy herd, 32% of beef cattle, 27% of sheep and 16% of deer were farmed in the Lake Rotorua catchment. Unlike forestry, much of the district's agricultural produce is processed outside the Rotorua district.

8 Further detail on the characteristics of the Lake Rotorua Catchment and the economy will be provided by Council's expert witnesses:

[1] Different areas have been used historically to describe the catchment due to different descriptions (surface versus groundwater) and jurisdictional boundaries (Bay of Plenty and Waikato regions).
[2] Rotorua Lakes Council http://66.7.200.218/~livework/invest/our-lifestyle/our-key-sectors/
[3] $2,770m in June 2010 prices, inflated using the NZ GDP Implicit price deflator (Statistics NZ).
[4] Rotorua Lakes Council www.rotorualakescouncil.nz/our-city/ and Statistics New Zealand. 2012 Agricultural Production Census.
[5] Statistics New Zealand. 2012 Agricultural Production Census.

- Sandra Barns, Economist, Bay of Plenty Regional Council.
- Professor Graeme Doole; University of Waikato.
- Dr Nicola Smith; Market Economics.
- Lee Matheson; Managing Director & Agribusiness Advisor; Perrin Ag Consultants.

2.3 Water quality

9 The below provides a brief overview on the water quality of Lake Rotorua and its nitrogen and phosphorus loads. This and additional more detailed information on the science relating to Lake Rotorua will be provided from Council's expert witnesses:

- Andy Bruere, Lakes Operations Manager, Bay of Plenty Regional Council.
- Professor David Hamilton; University of Waikato.
- Dr James Rutherford, Emeritus Scientist – Catchment Processes; NIWA.

10 The water quality for Lake Rotorua has been the subject of concern for some time. The water quality of the 1960s was identified as suitable and achievable target for the lake by the community. This has been endorsed through the Operative Regional Water and Land Plan which established a target Trophic Level Index (TLI) of 4.2 (refer to Objective 11 of the RWLP), which matches the water quality of the 1960s.

11 Scientific research has shown that the 435tN and 37tP is the sustainable nutrient load required to achieve and maintain the TLI of 4.2. More recent research indicates that the sustainable phosphorus load may need to be within the range of 33.7 to 38.7t annually.

(a) <u>ROTAN 2011 Model</u>

12 The Lake Rotorua catchment hydrology is very complex. The ROTAN modelling is used to understand what the catchment load to the Lake is. The current load helps to inform the level of reduction required to reach the sustainable load of 435t/N.

13 NIWA's catchment nitrogen model (ROTAN) takes account of the ground water age (travel times) for each of the main Rotorua sub-catchments and that water will travel at differing rates to the lake depending upon whether it is travelling over the surface or through groundwater. ROTAN (2011) has predicted the steady state load reaching the lake is about 755tN.

14 The steady state load (ROTAN) of 755tN is made up of individual loads coming from land use activities within the catchment plus 30 t N coming from rainfall on the lake. These are detailed in Table 1 below from ROTAN (Rutherford et al 2011).

Table 6: Historic nitrogen exports for ROTAN-1, 3 and 9.

LU Map Start-End dates	1940 1920–1949	1958 1950–1970	1974 1971–1980	1986 1981–1990	1996 1991–2000	2003 2001–2007	2010 2008–2100
	Exports (tN/yr)						
Land use							
Dairy	19.5	37.1	67.4	124	235	309	273
DryStock	76.7	264	325	304	312	266	236
Forest	143	94.8	76	76.2	69.8	66.3	72.2
ForestPuarenga	3.9	3.9	3.8	3.8	3.2	3.2	3.2
RLTS					48.1	33.7	33.7
LifeStyle							16.7
SepticTanks	30.2	77.2	79.9	27.5	21.9	25.8	26.2
STP			60.0	120.0			
Tikitere	30	30.0	30.0	30.0	30.0	30.0	30.0
Urban			18.1	20.7	23.4	25.7	25.5
UOS		11.1	7.4	7.4	8.8	8.0	8.0
Water	0	0	0	0	0	0	0
Whaka	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total	**304**	**518**	**668**	**714**	**752**	**768**	**725**[1]

[1]Total exports are slightly different for ROTAN-2 (737 tN/yr), ROTAN-4 (717 tN/yr) and ROTAN-8 (797 tN/yr).

Table 1 Historic nitrogen losses to Lake Rotorua

2.3.1 Alum dosing

15 The lake reached its TLI target in 2015 primarily due to the alum dosing programme reducing the in-lake phosphorus[6].

16 Alum dosing is not a long term solution for Lake Rotorua. There are number of potential risks from the use of alum in the environment[7]. These may result in an immediate stop or phasing out the use of alum dosing should one of the risk scenarios occur. The Section 32 report contains a more extensive discussion of Council's position on alum dosing.

17 The resource consents for the use alum dosing expire in 2018 and 2019 and new consents will be required for a discretionary activity. The use of alum dosing will only be during the timeframe required for the beneficial effects of land use management change and subsequent reductions in nitrogen losses to be seen within Lake Rotorua.

18 Due to environmental and cultural considerations the alum dosing programme is only an interim solution until a more sustainable long term solution, being land use management and change reducing the levels of nutrient received into the lake, is achieved.

2.3.2 Other Interventions

19 No single measure will be sufficient to improve Lake Rotorua water quality. The following initiatives in addition to alum dosing have been completed:[8]

- Sewerage reticulation: A number of lakeside areas have been reticulated: Brunswick, Hinemoa Point, Tarawera Road and Paradise Valley. Historically the Rotorua urban community has funded the treatment (land disposal) of effluent previously discharged into the Lake.
- Floating wetland: Completed, though plants need to establish before nutrient removal occurs. Achieves a small amount of nitrogen reduction – considerably less than was anticipated in the design work[9].

[6] Professor Hamilton, 2016 evidence filed concurrently.
[7] Andrew Bruere and Professor Hamilton, citing Tempero, 2015.
[8] http://www.rotorualakes.co.nz/lake_rotorua_achievements

- Detainment bunds: Eight have been installed on farms on State Highway 36 to manage phosphorus loss to the Lake.

20 The following initiatives are planned or pending:

- Construction of the Tikitere Geothermal Treatment plant (2018/2019).
- Alternative wastewater disposal options from the Rotorua Wastewater Treatment Plant into Whakarewarewa Forest.

The actions above have contributed to the improvement in lake water quality but they can reduce annual nitrogen entering Lake Rotorua by, at most, 50 tonnes. This is insufficient to achieving the sustainable nitrogen limit by 2032, enforcing the need for a regulatory approach to nitrogen management.

[9] Bay of Plenty Regional Council. Objective reference: A2184465.

Part 3: Proposed Plan Change 10: Lake Rotorua Nutrient Management

1 The purpose of PPC10 is to reduce nitrogen losses from rural land within the Lake Rotorua Groundwater Catchment to meet the nitrogen limit set by the Operative Bay of Plenty Regional Policy Statement.

2 Nutrient management, lake health, cultural impacts economic challenges and the required level of behaviour and land use change means this is an important issue for the Rotorua community, as well as the Region. There has been considerable national level involvement in finding a proposed solution.

3 The following sections provide a brief summary of the reasons for Plan Change 10, its development, and background information on the effects of Plan Change 10. This is covered in detail in the section 32 report, and in the Overviews referred to above and other evidence filed with this section 42A report, which I refer to and rely upon.

3.1 Development of Plan Change 10

3.1.1 Need for a regulatory approach (Rules)

4 The RPS was notified in 2010 and contained Objective 28 which required the water quality of the lakes within Rotorua to be enhanced along with other catchments at risk. This objective went through the decision making process unchanged.

5 A cost benefit analysis was completed as part of the section 32 report for the RPS to determine the most effective and efficient option to achieve Objective 28. That analysis determined that developing a suite of policies that required plan changes to establish rules was the most efficient and effective approach, resulting in RPS Policies WL 2B, 3B, 4B, 5B and 6B, and Methods 2, 3, 22 and 28. The range of social, cultural economic and environment benefits and costs are outlined below in Table 2:

BENEFITS	COSTS
• Establishes clear intent of regulatory intervention. • Allowing several years before required land use change is to occur thereby potentially reducing social disruption. • Immediate benefit in matters advocated in resource consent processes. • Provides greater clarity and certainty to the applicant and consent authority about the matters to which regard is to be had when managing water land use affecting quality. • Provides more opportunity for the inequities of the existing regime to be addressed. • Acknowledges that land use change (over and above best practice) has a mix of public and private costs and benefits. • Allows tourism and other sectors relying on a clean environment to continue and develop. • Ensures that allowable nutrient loads for the	• Land uses with excessive nutrient losses will be subject to significant change. • Land uses leaching excessive nutrients will be subject to significant change. Sectors able to operate with reduced nutrient losses may generate less economic return than those with excessive losses. • More delay in contaminant discharge targets being required to be met will result in delays in water quality being achieved.

region's water bodies will not be exceeded. • Safeguards the life-supporting capacity of water and aquatic ecosystems.

Table 2 Costs and benefits associated with the Rules approach

3.1.2 The Stakeholder Advisory Group (StAG)

6 In 2012 StAG was established with the key role to oversee and provide advice on the development of the rules for Lake Rotorua. This upheld the requirement of the RPS and Oturoa Agreement for these rules to be developed in a collaborative manner. It was not the only consultation or input used[10].

7 The terms of reference developed for StAG required StAG members to facilitate engagement with all stakeholders and for individual members to engage with respective agencies and sectors to ensure a two way flow of ideas and feedback.

8 Any minutes, research or reports completed as part of StAG operations were available to the public for review on a dedicated website. (www.rotorualakes.co.nz). It is also noted that newsletters completed by the Lake Rotorua Primary Producers Collective (the Collective) provided updates on the progress of the rules to their mail list. Agenda items presented to the committees of Council (Regional Direction and Delivery and Rotorua Te Arawa Lakes Strategy Group) were available online through the Council website.

3.1.3 Integrated framework

9 A key piece of work by StAG was the proposed framework to deliver Lake Rotorua's sustainable nitrogen limit as an integrated programme of Nitrogen Discharge Allowances (NDAs), incentives and gorse conversion, only requiring regulation for part of the reduction, and sharing public and private costs[11].

10 In 2013 the integrated framework was presented to StAG by the Lake Rotorua Primary Producers Collective[12].. This framework, provided below, was endorsed by StAG and then later approved and endorsed by the Regional Council (through the Strategy Policy and Planning Committee) on 17 September 2013.

11 PPC10 is one component of the Integrated Framework. In addition to the new provisions proposed in this plan change, financial incentives, engineering interventions and a gorse conversion project are also being implemented to achieve the nitrogen reductions required in the catchment.

12 This framework involved a reduction of 140t/N from the rural farming sector by way of rules, with the other 180 t/N reduction achieved via the other methods. This required reduction became the basis of the rule framework.

3.1.4 Overview of Community Engagement Programme

13 Rotorua Lakes Council and Te Arawa Lakes Trust have been part of the rule development process as programme partners. Throughout the rule

[10] Stephen Lamb outlines the process in his evidence filed concurrently with this report.
[11] Stephen Lamb, Sandra Barns outline the cost splits and approach.
[12] The Lake Rotorua Primary Producers Collective was represented on StAG.

development process, the Rotorua Te Arawa Lakes Strategy Group has approved and endorsed the approach being taken and aspects of rule design.

14 Material has also been provided to the Rotorua Lakes Programme Steering Group and Work Stream Leads (collective forums of staff from Te Arawa Lakes Trust, Rotorua Lakes Council, Regional Council and Ministry for the Environment).

15 Council also coordinates a Water Quality Technical Advisory Group and a Land Technical Advisory Group that have assisted the science and analysis that supports the rules.

17 Draft rules were released to the wider community in June 2014 and again in October 2015. This involved media releases, public workshops, presentations and information sessions, Hui and sector meetings and feedback forms. Individual phone calls were also made to deer farmers within the catchment in an effort to communicate with this sector. All feedback was considered during the drafting of PPC10.

18 The plan change has been developed and notified based on the feedback undertaken to date. The Schedule 1 process provides further ability for any land owners, or interested parties to place a formal submission on PC10 and present their views/relief sought to the hearing panel.

3.2 Overview of Proposed Plan Change 10

19 The below provides a brief overview of PPC10 as notified February 2016 and is supported evidence presented by Stephen Lamb, Alastair MacCormick and Simon Park. .

3.2.1 Proposed Rule Framework

20 PPC10 has been written in a way that uses a relatively lenient regulatory approach in terms of what is available under the Act. The plan change provides for the continued operations of farm/property enterprise where these comply with the permitted level of nitrogen losses (being the lower range of the dry stock reference file).

21 Lots sized five hectares and under are not managed by PPC10 unless activities are commercial in nature. This reflects the low level of nitrogen losses from these sized sections with the main activities being rural residential in nature.

22 In the instance where a permitted condition is not complied with the activity will either be managed under rule LRR5 until 2022 or remain permitted under LRR7. Non-compliance with rules LRR8 to LRR11 only occurs if a Nitrogen Management Plan is not provided or a NDA is not being achieved as part of a resource consent application.

23 The focus of the plan relates to the larger farm enterprises requiring resource consent on a staged basis: enterprises 40ha and above requiring resource consent from July 2017 and enterprises below 40ha requiring consent from 2022. Each resource consent establishes a Nitrogen Discharge Allowance, this being based on a start point (or benchmark if applicable), sector averaging and ranges.

3.2.2 Nitrogen Allocation

24 Significant time and energy was devoted to evaluating this issue and the section 32 report (section 10.3, 10.4 and 10.5) records the decisions and milestones that were reached along the path to a final position. The section 32 report also identifies key reference documents (page 90).

25 The decisions on nitrogen allocation are not decisions made in isolation. The decisions were made in relation to a framework that was built over time and the considered a range of alternatives.

26 The allocation methodology is built on sector averaging with ranges – based on Rule 11 benchmarking as the start point. This option was preferred by StAG through the workshop process and approved by Regional Council on 02 July 2015.

27 The allocation methodology results in a Nitrogen Discharge Allowance being allocated to each block within the catchment. These are summed for a property/farming enterprise and this is the limit required to be met by 2032. The NDA are expressed as a percentage of a reference file. These technical matters are explained in the evidence of Simon Park and Alistair MacCormick, and in the Section 32 report

3.2.3 Use of Nitrogen Management Plans

28 PPC10 requires the use of Nitrogen Management Plans as a condition of consent or permitted activity. Under Schedule 6 these are required to contain mitigation actions designed to achieve the required reductions.

29 If the mitigations are not being carried out and required nitrogen reductions are not occurring Council needs to have the ability to undertake compliance. This needs to be put within the context that property owners set the Nitrogen Management Plans and can review them.

30 The Nitrogen Management Plan contains mitigation actions that are designed to achieve the required reductions. If the mitigations are not being carried out and therefore the nitrogen reductions are not occurring Council needs to have the ability to undertake compliance. This needs to be put within the context that property owners set the Nitrogen Management Plans to meet the NDAs and can review them.

31 Council will quality assure changes but only to ensure the mitigations are bona fide and that the managed reduction targets and Nitrogen Discharge Allowance can be met.

3.2.4 Notification

32 PPC10 was notified on 29 February 2016 after an extensive community engagement process (see Section 3.1.4). The rule framework consists of a range of Permitted and Controlled activity rules requiring either a reduction of nitrogen losses from farm enterprises or provided for the continued operation of farm enterprises if nitrogen losses met the permitted loss rate, being the lower range of the dry stock reference file.

33 The rules came into effect from notification as they are directly related to water quality. Current landuses are mostly operating under the permitted rule LR R1 which is a ‘status quo’ rule effectively requiring no increase in nitrogen losses.

(It is in place until 30 June 2017, following which land use activities and associated discharges are managed according to land use sector and size.)

34 A total of 92 submissions and 20 further submissions were received on PPC10. Submissions sought a range of outcome relating to the science completed on Lake Water Quality, alternative options such as sub-catchment plans, the use of OVERSEER®, and the use of nitrogen management plans as a regulatory tool.

35 A number of the submission points received are considered by Council to be out of scope. These have been identified where required to the Panel with the recommendation that these be deemed out of scope by the Panel and are not accepted[13].

[13] Section 41C(7)-(9) of the Act would apply accordingly.

Part 4: Statutory Considerations

A number of key statutory documents must be noted as part of considering PPC10. These are outlined below.

4.1 Resource Management Act 1991

1 PPC10 to the Regional Water and Land Plan was prepared under the Resource Management Act (the Act), pursuant to Part 5 (Standards, Policy Statements and Plans) and Schedule 1. Under section 63 the purpose of the preparation, implementation, and administration of regional plans is to assist a regional council to carry out its functions in order to achieve the purpose of the Act. That is set out in section 5 (below). The Act provides at section 65 directions around the preparation and change of regional plans, including the requirement to amend a regional plan to give effect to the Regional Policy Statement (RPS) once it is reviewed and made operative. This is to be done in the timeframe specified in the RPS, or as soon as reasonably practicable if no time is specified.

2 Section 66 of the Act sets out the matters to be considered by Council, and which it must prepare and change a regional plan in accordance with. This includes (under section 67(3) and (4)) that a change to a Regional Plan must give effect to any national policy statement, and any Regional Policy Statement; and not be inconsistent with any other regional plan for the region. It shall consider the extent to which consistency is required with the regional policy statements or plans of adjacent councils. Council shall take into account relevant planning documents recognised by an iwi authority.

3 These statutory directions are addressed below, and in the section 32 report.

4 The purpose of the Act under section 5 is to promote the sustainable management of natural and physical resources, with sustainable management meaning:

managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

5 In achieving this purpose section 6 of the Act list aspects of national importance that shall be recognised and provided for. The following are directly relevant to Plan Change 10:

(a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:

(b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:

(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga

6 Section 7 of the Act then references other matters that the Council shall have particular regard to when exercising functions and powers under the Act. Of direct relevance to PPC10 are the following:

(a) kaitiakitanga:

(aa) the ethic of stewardship

(b) the efficient use and development of natural and physical resources:

(c) the maintenance and enhancement of amenity values:

(d) intrinsic values of ecosystems:

(f) maintenance and enhancement of the quality of the environment:

(g) any finite characteristics of natural and physical resources:

(h) the protection of the habitat of trout and salmon:

7 Section 8 of the Act requires the principles of the Treaty of Waitangi to be taken into account with the management, use, development and protection of natural and physical resources.

4.1.1 Assessment against Section 6 and 7 of the Act

8 PPC10 intends to reduce the amount of nitrogen emitted from pastoral activities within the Lake Rotorua Groundwater Catchment to ensure the water quality of Lake Rotorua is enhanced and maintained by achieving a sustainable lake load of 435 tonnes of nitrogen per annum, and to give effect to Policies WL 3B, WL 5B and WL 6B of the Regional Policy Statement (see section 4.3). This is intended to be achieved by allocating a proportion of the sustainable catchment limit to pastoral farming land uses to ensure long-term sustainable management and use of our resources, and managing land uses, including the use of land for farming activities The reduction of nitrogen losses to the catchment and from there to Lake Rotorua, and subsequent improved water quality, will ensure the natural character, amenity of Lake Rotorua is enhanced or maintained. Lake Rotorua is also defined as an outstanding natural feature and landscape and a significant natural area under the Operative Rotorua District Plan. Enhancing the water quality of Lake Rotorua through the reduction of nitrogen losses into Lake Rotorua will help to protect this landscape from inappropriate use and development.

9 The reduction of nitrogen will enhance the intrinsic values of the lake ecosystem and support the habitat of trout and koura which reside within the Lake. This then has positive benefits to the amenity values associated with the Lake and quality of the environment as required under section 7 of the Act.

10 Te Arawa consider the lakes to be taonga, and their relationship to the lakes and environs is the foundation of their identity, cultural integrity, wairua, tikanga and kawa. The traditional, historical, cultural and spiritual relationship and association of Te Arawa hapū and iwi with Lake Rotorua is evident through:

- The physical presence (or remnants) of historic settlements and places of significance (e.g. waahi tapu).
- Pakiwaitara (stories) and waiata (songs) featuring the Te Arawa Lakes.
- The number of marae located on the shores of the Te Arawa Lakes.
- The associated healing, cleansing and wairuatanga values.
- The provision of food, drinking water and transport.
- Its amenity and landscape values.

11 The Te Arawa Cultural Values Framework intends to ensure the Te Arawa Lakes are managed and restored in a manner consistent with Te Arawa Values, in turn ensuring regard is provided to their role as Kaitiaki of the lakes. The Framework is based on the key values of Wai, Waiariki, Wairoa, Wairua and Waiata, this outlining a way of being. Two principles are listed to ensure these values are implemented being:

(a) Value the role that Te Arawa Lakes Trust (TALT) and Te Arawa have to play regarding the Te Arawa Lakes.

(b) Value Te Ao Maori.

12 To implement these principles there is a need to acknowledge Te Arawa as Kaitiaki of the mauri of the lakes and take into account the intergenerational knowledge and experience of Te Arawa beyond just cultural matters. Other actions identified by the framework to uphold the principles and values include improving the health and wellbeing of the lakes and understanding that lakes are more than physical water bodies with these valued for tangible and intangible aspects.

13 Plan Change 10 upholds the first principle by acknowledging Te Arawa as kaitiaki and their experience and knowledge. This was achieved by ensuring their involvement in the development of the plan change through the Rotorua Te Arawa Lake Strategy Group and the Stakeholder Advisory Group (StAG). The latter group had direct involvement in research completed and the development of the principles of PC10 (such as the integrated framework and allocation).

14 In regard the second principle Plan Change 10 will value Te Ao Māori by:

(a) Managing the land surrounding the lake, this taking into account the wider system associated with Lake Rotorua.

(b) Restore connections and cultural relationships by restoring values associated with the Lake such as:

(i) Contributing to a reduction in algal blooms providing for swimming and paddling.

(ii) Enhancing water quality to provide for habitat and growth of Kai.

(iii) Providing a place for healing, cleansing and inspiration.

(iv) Enhancing the landscape and amenity values of Lake Rotorua.

(v) Supporting employment opportunities through a growth in tourism, innovative business/research related to lake water quality and increase positive perception of Rotorua contributing to population and economic growth.

15 From the above assessment it is considered that the intent of PPC10 to enhancing water quality though the reduction of nitrogen losses from pastoral activity will contribute to enhance and support the relationship of Maori and their culture and traditions with Lake Rotorua, its tributaries, springs and water, sites, waahi tapu, and other taonga as required by section 6(e) of the Act, and reflects the section 7 regard in respect of kaitiakitanga.

4.1.2 Assessment against Section 8 of the Act

16 Under the Treaty of Waitangi Act 1975 a number of settlements have been completed in response to claims and intend to implement the Principles of the Treaty. The Te Arawa Lakes Deed of Settlement dated September 2004, reflects the Crown upholding the intent of the Treaty in regard to providing Te Arawa kawanatanga (governance) and tino rangatiratanga.

17 The Te Arawa Lakes Settlement Act 2006 was a result of discussions and negotiations between the Te Arawa Maori Trust Board and the Crown which addressed both Te Arawa's historical Treaty grievances outlined within the Deed in relation to the lakes and annuity issues.

18 The purpose of Te Arawa Lakes Settlement Act 2006 is to record the acknowledgement and apologies provided by the Crown and give effect to the Deed. This included the transfer in ownership of 14 Rotorua lakebeds to Te Arawa and the establishment of the Rotorua Lake Strategy Group (now operating as the Rotorua Te Arawa Lake Strategy Group) with the purpose to contribute to the sustainable management of the Rotorua lakes and their catchments, for the use and enjoyment of present and future generations, while recognising and providing for the traditional relationship of Te Arawa with their ancestral lakes.

19 The Te Arawa Cultural Values Framework sets out the long term aspiration for the 14 Rotorua Lakes subject to the Te Arawa Settlement Act 2006, including the rivers, tributaries, springs and other freshwater sources within the Te Arawa rohe. This framework ensures the cultural values are applied, upholding the purpose of the Rotorua Te Arawa Lake Strategy Group, the intent of the Settlement Act and Deed and section 8 of the Act.

20 PPC10 is one of the actions that the Strategy Group has contributed to with the intent of enhancing the water quality of Lake Rotorua. The involvement of Te Arawa as part of the Rotorua Lakes Strategy Group has ensured that the purpose of the Te Arawa Lakes Settlement Act has been upheld along with section 8 of the Act.

4.2 National Policy Statements

21 The National Policy Statement for Freshwater Management 2014 (NPS-FM) has the key objective to safeguard fresh water's life-supporting capacity, ecosystem processes, and indigenous species and maintain or improve the overall quality of fresh water within a region. As part of achieving this the NPS-FM directs regional councils to set objectives for the state their communities want for their water bodies in the future and to set limits such as a nitrogen limits, or a trophic level index (TLI) to meet these objectives.

22 In the case of Lake Rotorua a TLI of 4.2 has already been set by the community with the intent to achieve the lake water quality levels experienced within the 1960's. To achieve this TLI an annual load of 435t of nitrogen is required alongside an annual load of 33.7 to 38.7t of phosphorus. The RPS

has included the nitrogen limit requiring this to be given effect to by the regional plan.

23 PPC10 is a key step by the Council to implement the NPS-FM with the plan change upholding the TLI and limit specified within the RPS by managing farm practise to reduce nitrogen losses into the lake to meet that reduced limit (the sustainable lake load).

24 It is considered that the process to set the TLI within the regional plan, the limit of 435t/N within the RPS aligns with the NPS-FM National Objectives Framework. The setting of both the objective and the supporting limit within the RPS included consideration of ecosystem health and human health for recreation, along with natural form and character, mahinga kai, fishing and economic development. In addition the limit setting process took into account the local and regional circumstances including matters such as the significance of Lake Rotorua (particularly to Te Arawa) the value of tourism, the value of farming and the characteristics of the land and aquifers around Lake Rotorua. It is considered all matters described in Objective CA1 and Policy CA2(a)-(f) of the NPS-FM have been taken into account by Council even though the TLI and nitrogen limit setting process was completed prior to the NPS becoming operative in 2014.

25 The TLI, RPS nitrogen limit and subsequent plan change 10 uphold objectives AA1, AA2 and Policies AA1 to AA3 by providing a regulatory framework that upholds the limit and TLI. Plan Change 10, which upholds the nitrogen limit set within the RPS, will provide for the safeguarding of the life supporting capacity of water, ecosystem processes and indigenous species, including associated ecosystems and the health of people and their communities by managing the use and development of land in a manner that reduces discharges of contaminants into Lake Rotorua.

26 It is noted that the limit specified by the RPS and enforced by Plan Change 10 only relates to nitrogen, this being one attribute of the NPS-FM. The remaining attributes listed within the NPS-FM will be identified through a separate process with the community between 2020 and 2025. It is anticipated that the objectives and TLI set for Lake Rotorua in the RPS, RWLP and PPC10 will not be changed in this later process, as these have been in place since the 1990's and have been agreed with by the community and uphold the intent of the NPS-FM.

4.3 Bay of Plenty Regional Policy Statement

27 The Bay of Plenty Regional Policy Statement (RPS) became operative on 1 October 2014, therefore PPC10 is required to give effect to the Operative RPS under Section 67(3)(c) of the Act.

28 The RPS requires reduction of nitrogen entering the lake to achieve the sustainable load of Lake Rotorua, and states that the total amount of nitrogen shall not exceed 435 tonnes per annum[14]. For Lake Rotorua the timeframe to achieve these reductions is 2032, with these staged to achieve 70% of the required reductions by 2022[15].

[14] The sustainable lake load is defined as the amount of nitrogen annually entering the lake.
[15] (WL 6B RPS as originally notified in November 2010 provided that discharges of nitrogen onto land or into water in the Lake Rotorua catchment in excess of the discharge limits established under Policy WL 3B may only be authorised until 2019, the longer timeframe to achieve the required level resulted

29 Objective 28 requires the water quality in the lakes of the Rotorua District to be enhanced. Plan Change 10 needs to give effect to this objective and the following RPS policies:

- The total amount of nitrogen entering Lake Rotorua shall not exceed 435 tonnes per annum (Policy WL 3B).
- Allocate across land use actions the capacity of the Lake to assimilate contaminants (nitrogen) (Policy WL 5B).
- Require, including by way of rules, the managed reduction of nutrient losses (Policy WL 6B).
- 70 percent of the required nitrogen loss reduction must be achieved by 2022 (Policy WL 6B).
- The nitrogen loss limit for the lake (425t per annum) must be reached by 2032 (Policy WL 6B)[16].

30 These policies provide the basis for PPC10 In particular, Policy WL 5B has guided the approach for nitrogen allocation.

31 Method 2 of the RPS directs the Regional Land and Water Plan (RWLP) to give effect to these policies within two years from the date on which the Bay of Plenty Regional Policy Statement is made operative (October 2014).

4.4 Operative Regional Plan provisions

32 Rule 11, introduced in 2005, set a discharge limit or nutrient benchmark based on the land use of each property based on nitrogen discharges for 2001-2004. The intention of Rule 11 was to stop further increases in nitrogen leaching into the lake, but nutrient reduction is not required by the Rule. New rules are needed to achieve the sustainable nitrogen limit by 2032.

33 Rule 11 in conjunction with lake improvement actions are not sufficient to achieve the sustainable level of nitrogen entering the lake, so new policies are required to achieve the reductions required by Policy WL 6B in the RPS.

34 The purpose of PPC10 is to reduce nitrogen losses from rural land within the Lake Rotorua Groundwater Catchment to meet the nitrogen target set by the Bay of Plenty Regional Policy Statement.

35 As noted above in the introduction, PPC10 is one component of an Integrated Framework. In addition to the new provisions proposed in this plan change, financial incentives, engineering interventions and a gorse conversion project are also being implemented to achieve the nitrogen reductions required in the catchment, and together they are referred to as the 'Integrated Framework'. This framework means that not all of the reductions in nitrogen losses has to be achieved via regulation.

36 PPC10 will be included as a new chapter within the RWLP. The new policies and methods (including rules) will integrate with existing RWLP issues, objectives, policies and methods as follows:

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from mediation and negotiation on appeals: this is described in more detail in the evidence of Stephen Lamb.)

[16] In 2013 the Bay of Plenty Regional Council, Federated Farmers Rotorua, and the Primary Producers Collective signed the Oturoa agreement. This outlined the agreed timelines to achieve catchment nutrient reduction targets.

- Land use and management practices may cause adverse effects on water quality (Issue 10).
- The water quality of Lake Rotorua is maintained or improved to the Trophic Level Index of 4.2[17] (Objective 11).
- Manage land and water resources within an integrated catchment management framework (Policy 21).
- Develop equitable and workable provisions where land use restrictions or changes to land management practices are required to maintain or improve water quality (Policy 23).
- Develop Action Plans to maintain or improve lake water quality (Method 41).
- Support land use changes, and changes to land use rules (Method 43).
- Rules 11-11F ('Rule 11'), which relate to discharges of nitrogen or phosphorus from Land Use and Discharge Activities in the Rotorua Lakes Catchment.
- See the set of consequential changes notified concurrently with PC10 for details of other amendments resulting from the integration.

4.5 Other Relevant Statutory Instruments

4.5.1 Local Government Act 2002

37 Schedule 1 of the Resource Management Acts the process required to be completed with the preparation, change and review of any policy statement and plan. Clause 3 of Schedule 1 identifies the consultation required during the preparation of a plan or policy and requires this to be completed in accordance with section 82 of the Local Government Act (LGA).

38 Section 82 of the LGA ensures that all parties who will or may be affected by, or have an interest in the matter are provided with reasonable access to information, and the opportunity to present their views to the local authority. Specific mention is provided for consultation with Maori by ss82(2). The local authority must give consideration to the views and preference of any persons affected by or has an interested in the matter.

39 PPC10 has been through an extensive process commencing from 2013 with the development of StAG. Engagement with this group identified the integrated framework and an appropriate way forward for nitrogen allocation, sector averaging, nitrogen management plans. In addition to this, numerous workshops, Hui and open days were completed, and a draft plan change was notified to the community twice to provide feedback. Targeted consultation strategies provided in-depth consultation opportunities too[18].

40 All responses received on both draft versions of PPC10 were collected and considered, with a number of revisions being made to address concerns raised by the community, whilst acknowledging the need to uphold the RPS by ensuring the sustainable load of Lake Rotorua is achieved by 2032.

41 Further detail on consultation completed for PPC10 is provided in section 3.1.4 of this report.

[17] Refer footnote 1.
[18] See evidence of Stephen Lamb and of Sandra Barns for details

42 In summary, it has been an extensive and intensive process of development and engagement process. Council have maintained a clear and ongoing focus on the requirements of Schedule 1 of the Act and completing the consultation requirements of the Local Government Act 2002.

4.5.2 Statutory Acknowledgements

43 As noted above the Te Arawa Lakes Settlement Act 2006 identifies a number of Rotorua Lakes as statutory acknowledgment areas. This identifies the association and historical connection TALT and Te Arawa have with the lakes and requires this to be considered in the identification of parties affected by either a resource consent application, or in this case a matter addressed by a plan change.

44 Members of TALT have been involved in the development of the plan change through StAG, the Rotorua Te Arawa Lakes Strategy Group, the Rotorua Lakes Programme Steering Group and its associated Workstream Leads group. In addition targeted consultation through the use of hui have been completed in an attempt to ensure Te Arawa are engaged with the Plan Change.

45 It is considered that the purpose of the statutory acknowledgment area has been taken into account during development of PPC10 and during the development of this section 42A report.

4.6 Statutory Summary

46 The below table provides a summary of the statutory documents that are required to be met as part of a plan change and considered as part of any recommendations made in response to submissions.

Statutory Document	Requirement
Resource Management Act 1991	
	The purpose of section 5 is upheld.
	Matters of national importance are recognises and provided for.
	The matters listed within Section 7 shall be given particular regard to.
	The principles of the Treaty of Waitangi shall be taken into account.
	The content of a regional plan shall adhere to those specified within Section 67 of the Act.
	The process and timeframes within Schedule 1 are adhered to.
Local Government Act 2002	Consultation is completed in accordance with section 82 during development of the plan.
National Policy Statement of Freshwater 2014	A regional policy and plan must uphold the intent and direction of the NPS. Alignment must be achieved with the objectives and policies of the NPS
Operative Regional Policy Statement 2014	
Objective 28	Enhance the water quality in the lakes of the Rotorua District.

Statutory Document	Requirement
Policy WL3B	Total amount of nitrogen inLlake Rotorua shall not exceed 435t/N per annum.
Policy WL5B	Allocation amongst land use activities the capacity of Lake Rotorua in accordance with the limit set by Policy 3B. (this allocation shall have regard to 9 principles).
Policy WL6B	Require, including by way of rules, the managed reduction of nutrient losses that are in excess of the limit established by Policy WL3B. - Ensure implementation of best management practise to help reduce losses. - Ensure an equitable balance between public can private cost where land use change is required. - No discharges beyond 2032 shall be authorised where these may exceed the limit. - 70% of the required reduction shall be achieved by 2022.
Operative Regional Plan 2008	Objective 11 – the water quality of the Rotorua Lake must be maintained or improved to meet the Trophic Level index of 4.2.
Te Arawa Lakes Settlement Act 2006	Uphold the Te Arawa Deed of Settlement through ensuring the group established under section 49 contribute to the sustainable management of the Rotorua Lakes. To ensure regard is given to the statutory acknowledgement held by Te Arawa over the Te Arawa Lakes.

Table 3 Summary of Statutory Documents

Part 5: Consideration of submissions and further submissions

5.1 Report structure

1 For efficiency and in accordance with Clause 10(3) of the First Schedule of the Act, the evaluation has been undertaken on both an issues and provisions-based approach (consistent with clause 10(2)(a)), as opposed to a submission by submission approach. Due to the number of submission / further submission points, this discussion is largely generic and may not contain specific recommendations on each submission point.

2 All submission points are listed within Appendix 3: Individual responses to submissions and further submissions. The structure of Attachment 1 has been organised in accordance with the structure of PC10 as notified.

3 Submitters and further submitters submitting on PC10 raised a number of issues which have been grouped into key topics within this report. Note that some submissions will be addressed under a number of topic headings based on the topics contained in the submission. Where applicable individual submission points have been referred to the relevant key topics listed under Section 5.3 of this report to respond to the issues raised by the submission point.

4 Each of the key topics raised within Section 5.3 discuss the key issues raised in the submissions and further submissions, makes an overall recommendation on whether those submissions / further submissions should be accepted or rejected, and gives reasons for such recommendations.

5 Where changes are recommended in response to submissions, these are shown as:

- Text recommended to be added to the PPC10 is underlined.
- Text recommended to be deleted from the Plan Change 10 is in strikethrough.

6 A track change version of PPC10 showing Council staff recommendations contained within this Report is included in Appendix 2 of this report. 1.

7 It should be noted that Further Submission 3 has been withdrawn and has not been considered in this Section 42A report.

5.2 Clause 16: Minor amendments to the Proposed Plan

8 Minor amendments to PPC10 have been completed to correct typographical, numbering or grammatical errors and some provisions have been renumbered. These changes have been made under clause 16(2) of Schedule 1 of the Act and are shown in the strikeout version of the Proposed Plan. Minor amendments made are referenced as (cl16(2)).

5.3 Key Issues Raised by Submissions

5.3.1 The Regional Policy Statement and Operative Regional Plan

Submission Points:	32-15, 64-27, 75-34, 75-35, 75-52, 66-83, 75-174, 53-91, (32-13, 33-8), 32-11, 53-14, 53-90, 75-121, 82-3, 48-16, FS8-42, 48-19, 40-7, FS12-40,

8 A number of submission points have been received either in opposition to the nitrogen limit of Lake Rotorua or the timeframe set within RPS policies, or requesting amendments to existing Operative Bay of Plenty RPS and Regional Land and Water Plan Objectives, Policies and Methods.

9 The RPS has recently been reviewed through a Schedule 1 process and became operative 1 October 2014. This review process resulted in the sustainable limit of Lake Rotorua being set as 435t/N/yr with the required reduction to achieve this being completed by 2032, as set out in Policy WL6B.

10 Submission points have referred to the Oturoa Agreement stating that this agreement intended the 2032 timeframe to be an 'aspirational' target. The appeals received on the timeframe contained within the RPS requested this timeframe be extended to 2035, and did not refer to this as an aspirational timeframe. Mediation with the RPS appellants resulted in the RPS timeframe being set as 2032 with a 70% target achieved by 2022. This outcome was upheld by the Environment Court under s279(1)(b) of the Act and is included within operative Policy WL6B of the RPS. The explanation to that policy also has a clear statement as to the certainty that the timeframe has: "Beyond 2032 only discharges which enable the 435 tN/yr to be met will be authorised." On this basis the perception that 2032 was intended to be an aspirational target is incorrect.

11 The Regional Land and Water Plan is required to give effect to the overarching RPS objectives and policies. With the RPS being a higher statutory document its content such as the 435t/N limit and 2032 timeframe is not able to be altered or influenced through a plan change to the regional plan.

12 Submissions have been received requesting alterations to the RPS objectives, policies and methods. These have only been shown (in a separate box) within Plan Change 10 to show how the plan change aligns and upholds the intent of the RPS. This reason is the same for objective 11 of the RWLP. Formatting and commentary has expressly stated within the plan change that the quoted objectives, policies and methods of the RPS and wider Regional Land and Water Plan do not form part of the plan change and are not open for submission.

Council staff recommendation

13 That the submissions received on the sustainable limit of Lake Rotorua, the 2032 timeframes and the objectives and policies of the RPS and Operative Regional Water and Land Plan are agreed to be out of scope for the above reasons by the Panel and are declined on the basis that these are not matters able to be considered under this Schedule 1 process. The Panel may, under section 41C(7) of the Act, direct the striking out of such submissions on the basis that it discloses no reasonable or relevant case.

5.3.2 The need for a Regulatory Approach (Rules)

Submission Points:	36-1, 70-7, 41-1, 48-31, 60-2, 1-9, 42-1, 50-2, 72-3, 72-4, FS12-44, 66-22, 66-6, 66-5, 33-7, 45-3, 82-15, 75-41, 66-2, FS12-36, 75-38

14 A number of submissions have been received in opposition to the use of rules within a regional plan to manage nitrogen losses from farm activity. The perception is that the level of reduction required to achieve the sustainable load is able to be achieved through the use of non-regulatory action such as sub-catchment plans, best management practices and an Accord or the use of a permitted activity status rather than the requirement for a controlled activity resource consent.

15 As part of the review of the RPS a number of options were explored to identify the most appropriate method to enhance lake water quality. These included:

1 Do nothing under the RMA.

2 Provide guidance.

3 Develop a suite of policies that required plan changes to establish rules.

4 Provide broad direction to district and/or regional plans.

16 Analysis completed found that the above listed Option 3 was the most efficient and effective approach to achieving the policies of the RPS.

17 A second analysis (section 9.4 of the section 32 report) was then completed as part of PC10 to again determine the if rules are needed to manage nitrogen entering the Lake or increase water quality. This identified that the use of alum dosing, phosphorus management, sub-catchment plans or best management practise either had the potential to create environmental risks, were constrained by resource consent requirement, were unable to be efficiently implemented or did not provide sufficient guarantee of nutrient reduction to achieve a long term increase in water quality.

18 The Integrated Framework developed as part of StAG provided a suite of non-regulatory and regulatory approaches to achieve the required reduction of 320t/N. PPC10 forms part of this framework and provides a suite of permitted and controlled activity rules to uphold the direction provided by the RPS. It is considered that the approach taken by the Integrated Framework and PPC10 upholds the direction set by the RPS and is supported by the analysis completed by the section 32 report.

19 A number of submissions have been received opposing the need for a resource consent and requesting farming to be permitted. There is a need to have a consent process for the management of nitrogen on larger enterprises (10ha and 40ha plus) to ensure adverse effects are adequately managed. The use of a permitted activity status as suggested by submitters implies Council is aware of all adverse effects and are able to manage these through permitted criteria. This is not the case for this type of activity with adverse effects differing from farm to farm. A consenting process is required to enable the identification of any adverse effects from farm operations and what actions are available within particular timeframes to ensure identified targets are met.

20 The request for a voluntary approach understates the significance of the reductions required, the scale of the management challenge and the need for

the reductions to be permanent. For example, voluntary approaches are put under pressure when market conditions or individual circumstances change. As noted in section 11.7.5 of the Section 32 Report, voluntary schemes are unlikely to achieve more than good management practice.

21 As part of Method 2 a review of nutrient mitigation tools and processes internationally and domestically will be completed and made publicly available. Any outcomes from the research completed as part of Method 2 will help to inform the requirement for any plan reviews and reconsideration of loads. Therefore opposition to the use of rules and the requests for a permitted activity status for farming are not supported.

Council staff recommendation

22 That the Hearing Panel accept that Council's approach gives effect to the requirements of the RPS and that the development of the notified rules (including as amended via this hearing process) to achieve the RPS limit for Lake Rotorua by 2032 is the most effective and efficient option to achieve the objectives.

23 That the Panel decline submissions requesting an alternative non-regulatory approach or permitted activity for farm enterprises (10ha and above) be used to achieve the requirements of the Operative Bay of Plenty Regional Policy Statement.

5.3.3 The Management of Phosphorus by Plan Change 10

Submission Points:	75-115, 75-116, FS13-4, 19-9, 66-38, 75-14, 81-6, 37-9, 37-7, FS5-1, 47-1, 75-15, 75-2, 75-18, FS2-6, 75-31, 75-29, 75-30, FS6-4, 75-32, 75-33, 53-12, 53-16, 66-47, 75-125, 79-5, 19-10, 81-11, 53-18, 66-53, 75-132, 66-56, 75-135, 70-24, 43-26, FS15-4, 49-32, 49- 33, FS14-18, 53-23, 66-62, 75-142, 21-1, 49-39, FS14-19, 66-76, 53-37, 75-165, 70-18, 15-3, FS17-2, 66-3, 53-40, FS6-42, 66-78, 75-168, 53-68, 66-105, 75-199, 53-77, 66-113, 75-207, 66-3, 47-1, 75-15

24 The RPS requires the Council to set limits for nutrients to enter Lake Rotorua to achieve the Lake's TLI and determined that for Lake Rotorua the total amount of nitrogen that enters the lake shall not exceed 435 tonnes per annum (RPS policy WL3B). As outlined in Section 4.3.4.1 the TLI is based on achieving a sustainable load of 435tN/yr and 33t to 37tP/yr. The RPS only included the sustainable limit for nitrogen, not phosphorus, on the basis of what information was available to support that decision at that time.

25 Submissions have been received either requesting PPC10 focus on phosphorus reduction rather than nitrogen or include the management and reduction of phosphorus alongside nitrogen with a view to reducing the nitrogen reductions required from the pastoral sector.

26 Artificial management of phosphorus through the application of alum has led to the view that a phosphorus-focussed approach would either negate the need for nitrogen rules or could reduce the nitrogen reduction required from the sectors. Some stakeholders consider that this is supported by alum dosing modelling work by the University of Waikato[19]. This work was only designed to consider the effects on Lake Rotorua water quality of alum dosing. It modelled different alum dosing rates and combinations of nitrogen and phosphorus management in relation to achieving a modified (three parameter) TLI.

27 However, there are a number of important contextual matters that mean that phosphorus management does not offer an alternative solution to Plan Change 10.

28 The science advice on the management of nutrients entering Lake Rotorua remains unaltered. The science advice is that:

- Without alum dosing the lake remains co-limited and both nitrogen and phosphorus need to be addressed.
- For nitrogen the sustainable lake load is 435 tonnes.
- For phosphorus the sustainable lake load is between 33 and 37 tonnes.

29 As discussed in section 2.3.1 of this report and within the evidence presented by Andy Bruere alum dosing is not a permanent or long term solution for Lake Rotorua. There is apprehension about long term continued use of alum dosing as a strategy for protecting water quality in Lake Rotorua with there being iwi concerns on cultural grounds and ecotoxicological risks identified. Alum dosing is not viewed as a sustainable approach to managing Lake Rotorua's water quality into the future. Importantly if the use of alum did trigger a negative environmental outcome then there is no other backup option to replace it. A recent increase in the TLI appears to be related to climatic effects causing longer stratification of the lake over the two most recent summers.

[19] Assessing the effects of alum dosing of two inflows to Lake Rotorua against external nutrient load reductions: Model simulations for 2001-2012 ERI report D. Hamilton, C. McBride & H. Jones

30 A key contextual matter is that very significant reductions in the anthropogenic phosphorus load would be required just to reach the sustainable load targets. This is because a high proportion of the phosphorus entering Lake Rotorua comes from natural sources.[20] As a high percentage of phosphorus in the catchment comes from natural sources the capacity to achieve any required reduction from the catchment's land uses is seen as being extremely difficult. The required reduction in phosphorus to reach the sustainable load is between 47% and 64% of the anthropogenic load.

31 Whilst PPC10 does not focus on phosphorus reduction there is a combined approach to addressing phosphorus within the Te Arawa Lakes Programme. The programme covers:

- Sector promoted best practice (also referenced in Nitrogen Management Plans).
- Implementation of PPC10: certain mitigation actions have commensurate phosphorus reductions (for example, reduction in ha of fodder crops, increase in effluent discharge areas).
- Land use change under the Incentives Scheme.
- Operational activities (promotion of riparian plantings, wetland creation, detainment bunds).

32 In addition the Operative Regional Land and Water Plan has existing rules that enforce sediment controls to be put in place with any earthworks and forestry harvesting practises.

33 Council's phosphorus position can be summarised as follows:

- Nitrogen is the regulatory focus in PPC10.
- Nitrogen reductions will take some time to be experienced in the lake but phosphorus reductions can be achieved more quickly in response to any identifiable need into the future.
- Alum is only a backstop/interim mitigation action within the programme to provide an improvement in water quality in our lifetime.
- Phosphorus reductions are addressed at a programme level and are anticipated to occur as a part of rule implementation, the Lake Rotorua Incentives Scheme, sector best practice and engineering solutions.
- Council will monitor nitrogen and phosphorus reductions against sustainable lake load targets.
- Phosphorous limits for Lake Rotorua will need to be set (RPS WL3B)(NPS-FW) but this is not expected to change the level of reductions of Nitrogen required[21].

34 Altering the focus from nitrogen to phosphorus alone would not result in the TLI being achieved as implied by submissions. Altering the Plan Change to include the management of phosphorus would not reduce the need for the nitrogen approach taken by PPC10 and the level of action required by the pastoral sector.

20 Anthropogenic Phosphorus Loads to Lake Rotorua 2015 ERI Report 66
[21] Confirmed in the evidence of Professor Hamilton, filed concurrently with this report.

35 To include phosphorus within PPC10 would result in a delay to allow for further research and consultation - and then the subsequent re-notification of PPC10. This would have the impact of not meeting the 2032 timeframe as stated within the RPS, Oturoa Agreement and Integrated Framework, and is not supported by the science.

36 If required to achieve the sustainable phosphorus load phosphorus rules may be developed through a future plan change process. These rules could focus on critical source areas such as restrictions on tillage of ephemeral flow paths, constraints on cropping, limits on intensity of grazing, management of any exposed surfaces and increasing the areas of effluent disposal.

37 In summary and recognising the contextual matters discussed above, any move away from the sustainable load targets could only be supported on the basis of future science reviews identified in Method 2 of PPC10. There is currently no evidence or scientific basis for any other approach than that contained within PPC10 supported by the actions within the Rotorua Lakes Programme.

Council staff recommendation

38 Based on the above information, and the evidence provided by Andy Bruere, Professor David Hamilton in regard to phosphorus loads and management, it is recommended that the Hearing Panel decline submissions received opposing the science and research that helped to inform the development of Proposed Plan Change 10.

39 It is recommended that the submissions received requesting PPC10 include the management of phosphorus or alter the focus of PPC10 to phosphorus be declined by the Hearing Panel.

5.3.4 **The Use of Sub-Catchment Plans**

Submission Points:	16-1, 16-6, 24-1, 24-13, 24-14, 34-1, 34-2, FS8-29, FS7-25 , 53-10, 67-2, 72-1, FS12-42, 72-6, FS12-46, 66-17, 81-5, 16-16, 81-15, 75-117, 75-229, 61-1, FS11-2, 75-14, 78-8, 75-113, 75-114, FS6-16, 75-118, 75-119, 24-10, 75-126, 66-48, 53-17, 53-22, 61-8, FS6-25, 66-61, 75-141, 53-24, 53-44, 66-82, FS6-36, 75-172, 19-8, 24-11, FS7-7, FS8-9, 75-169, 53-41,66-79, 53-42, 66-80, 75-170, 53-43, 53-53, 75-175, 28-6, 66-8, FS12-32, 24-12, FS7-8, FS8-8,53-9, FS6-69, FS8-60, 66-16, 75-57, FS11-3, 53-36, FS6-41, 66-75, 75-164, 66-76, 53-37, 75-165 ,

40 Submissions requested that PPC10 be amended to focus on the use of sub-catchment plans to achieve the required 140t/N reduction from the pastoral sector. This has been requested for a number of reasons the first being that there should be a focus on seeking greater contributions from 'hotspots' within the catchment thus lessening the regulatory requirements on other areas within the Catchment, the second being a belief that phosphorus needs to be focused on rather than nitrogen, and the third being that non-regulatory sub-catchment plans are more suitable than a RMA rule framework.

41 Sub-catchment plans are not part of PPC10 as notified. While there are a variety of ways in which regulation of the required level of reduction of nitrogen losses from land use could have been developed, Council undertook a substantial amount of work in looking at various alternative approaches, and reached the conclusion that this was not the most appropriate way to proceed. Section 11.2.1 of the section 32 report deals in part with this issue.

42 The development of sub-catchment plans that focus on nitrogen would be reliant on information relating to the groundwater age, attenuation rates and biophysical characteristics. The groundwater age is determined by an average of all the inputs received from the top to the bottom of each catchment. Each catchment has multiple flow paths (overland and groundwater) each with various multiple lag times and attenuation rates reflecting different soil and climate conditions. A sub-catchment approach could still be challenged on the basis of there being greater differentiations that could be made. For example within a sub-catchment there will be different soil types and different rainfall rates. The use of OVERSEER® and the allocation methodology does to an extent take into account biophysical characteristics so for example high rainfall and more leaky soils are more likely to have higher loss rates that are reduced under PpC10.

43 An approach that takes into account sub-catchments to account for groundwater labs was investigated and modelled (Anastasiadis et al. 2011).[22] While such as approach would be of benefit to the landowners in the parts of the catchment furthest from the lake, Motu found that in comparison with a whole of catchment approach, the sub-catchment approach would be complex and difficult to administer for the Council, confusing for landowners, there would be greater scientific uncertainty, and trading of allowances would be less likely.

44 Motu's results suggested that '*in the case of Lake Rotorua, the extra complexity associated with accounting for groundwater lags would at best not be worth the additional difficulties associated with implementation, and at worst could be counterproductive.* (2011, p.31).

45 The RPS requires rules to be developed that allocate nitrogen and its reductions across rural production activities within the catchment with a

[22] Anastasiadis S, Nauleau M, Kerr S, Cox T, Rutherford K (2011). Does complex hydrology require complex water quality policy? Motu Working Paper 11-14.

reduction of from 746tN/yr to 435tN/yr being required by 2032. Undertaking additional work to implement a sub-catchment approach would delay any action being taken to reduce nitrogen losses reducing the ability for the RPS timeframe of 2032 to be achieved.

46 The use of sub-catchment plans to focus on phosphorus rather than diffuse nitrogen would not uphold the clear direction to reduce nitrogen given by the RPS. These submissions rely on the need to achieve the 4.2TLI, which is not a requirement by the RPS. The RPS has set a limit for nitrogen, not phosphorus, with this limit required to be achieved by 2032. It is noted that catchments plans are currently under way to manage overland flows and phosphorus, as a non-regulatory action and will not result in reducing diffuse sources of nitrogen.

47 The use of sub-catchment plans as a regulatory mechanism would significantly increase the complexity of the plan, requiring different rules and approaches for each sub-catchment. A number of farm enterprises would be located across different sub-catchments resulting in a number of different actions required within each farm enterprise this reducing efficient farm operations. In addition this approach would consequently restrict trading to each sub-catchment, reducing the number of traders available and subsequently increasing economic, social and cultural impacts. Due to the limited information available and the issues with implementation the use of sub-catchment plans would increase the risk of not achieving the sustainable load.

Requirement	Sub-Catchment Plans	Plan Change 10
Science available to support approach	**X** *Limited ability to connect groundwater flows to individual properties/enterprises*	√
Achieve the 435t/N limit by 2032	**X** *Focus on phosphorus and surface water*	√
Efficient and effective	**X** *Complex plan with different rules for different sub-catchments* *Numerous cross boundary issues*	√
Aligns with principles of Policy WL5B	**X** *Results in concentrated distribution of action and effects*	√

Table 4 Analysis of Sub-catchment Plans against key policy requirements

48 From the content of submissions it is also considered that the approach is preferred due to the perception that the development of sub-catchment plans would avoid the need for rules within the Regional Land and Water Plan. A non-regulatory approach relating to land management and nitrogen losses would not provide the level of certainty to Council or the community that the sustainable load of 435t/N/yr would be achieved by 2032 as required by the RPS. Non-regulatory sub-catchment planning would remove any ability for Council to enforce committed actions to reduce losses under the Act again reducing certainty that the sustainable load will be achieved.

Council staff recommendation

49 That the Hearing Panel determine the use of sub-catchment plans as being an inappropriate method of achieving the 435t/N/yr load by 2032 as required by the Operative Regional Policy Statement, and that submissions requesting this approach rather than the approach taken by PPC10 as notified be declined.

5.3.5 Lake Rotorua Nitrogen Loads and Science

Submission Points:	27-1, FS7-12, FS8-14, 72-5, FS12-45, 66-3, FS12-45 FS5-2, FS12-2, 79-3, 66-33, 81-3, FS13-2, 20-1, 23-2, 31-3, 67-5, 45-10, 33-2, 39-4, 79-1, 80-6, 81-8, 83-7, 80-6, 1-6, 1-7, 50-4, 65-1, FS8-36, 66-34, FS12-9, 67-4, 39-2, 33-4, 33-3, 31-4, 59-1, 79-2, 79-6, 80-7, 81-2, 81-14, 83-6, 66-32, 27-8, FS7-18, FS8-19, 39-3, 81-1, 19-10, 81-11, 83-8, 80-8, 31-5, 19-8, 23-3, 17-13, 17-14, 20-12, 17-11, FS8-7, 24-15, FS7-9, FS8-10, 27-4, FS7-11, FS8-12, 27-5, FS7-15, FS8-17, 27-7, FS7-17, FS8-18, 33-6, 39-1,53-2, 53-6, FS5-4, 53-7, 59-4, 66-15, 66-39, 75-37, 17-13, 17-14, 20-12

50 Submissions have been received challenging the science used to inform Plan Change 10. The main areas of contention relate to:

(a) The focus on nitrogen rather than phosphorus (refer to section 5.3.3).

(b) The limited information known about attenuation and its impacts on catchment loads.

(c) The uncertainty related associated with the Lake Rotorua Groundwater Boundary.

(d) The methods and lack of data used to calculate groundwater flow and the catchment loads.

(e) The science supporting the loads for Lake Rotorua (435t/N/yr and 755t/N/yr)

(f) The lack of information on the adverse effects of alum dosing.

(g) The lack of consideration given to other interventions such as lake oxygenation.

51 Through the rule development process Council staff have continually looked at the scientific evidence that was available to support PPC10. A number of research proposals have been initiated specifically to respond to questions raised by StAG or the community. For example, the work on phosphorus was a direct consequence of that issue being raised. The science/research community has been engaged in a number of ways to support the process such as public science evenings, workshops and presentations to stakeholders. The science programme has not stopped as a result of notification.

52 The below responses to submissions received on the nitrogen and phosphorus loads received by Lake Rotorua is supported by the expert evidence provided by Andy Bruere, Doctor Rutherford and Professor Hamilton.

53 The 435t/N limit has been reiterated through numerous scientific research reports completed since the 1980's as outlined within the evidence presented by Andy Bruere. This target along with the related TLI have been through numerous community processes and accepted by the community with their inclusion in the Operative Regional Plan, the Rotorua and Rotoiti Action Plan and more recently the Regional Policy Statement. Whilst Plan Change 10 intends to help achieve these targets, these have been set by other RMA processes and are not able to be altered through PPC10. Submissions refuting the science relating to the 435t/N limit and the TLI are therefore considered to be out of scope are and not able to be considered as part of this process (as set out above in section 5.3.1).

54 As outlined in the evidence provided by Doctor Rutherford lodged with this section 42A report, a review of ROTAN has been completed (ROTAN Annual) identifying that the catchment load of 750-760t/N is the most likely range for

the nitrogen load to the lake excluding rainfall of 30t/N. Based on this current load modelling has identified that PPC10 will achieve a steady states of 420-440t/N/yr excluding rainfall, resulting in a total load of 450-470t/N/yr. On the basis of this modelling potentially an additional 15-35t/N is required to be removed to achieve the targeted sustainable load as required by the RPS.

55 These results do not reduce the need for the reduction of losses from the pastoral sector, but do highlight that potentially additional work may be required to achieve the RPS limit for Lake Rotorua. It is noted that future science reviews may result in different outcomes, either further increasing or reducing the need for additional action. The outcomes from the science reviews (Method 2 of PPC10) will be monitored and if required be reflected in a future plan change, or included within future actions of the wider Te Arawa Lakes Programme.

56 ROTAN Annual further clarifies and upholds the groundwater catchment boundary identified within PPC10 and attenuation rate used to calculate catchment loads. A more detailed summary of the methodology used and the conclusions of this review is provided within the evidence of Dr Rutherford.

57 It is considered that sufficient scientific information has been provided relating to the use of alum dosing and its potential effects on lake dynamics and water quality. An overview of alum dosing and associated risks is provided within section 2.3.1 of this report and within evidence provided by Andy Bruere and Professor Hamilton. From a planning perspective the continued use of alum dosing is dependent on the ability to secure resource consent to discharge into the Lake or tributary streams. This will involve land owner approval from Te Arawa as owners of the lake bed. Te Arawa have previously given approval as an affected party on the basis that alum dosing is an interim action until management of discharge from land uses were regulated. Therefore reliance of securing a long-term resource consent is not an effective approach of enhancing lake water quality. In addition alum dosing focuses on phosphorus not nitrogen as required by the RPS.

58 Lake oxygenation has been used on other lakes and reservoirs internationally and Council tested two machines on Lake Rotoehu for three years. The results were underwhelming and in conclusion a large number of units would be needed to have a clear beneficial effect. Overseas experience indicates that they are generally applied to much smaller lakes than the size of Lake Rotorua, and Rotorua has a fairly shallow profile that makes the mixing type of aeration challenging to obtain good aeration efficiencies. Other interventions have also been explored through the process in relation to suggestions. These have included fish farming to remove nitrogen as biomass, water cress nutrient stripping, algal and weed harvesting, and floating wetlands. None have provided to be effective options for achieving the level of reduction required.

59 It is acknowledged that new science may become available in the future, influencing the nitrogen loads of Lake Rotorua, or requiring a change in focus of the regional plan to include phosphorus. Plan Change 10 supports the use of adaptive management and has included Method 2 which provides for 5 yearly reviews of the science completed for PPC10. Outcomes of this are able to be reflected within plan changes or changes to the Regional Policy Statement. The first review will commence in 2017.

60 It is considered that the science used to inform PPC10 continues to be the most recent, relevant and updated science related to the water quality of Lake Rotorua and the groundwater catchment. At this time no further science is considered to be required, with this identified in any future science reviews.

Council staff recommendation

61 Based on the above information, and the evidence provided by Andy Bruere, Professor David Hamilton and Dr James Rutherford it is recommended that the Hearing Panel decline submissions received opposing the science and research that helped to inform the development of Proposed Plan Change 10.

5.3.6 The Use of OVERSEER® and Reference Files

Submission Points:	48-2, FS6-14, 49-29, 49-37, FS12-15, 17-6, FS6-32, 32-16, 40-11, 43-36, 48-21, 49-42, 53-27, 78-12, 70-38, FS15-39, 66-66, 58-8, 75-152, 58-10, 58-11, 58-13, 44-2, 58-12, 49-38, FS12-16, 49-27, 66-55, 58-7, 75-134, 49-36, 17-7, 78-13, 58-9, 66-67,

62 The below responses to submissions received on the Use of OVERSEER® is supported by the expert evidence provided by Alastair MacCormick and Simon Park.

63 Submissions have been received opposing the use of OVERSEER® as a regulatory tool– as well as in support of using OVERSEER® as the point of compliance (see submission points 37-1, 58-7, 62-4, 66-27, 66-126 and 78-13). Submissions have also been received opposing the use of OVERSEER® in the calculation of Nitrogen Discharges Allowances. These submissions have been based on the potential changes caused to any allocation with new version of OVERSEER®, which intend to reflect new scientific data and information available.

64 Whilst the tool has a number of revisions to reflect new information, currently this is the only tool available that is able to robustly calculate losses from inputs. Providing reference files, nitrogen discharge allocations that take into account new versions of OVERSEER® align with the intent of PPC10 to provide for adaptive management by recognising the availability of new science.

65 As outlined within the expert statement prepared by Simon Park, OVERSEER® was developed over 20 years ago as a decision support tool and has since evolved to cover a wide range of land uses and to estimate nutrient losses from farms. Since this time a number of councils have used OVERSEER® to manage diffuse nutrients within a regulatory framework. Therefore the use of OVERSEER® as a regulatory tool is not uncommon within New Zealand, and is considered to be appropriate for use to implement PPC10.

66 The use of OVERSEER® enables the level of nitrogen losses to be monitored from activities undertaken on a property; this in turn ensuring any Nitrogen Discharge Allowance and Managed Reduction Targets are complied with. This approach is within the capability of OVERSEER®. Whilst there may be discrepancies in calculated losses at a farm level due to modelling errors, over the catchment as a whole, errors can be expected to average out so that catchment wide water quality targets are still achieved.

67 As outlined in the expert evidence provided by Alastair MacCormick, reference files have been developed to manage and reduce any effects generated by OVERSEER® version changes. This ensures that the latest version of OVERSEER® to be used and ensure that initial allocation distribution is maintained. The use of Reference files provides an element of certainty and upholds the intent of the allocation methodology. Analysis on how the reference files have worked over four versions of OVERSEER® and a comparison on a percentage basis against the average sector benchmark has been completed in response to this and other submission points. This comparison showed that the drystock reference file tracked the benchmarks reasonably closely. However this was not the case for the dairy reference files. Further investigation revealed that the divergence from the benchmark average resulted from a bug in how OVERSEER® was calculating the

background losses on effluent blocks. A series of options have been identified to resolve this issue. Analysis of this options as outlined in has resulted in the recommendation that the reference files be revised to ensure more alignment with the benchmark averages.

68 Further information supporting the use of OVERSEER® and Reference Files as part of Plan Change 10 is available within the statement prepared by Simon Park.

Council staff recommendation

69 Based on the above information, and the evidence provided by Simon Park and Alastair MacCormick it is recommended that the Hearing Panel decline submissions received in opposition to the use of OVERSEER® and Reference files by PPC10.

70 That the Hearing Panel approve the recommended amendments to the Reference file as outlined within the evidence provided by Alastair MacCormick.

5.3.7 Nitrogen Allocation

Submission Points:	15-1, FS17-1, 49-1, FS8-47, FS14-4, 49-8, FS8-49, FS14-6, 49-9, FS14-7, FS8-50, 19-7, 40-2, 40-4, 32-3, 33-5, 44-4, 49-18, FS14-10, 49-23, FS8-52, FSS14-8, 49-28, FS14-9, 80-2, 80-9, 40-3, 73-3, FS6-11, FS14-2, 74-9, FS6-12, 81-9, 19-6, 36-4, 73-4, FS6-15, FS14-3, 49-96, FS8-53, FS14-12, 1-5, FS6-21, 12-4, FS7-1, FS8-1, 40-5, 49-97, FS14-16, 12-5, 13-4, 15-2, 33-1, 40-1, FS6-59, 1-3, 5-11,18-1,31-1, 32-5, 45-2, 49-4, 58-26, 80-5, 80-11, 49-83, FS14-37, 1-1, 22-1, FS6-62, 31-2, 49-10, FS8-51, 50-3, 19-3, 61-4, FS6-63, 61-5, 61-6, FS6-61, 73-2, FS6-64, 74-10, 83-12, 80-1, 32-19, 24-9, 49-2, FS8-48, 49-5, 49-6, 66-4, 49-98, FS8-54,49-99, FS8-55,

The below responses to submissions received on Nitrogen Allocation is supported by the expert evidence provided by Stephen Lamb, Alastair MacCormick and Simon Park.

General opposition to allocation

71 A number of submissions identified a general opposition to the allocation process and outcomes.

72 Specific criticism has also been levelled at the allocation approach around:

- The locking in of forestry as a landuse.
- Ignoring natural capital as an allocation approach.
- The lack of ability to use underutilised Māori land.
- The protection of the dairy sector.
- The use of grandparenting.

73 The following sections address these specific points. In summary though, every allocation scenario brings different winners and losers. The process has delivered an approach that represents a balance of interests but due to the scale of nitrogen reductions required there is no potential to create a methodology that would meet the aspirations of all participants.

Lack of an allocation to forestry

74 A small number of submissions raise the perceived inequity associated with forestry not being able to intensify operations or to convert to another land use for commercial gain. These submissions also included the idea that conservation land should also attract an allocation. It should be noted though that these submissions are generally aligned with the submissions on the use of natural capital for allocation.

75 The view taken in relation to forestry and conservation land was that it was locked in under Rule 11 and the loss is in opportunity cost only – if the desire is to further develop the land. The scale of re-allocation that would be required could potentially be significant. For example, with 19,215 ha of Forestry and Bush/Scrub allocating one kg/N extra leaching capacity would mean 19.215 tonnes of nitrogen would need to be found. The nitrogen could theoretically be re-allocated on a differential basis. For example, if Forestry areas on class 1 to 4 (estimated 2995 ha[23]) were given nitrogen to enable farming to the bottom of the dry stock range this would equate to 52.2 tonnes of nitrogen needing to be found.

[23] Estimated from BOPRC GIS information.

76 As for plantation forestry, for conservation land the key issue is also that any redistribution of nitrogen leaching ability means that it needs to be sourced from somewhere. This creates an economic and associated social impact. This is particularly relevant again because of the amount of land potentially involved. Existing land uses are being asked to reduce their nitrogen allocation to improve lake water quality under PPC10. It is not considered to be equitable to ask them to then further reduce that reduced level in order to provide development opportunities for other landuses that do not currently exist under the operative plan.

Natural capital

77 As noted in the section 32 report there has been some support for using a natural capital approach to allocation that would align nitrogen discharge allocation with the capacity of the land. While this is often assumed to be productive capacity (based on land classification) other considerations would be needed to specify the exact definition to be applied. For example, in the Lake Rotorua groundwater catchment land that loses less nitrogen could be considered to be "better" land.

78 Economic analysis undertaken showed that the distribution of allowances under a natural capital approach would differ considerably from current land use, therefore causing significant economic disruption (and associated social disruption). Under low trading efficiency the economic impact of this method is higher than alternatives. See sections 10.2.4 and 10.2.5 of the section 32 report.

79 Economic modelling estimates that the farm system impacts of a natural capital allocation are more than twice as large as the sector range/benchmarking allocation in the district economy. This is largely because the closer to the status quo, the least disruptive economically. The assessment of profitability is linked to ability to sell Nitrogen or need to buy Nitrogen. Under a natural capital scenario the Dairy sector would be significantly reduced in area and economic contribution.

80 Natural capital is intuitively attractive but is economically disruptive. The scale of the change required from the benchmarking levels of nitrogen leaching to the Nitrogen Discharge Allowance levels is substantial and this limits the ability to consider options. The ability to trade (from the sector range position) will to an extent allow Nitrogen Discharge Allowance to shift to areas which are more amenable to productivity being matched to the environment's ability to assimilate nitrogen discharge.

Other allocation approaches

81 Some submissions rejected the allocation methodology and variously sought that the process be re-started. Some sought that the allocation process should be re-done with a view to it being undertaken on an alternative basis to OVERSEER® or to deliver a result based on an unspecified "optimum land use". The phrase "zero-base the discussion" is also used. The submissions in general are seeking a different allocation outcome.

82 There is any number of alternative allocation scenarios. However, every alternative presents different challenges and impacts. The adopted allocation approach, developed through an extensive process of discussion and analysis, is seen as delivering the best and fairest option on the basis of the principles being used and with a balance between the principles being considered.

83 Section 10.2 of the Section 32 report canvasses the process of working through the range of alternatives.

84 Numerous challenges were made to the allocation approach through the process and this has continued into the submissions process. This is understandable as landowners have a fundamental aspiration not to see their property devalue in either a monetary or option-value way, or to be impacted themselves.

85 One common criticism is that the allocation methodology protects the dairy industry. The dairy industry is identified as a specific sector due to the average rates of nitrogen loss from this landuse. While it is correct to say that the dairy sector is a significant contributor of nitrogen discharges to the lake it needs to be recognised that the sector is making a significant contribution in terms of proportional sector load reductions – reducing 35.3% overall from current load (as contained within the Integrated Framework). The allocation methodology is based on this reduction commitment.[24]

86 To re-start the discussion with a view to using a different information basis (such as current state) would effectively set the start date for any reductions by a number of years – without any guarantee of reductions in the challenges potentially being made against a new allocation approach. This would simply shift the start point for the discussion and subsequent challenges. Rule 11 (made operative in 2008) produced a data set from which allocation can be derived. The dataset, while robust, is even now not complete due to smaller properties not being benchmarked and some property information being withheld.

87 Using "current state" as suggested by one submitter was considered through the process but a decision was made to use the established Rule 11 benchmark as the point from which the process started. It was well known that the current state was different to this but it was acknowledged that farming operations that had dropped below the benchmark would be in a better position to meet their Nitrogen Discharge Allowance targets. It was also noted through the process that to use "current state" would penalise farmers who had advanced their nitrogen management practices whilst benefiting those who had not. This was described at the time as potentially being a windfall gain for those who were not acknowledging the Lake's issues, or complying with the requirements of Rule 11. Ultimately as noted above, every allocation scenario brings different winners and losers.

88 A small number of submissions also sought further categories to be added to the methodology (submission 30 and 41). These include reference to dairy support and other unspecified categories. Dairy support is included within the dry stock sector and it's nitrogen losses tend to be at the higher end of the range. Except where whole properties are delivering dairy support it is practically very difficult to identify "dairy support" blocks. Dairy support area is not as well defined as the dairy platform area and dairy support contracts are frequently reviewed. This is different to dairy platforms which are more static – or drystock (which is not dairy). It is not recommended that further sectors are added.

89 For other categories the key issue is often whether they can be modelled within OVERSEER®. Other categories are catered for within the Proposed Rules through LR R11 which was specifically included to allow landuses to be

[24] Noting that the 35.3% dairy sector reduction is also submitted against (submission 81).

incorporated into the system. It is assumed that further landuses will also seek to be modelled under OVERSEER® through sector arrangements (for example, the goat industry has supported a goat module).

Allowing flexibility into the future

90 A number of submissions sought that the allocation methodology should be flexible so that into the future properties could be further developed. There were comments that some properties could be more productive than the average (that would be allocated to non-benchmarked properties) and that such development should be allowed.

91 This comment was also made in relation to properties that, in the opinion of the submitter, would need that flexibility to remain economically viable (submission 32 sought customised NDAs).

92 To be able to respond to these submissions in a positive light would require more nitrogen to be made available for re-allocation. As discussed previously this is the crux of the matter. Any nitrogen that is re-allocated must be sourced from elsewhere in the catchment. The aspiration for properties to increase their nitrogen loss runs counter to the objective that underpins the Plan Change. It is unclear from such submissions the basis for how nitrogen would be allocated but the sense is that it is likely to approximate a natural capital approach (see comments above on natural capital). Trading is an option to re-allocate within the allocation framework however this does have a financial impact for farming operations. Flexibility is also provided through the use of Nitrogen Management Plans within the consenting environment for how a farming enterprise is managed across all the blocks that are being utilised.

Set or amend the allocation in the future

93 This section combines the response to submissions that either sought:

- The allocations should be amended in the future on the basis of future science; or
- That more science should be undertaken before the allocation is set.

94 The allocation methodology is based on a significant amount of science and on a data set that is as robust as possible. Requiring more science would delay progress being made towards a sustainable nitrogen load being achieved. The response to the suggestion of amending allocations in the future has two components. The first is that the adaptive management that underpins PPC10 implies that the results of any science will be carefully considered for bringing into the rules framework. So if the science implied that the allocation methodology needed to be reviewed this could occur. However the other important component is that certainty for the pastoral sector is a critical consideration. Allocation as a moving target would be highly detrimental.

95 The science basis to date provides a robust position from which to allocate. If the science suggested a change to the allocation methodology in the future this would need to be carefully considered in conjunction with stakeholders and community. How such a discussion was approached would depend on whether the science was suggesting a greater or lesser catchment allocation was needed. The point also needs to be made that should a greater or lesser catchment allocation be identified in the future how the changed amounts are allocated across the sectors and community funded operations would still

need to be debated. It would not automatically all become available to the pastoral sector.

Council staff recommendation

96 Throughout the two-year long process of determining the nitrogen allocation approach consideration of stated principles was used to find an optimal position. The position adopted is strongly based on economic and social considerations. It is also necessary to place the allocation decisions within the context of the RPS and Integrated Framework. Importantly without the responsibilities for achieving the shares of the reductions to get the sustainable load (and specifically the community funding) the allocation decision would not have been able to be made.

97 The approach also recognises that for Lake Rotorua a significant and challenging nitrogen reduction is required from the pastoral sector and that this limits the options that are available (for example, providing an allocation to other sectors to compensate for limitations in future development options).

98 Overall, the allocation development process can be described as a series of compromises to get to a workable solution. The approach recognises the differences in activities that exist, the expectation that high losses should be addressed, and that the nitrogen loss is already capped within the catchment. It is also able to operate from a robust information base (the benchmarking).

99 No change in allocation methodology is recommended. The submissions received on allocation have not provided any further rationale that has not been considered by Council (and recorded in the Section 32 report) through the Plan Change development process.

5.3.8 The Use of Nitrogen Management Plans

Submission Points:	13-1, 48-4, 61-14, FS13-1, 70-7, FS13-3, 72-3, 49-16,43-24, 70-17, FS15-33, 39-7, 45-7, 49-31, 83-10, 82-7, 61-9, FS11-4, FS12-25, 78-4, 16-8, 20-7, 23-9, 24-5, 39-5, 43-70, FS15-8, 45-9, 70-76, 67-7, 66-12, FS12-26, 82-8, 43-71, FS15-9, 43-72, FS15-10, 45-4, 70-12, 16-9, 20-8, 23-10, 24-6, 39-6, 43-77, FS15-11, 45-8, 61-10, FS11-15, 70-77, 78-5, 67-8, 66-10, 82-9, 43-78, FS15-12, 43-79, FS15-13, 78-6, 16-11, 20-9, 23-11, 24-7, 43-84, FS15-14, 61-11, FS11-6, 67-9, 66-13, 82-10, 43-85, FS15-15, 43-86, FS15-16, 16-12, 20-10, 23-12, 24-8, 61-12, FS11-7, 78-7, 67-10, 66-11, 82-11, 43-94, FS15-17,

Nitrogen Management Plans are a key element of PPC10. They are designed to provide a measureable pathway from a property's benchmark nitrogen discharge to the 2032 nitrogen discharge allowance for the property. The below responses to submissions received on the use of Nitrogen Management Plans is supported by the expert evidence provided by Stephen Lamb.

Avoiding prescriptive or input-based regulation

Submission Points:	16-7, 16-8, 16-9, 16-10, 16-11, 16-12, 53-87, 61-7, 61-8, 61-9, 61-10, 61-11, 61-12, 62-4, 64-10, 64-21, 64-22, 64-23, 66-126, 70-2, 70-3, 75-33, 75-216, 75-217, 75-218, 75-219, 75-220, 75-221, 82-19

100 The criticism that the Nitrogen Management Plan (NMP) is prescriptive regulation is not correct. The Council is not using the NMP to "tell farmers how to farm". The NMP records the landowner choices of mitigation actions that show the pathway to meet the required managed reduction targets and NDA. A number of submissions also make the link to only monitoring "outputs" as the alternative. This topic is addressed below.

101 The mitigation actions are evaluated using OVERSEER® and therefore the actions (as proposed) are modelled to deliver the required nitrogen reductions. The actions are not prescribed by the Regional Council. Council only prescribes:

1 The start, middle and end points in terms of nitrogen discharge.

2 The specifications of what information needs to be in a NMP.

102 In the context of Lake Rotorua, prescriptive or input-based regulation would need to focus on input rules such as Council specifying farming methodologies, stocking rates and input limitations (such as fertilizer application rates). This option was considered and rejected within the development process.

The use of Nitrogen Management Plans for compliance

103 A large number of submission points have specified that they do not want the NMPs to be linked to compliance – and that they should be a guideline or management tool only. Some submission points sought that that there should be no requirement for NMPs within the rules (see submission points 26-3, 23-9, 23-10, 23-11, 23-12 and 28-4) and that they were seen as another cost on farming (see submission points 13-5 and 13-6). In some cases the alternative that has been suggested is that compliance occurs only against an OVERSEER® number (see submission points 37-1, 58-7, 62-4, 66-27, 66-126 and 78-13).

104 The OVERSEER® compliance suggestion is not practical for a number of reasons including, as submitters have also pointed out, that the OVERSEER® output can be variable year to year in response to climatic conditions. Additionally submitters have asked for five year rolling average to be used which provides no specific timeframe where compliance actions might occur. Compliance against an OVERSEER® value is not supported as the evidence base may need to include measured rather than modelled nitrogen loss as well as OVERSEER® having multiple input requirements that would need to be known for enforcement action. Measurement is also impractical at the block level (submission point 44-3).

105 Any enforcement/compliance action would follow a stepped approach and would take into account all relevant circumstances – recognising the complexity of farming systems and their responses to environmental conditions. There is a need to provide further information on how compliance would occur (see submission point 64-11). Usual practice is to develop a compliance policy as part of the implementation process. An indicative approach to compliance has been documented and is attached as a draft (Appendix 1). A full implementation guide will be produced upon PPC10 becoming fully operative.

Future actions

106 Submitters have stated that property owners should not be held to proposed mitigation actions that are 15 years into the future. This is not the case. The adaptive management approach inherent in the PC10 rules supports the use of five-year planning horizons which are seen as appropriate timeframes to expect to be able to see specific mitigations planned.

107 The degree of specificity expected will be such that:

1 The first 5-year block has clear actions to deliver the required result.

2 The second and third 5-year blocks have less specificity (recognising that future planning is uncertain) but that a general picture of achieving the Nitrogen Discharge Allowance needs to be provided across the 15 year period (or 10 year period for a 2022 consent date).

108 Examples of mitigation actions include specified stock numbers, system management change, change in land use or effective area, and reduced input levels (such as fertilizer). The OVERSEER® file input data that is used to develop the complying Nitrogen Management Plan will be used to establish mitigation actions and resource consent conditions.

109 The submissions dealing with the assumption that Council requires a high level of specificity within NMPs are rejected as this is not the case.

Changing the name of the Nitrogen Management Plan

110 Submitters have asked that the name of the NMP be changed – either to more accurately reflect the nature of the document – as it deals with nitrogen and phosphorus – or to reflect that it is designed to address issues of water quality.

111 The document was originally being referred to as a farm management plan however this had associations with industry plans and with the Horizons One Plan process. Through the process the term “Nutrient Management Plan” came to be used and then eventually the term “Nitrogen Management Plan”

was settled on because of the primary focus of the document on nitrogen discharges.

112 The term “Nitrogen Management Plan” is currently in use within the Land Use Advisory service provided by Council in the Lake Rotorua Catchment however shifting to “Nutrient Management Plan” – as requested by the majority of submitters on this matter – is supported. Altering the name does not impose a significant administrative cost. It is therefore recommended that the term “Nitrogen Management Plan” is changed to “Nutrient Management Plan” throughout PC10 including within the definition section.

113 The alternative of naming the document a “Water Pollution Management Plan” is not supported as this provides a pejorative view of activities that were legally established within the catchment, and implies that what is being managed in the (NMP) plan is water.

Council staff recommendation

114 The submissions received on Nitrogen Management Plans have not provided sufficient reason or alternatives to move away from the use of NMPs as a regulatory mechanism (for compliance purposes) or to remove NMP provisions on the basis that it is a prescriptive/input-based methodology.

115 It is recommended that additional wording is added to clarify the level of specificity required in NMP planning periods and that the name of the document is changed to “Nutrient Management Plan”.

116 It is recommended that the underlined text below is added to Schedule LR Six, 5(a)(ii) to clarify this aspect of the NMP provisions (see submission point 70-11):

(a) *A pathway, including a schedule of mitigation actions, described land uses and OVERSEER® (or other model) input parameters that are of adequate specificity for the planning timeframe, that demonstrates managed reduction to achieve the Managed Reduction Targets and the 2032 Nitrogen Discharge Allowance in accordance with LR P8.*

5.3.9 **Trading of Nitrogen under Plan Change 10**

Submission Points:	26-21, 43-52, 43-56, 70-64, 43-58, 13-3, 26-22, 78-14, FS6-50, 66-25, 33-9, 49-95, 43-67, 70-73

117 The provision for trading aligns with the proposal put forward by the Collective as part of StAG to help reduce the financial impact of the rules on the pastoral sector. The provision for trading was taken into account with economic research commissioned by the Regional Council which informed the economic effects of Plan Change 11.

118 Both short or long (permanent) term trading is an option available to all properties/farming enterprises under LRR10, commencing from 2022. The restriction on trade prior to 2022 aligns with the timeframe provided to the Lake Rotorua Incentives Board to achieve a reduction of 100t/N entering the Lake. The Incentives Scheme and this level of reduction is part of the community's contribution to achieving the sustainable lake load. This will be a challenging task, and any trade outside of the Incentives Scheme prior to 2022 could undermine the ability to achieve the 100t/N reduction and in turn the 70% catchment reduction by 2022 required by the RPS. For this reason trading prior to 2022 is not supported, even as a discretionary activity as suggested by submitters.

119 This situation has been interpreted as the rules establishing a monopoly market for nitrogen trading. The alternative viewpoint is that the community is taking on a sizeable risk and is contributing significant funding to the Incentives Scheme – which reduces the requirements of the rules. To not provide this "head start" may require any unachieved Incentives Scheme target to be allocated in the future.

120 A number of submission points have requested trading to be permitted from 2022. As notified trading after 2022 is a controlled activity under Rule LRR10. The transfer of nitrogen between properties is required to have input from Council to ensure Nitrogen Discharge Allocations are recalculated and Nitrogen Management Plan reviewed. This will ensure that Nitrogen Discharge Allocations continue to uphold the portion of the sustainable load allocated to the pastoral sector, and the required pastoral reduction of 140t/ N is achieved. The controlled activity status reflects that Council supports such trades, subject to new Nitrogen Discharge Allocations and Nitrogen Management Plans being completed. It is considered that this consenting process is an appropriate control for trading and no change to the rule framework is proposed.

121 Submissions have also suggested the need for all sectors to be given the ability to be involved in trading (such as the urban sector or forestry sector). PPC10 does not prevent the forestry sector from being able to trade nitrogen. As forestry is located within the rural layer outlined on Map LR1 it meets the definition of a property/ farming enterprise and is able to trade under rule LRR10 as a controlled activity. As part of trading, a forestry enterprise would receive a NDA and NMP outlining the nitrogen losses provided for per hectare by land activities.

122 For parties either not located within the rural area specified on Map LR1 or defined as a property farming enterprise these parties would not be able to participate in trading. Rather this process would be considered a contractual

permanent removal of nitrogen from the catchment. This is reflected in bullet point 5 of Schedule LR7 ‘Transfer of Nitrogen Discharge Allowance).

123 This process sits outside of PC10 with the only aspect being managed would be the revision of a enterprise’s approved NMP and NDA to reflect the new NDA (refer to criteria (v) of Rules LRR8 and LRR9). It is considered that this intent is sufficiently clear and that no changes are required.

124 Submissions have raised concern that the provision for trading across the Lake Rotorua catchment will reduce the ability to achieve the sustainable lake load (435t/N). Trading only enables the movement of nitrogen that forms part of a NDA (whether utilised or not) to another enterprise within the catchment. Upon the sale/ trade of such nitrogen each enterprise will receive a revised NDA to reflect this transfer. This will not result in the final target of 435t/ N being exceeded as the trading occurs only within the limit of 435t/N (as this is what is allocated in the NDA).

Council staff recommendation

125 Based on the above reasons it is recommended that the hearing panel decline submissions received that requeste trading under LRR10 of the plan change be altered to be:

- Provided for prior to 2022
- A discretionary activity prior to 2022
- Permitted after 2022

5.3.10 **Allocation for forestry and underutilised Maori land**

Submission Points:	26-11, 26-9, FS6-5, 26-9, 54-1, FS6-71, FS6-72, 54-2, FS6-68, 46-76

126 Submissions have been received highlighting the impacts Plan Change 10 has on Maori owned land. The submitters consider that the current allocation methodology will reduce land use options available in the future, due the nitrogen start point being based on a benchmark which reflects the level of development between 2001 and 2004.

127 Within the Plan Change 10 boundaries there is 8008ha of forestry land. 5839ha (or 73%) is Māori land. This can be further broken down to 3147ha (39%) of settlement land (CNI Holdings Ltd and Ngāti Rangiwewehi) and 2692ha (33%) of Māori freehold land under the Te Ture Whenua Act.

128 Within the Catchment, there has been some changes in land ownership from the Crown to Maori via Crown "Forests Land" settlements, and a small part of the comprehensive Central North Island Forests Settlement under the CNI Forests Land Settlement Act 2008 is included. CNI IHL holds approximately 3020ha of forestry land and 90ha of bush and scrub within the PC10 boundaries. The forestry blocks are subject to Crown Forest Licences which can remain in place until 30 September 2045 but as blocks of land are harvested they will be returned to CNI IHL who will take over responsibility for those blocks of land. It is noted that Rule 11 was already operative by the time the Deed of Settlement was signed.

129 The Ngāti Rangiwewehi Deed of Settlement was signed in 2012. Of the Ngāti Rangiwewehi Commercial Redress land there is approximately 127ha of forestry and 3ha of bush and scrub within the PC10 boundaries. It is noted that the Ngāti Rangiwewehi block is only partially within the PC10 boundary and is outside the Rule 11 boundary.

130 Drystock occurs on 31% (or 4612ha) of Māori land, dairy on 8% (or 1226ha) and grazed trees on 4% (or 553ha). Bush and Scrub covers 19% (or 2882ha, including some gorse)[25] of Māori land however approximately 81%[26] of it has some form of protection such as Significant Natural Areas, QEII covenants or BOPRC programmes.

131 The majority of these activities were present within the 2001-2004 timeframe resulting in nitrogen losses consistent with those activities being allocated to those enterprises either underutilised or consisting of forestry, grazed trees, bush and scrub.

132 The approach taken in Plan Change 10 provides three avenues for underutilised farms to be able to increase nitrogen loss. They are:

1 With a resource consent, low nitrogen loss farming operations can increase to the lower range boundary in each sector (dairy or drystock)

[25] Figures from BOPRC GIS October 2016. Refer to Table 2 – Comparing Māori Rural Land Uses with the Rest of the PC10 Catchment taking into account Land Use Capability Class.
[26] Figure from BOPRC GIS November 2016. Refer to Table 3 – Bush and Scrub by Land Use Capability Class, protection and ownership.

2 With a resource consent, low nitrogen loss farming operations that were not benchmarked can obtain a sector average NDA

3 As a permitted activity under Rule LRR7, low intensity farming activities can operate subject to losses being less than 71% of the nitrogen loss rate generated by the drystock reference file.

This approaches are applied consistently applied across the catchment, and provides some ability for pastoral farming operations with low levels of activity or nitrogen losses to increase their level of utilisation.

133 The nitrogen allocation provided for the 2001-04 land use (forestry) does not provide extra nitrogen above the current land use that would enable other land use development with higher nitrogen losses to occur. Rule 11 of the Operative Plan did not provide for changes in land use that would increase nitrogen leaching. The overall purpose of Plan Change 10 is to reduce nitrogen leaching within the Catchment and so there is a staged reduction approach on the amount of nitrogen. The planning approach did not seek to provide for more intensive development or to encourage more discharge from existing sectors, contemplating instead that land use change would move to lower emitting land uses over time rather than to higher. The exception being the ability for landowners to take part in a trading nitrogen market within the overall Catchment allocation if they want to acquire additional NDA to augment their allocated NDA.[27]

134 Notwithstanding this, Council staff have considered a number of options available to provide for future flexibility in the use of underdeveloped or afforested Māori owned land, and the relief sought (to provide for more development/nitrogen). An assessment of these options is provided below:

Option	**Criteria**			**Comments**
	Achieves the 435t/N target by 2032	**Upholds the Integrated Framework**	**Upholds RPS policy WL 5B**	
Proposed PC10	√	√	√	Social, economic, environmental or cultural impacts remain the same as those outlined within the section 32 analysis completed for PC10.
Objective and policy providing for flexibility of Māori owned land or Forestry	**X**	**X**	**X**	Will result in increased nitrogen losses from Māori owned land. Undermines RPS Policy 5B which requires the managed reduction (rather than increase) of nutrient losses. Provides a policy that with a focus on a person/s, rather than a land use activity as required by the RMA.
Restricted discretionary activity allowing plantation forestry to develop in accordance with land use	**X**	**X**	**X**	Results in the need for reallocation of nitrogen. Any rule that allowed for plantation forestry to develop in accordance with land use capability would require an equal nitrogen reduction within the catchment.

[27] See Council submission confirming this position

capability.				There is 2943ha of plantation forest on LUC class 1-4 land within the PC10 boundaries. If this was to convert to the lower nitrogen discharge allowance range boundary for dairy or upper range boundary for drystock (54.6 kgN/ha/yr) it would equate to 153 tonnes of nitrogen. This is greater than the 140tN/yr on farm reduction required by the rules. An allocation to the NDA average for drystock (25.6kgN/ha/yr) for the 2943ha would equate to 68 tonnes of nitrogen or 49% of the current target for on farm reductions under the rules.
Reallocation of nitrogen to forestry.	√	**X**	**X**	Allocating more nitrogen to forestry will result in reduced losses allocated to either the Dairy or Drystock sector. This will alter the Integrated Framework which was developed based on extensive community engagement. This would result in increased economic impacts within the sector.
Exemption for the owners of underutilised Māori Freehold land (voluntary participation).	**X**	**X**	**X**	An exemption for underutilised Māori Freehold land will not assist in achieving the purpose of this Plan Change. To exempt owners of underutilised Māori Freehold land would be contrary to Part 2 of the RMA and Policies WL 3B(c), WL 4B and WL 5B of the Operative RPS. In order to maintain the 435t target any exemption would need to be combined with further reductions elsewhere to provide for the potential development of underutilised Māori Freehold land. Would result in a reallocation of nitrogen.
Establishment of a fund to assist owners of underutilised Māori Freehold land	√	√	√	Māori Freehold land is not disproportionately disadvantaged by Plan Change 10. Given the amount of funding already provided by ratepayers to improve water quality in Lake Rotorua there is insufficient justification to warrant an additional fund.

Table 5 Overview of Allocation options

135 As highlighted by Table 5 the only options available that uphold all of the criteria are Options 1 - Status Quo and Option 6 - the Establishment of a fund to assist.

136 The basis of a fund would be to increase the ability to purchase Nitrogen Discharge Allowance to enable land intensification and development for underutilised Māori Freehold land in the future as has been requested by the Māori Trustee (sub pts 54-1 and 54-2). The submission does not specify the amount the Māori Trustee would consider sufficient to assist owners of underutilised Māori Freehold land to purchase nitrogen discharge allowance credits.

137 The Integrated Framework which has been established in order to achieve the sustainable load of 435 tonnes of nitrogen includes a similar fund to that sought by the Māori Trustee with the exception that the purpose of the Incentives fund is to purchase nitrogen out of the system so that it will not be used. The Incentives Scheme is a non-regulatory way to remove 100 tonnes of nitrogen by providing a mechanism whereby landowners can sell their allocation prior to 2022. A competing fund to buy nitrogen for use is likely to adversely impact on the ability to purchase sufficient nitrogen from the system and to drive up the cost of taking the 100 tonnes out of the system. This could lead to a need to consider future regulation on further nitrogen reduction (if non-regulatory totals cannot be met).

138 The gorse conversion project aims to convert large areas of gorse into forestry with a budget of approximately $2 million. Although the gorse conversion fund is not restricted to Māori Freehold land the majority of gorse in the Rotorua catchment is on Māori land with 74ha already under gorse agreements and a further 33ha with the owners for signing.

139 It is considered that Māori Freehold land is not disproportionately disadvantaged by Plan Change 10 and given the amount of funding already provided by ratepayers to improve water quality in Lake Rotorua there is insufficient justification to warrant an additional fund.

140 The remaining option available that upholds the 435t/N target is the reallocation of Nitrogen within the catchment. As highlighted in Table 5 a number of the other options also rely on such a reallocation.

141 Staff have reviewed the relief sought to assist in making a recommendation on how to respond to these submissions. The relief raises these fundamental issues: a reallocation of nitrogen undermines the agreements that have been reached on sector allocation and the basis of the NDA allocation that stems back to the grandparenting and Rule 11 benchmarking process[28].

142 As outlined in the evidence presented by Stephen Lamb the decisions on allocation were made in relation to an approach that evolved over time and that considered a range of alternatives with any allocation methodology that did not accord with the sustainable lake load, allocation principles or Integrated Framework being discounted.

143 Reallocating nitrogen amongst sectors would depart from the way in which Council has negotiated and worked with the community and stakeholders to date to identify an appropriate allocation methodology, and in developing the integrated framework.

144 A reallocation would create uncertainty and require other landowners to re-evaluate impacts on themselves in a way that is different to what was notified. This prevents the ability for landowners to place a submission on this matter due to this reallocation approach not being evaluated in the section 32 report.

145 Recent economic analysis suggest that the existing allocation to the dairy and drystock sectors already may not be achievable in some cases, and any reallocation will impose increased costs and reduced flexibility. Reducing the allocation for the drystock or dairy sector will further reduce the ability to achieve the targeted reduction, and further impact the viability of farm enterprises. The economic impact of PPC10 is outlined within the evidence presented by Lee Matheson; Dr Nicola Smith, and Professor Graeme Doole.

146 The Crown has also been involved in the process of setting targets for reduction and providing public money to ensure that the required reductions are met. Staff are unaware of the Crown's settlement negotiation basis in reaching the particular settlement agreement it did on the Central North Island forests. It is assumed due diligence processes would have identified any restrictions on land use that would influence value.

Council staff recommendation

147 The request to provide flexibility in the use of underutilised Māori owned land, or provide a higher nitrogen allocation to forestry has been carefully

[28] See evidence of Stephen Lamb as to that process.

considered by Council staff. It is considered that reallocating nitrogen would undermine the integrated framework, which was developed through a collaborative process with the community.

148 The level of economic and subsequent social effects would increase and potentially result in additional properties/farming enterprises not being able to meet their Nitrogen Discharge Allowances without substantial investment (i.e. feedpads) leading to increased debt levels and loss of profits.

149 It is considered that the Māori owned land is not disadvantaged by Plan Change 10, and has the ability to increase nitrogen losses where current losses sit below the lower range of the dairy or drystock, or where the nitrogen allocation is traded.

150 Based on this it is recommended that submissions requesting increased flexibility in land use or reallocation of nitrogen are declined by the Hearing Panel.

5.3.11 **Proposed New Rule Framework**

Submission Points:	53-45, 53-46, 53-47, 53-48, 53-49, 53-50, 53-51, 53-52, 53-53, 53-54, 53-55, 53-56, 66-84, 66-85, 66-86, 66-87, 66-88, 66-89, 66-90, 66-91, 75-177, 75-175, 75-178, 75-179, 75-180, 75-181, 75-182, 75-183, 75-184, 75-185, 75-186, 75-187, 75-188

151 Submitters 75, 66, and 53 have submitted in opposition to the rule framework. Each have provided new Rules to replace those notified as part of PC10. The reasons submitters gave for this approach are on the basis that the rules should provide more clarity and consistency with the RPS and RWLP. Additional text has been requested by Submitter 75 in the preamble to the rules aligning with these reasons. As PC10 forms part of the RWLP and is required by the Act to uphold the RPS such repetition is not required. The suggested rule framework is summarised as follows:

- Rule 1 and 2: Both rules are permitted and are similar to rules 3 and 4 of PPC10. It is considered that the intent of the two rules is already provided for by PPC10, therefore no changes are considered to be required.
- Rule 3: This permitted rule related to enterprises with a land area greater than 10ha or do not comply with Rules 1 or 2. Lots less than 40ha are required to establish a nutrient benchmark, and lots over 40ha are either required to continue to comply with an existing benchmark or obtain one from Council.
- Rule 4: A controlled rule covering activities that do not comply with Rule 3 and require the level of non-compliance to be offset by actions carried out on land within the same catchment. (Note: The controlled activities suggested should include measurable outcomes and have clear directive criteria to ensure compliance is easy to ascertain. The criteria suggested here are too broad to be included as a controlled activity).
- Rule 5 – a restricted discretionary activity for activities not complying with Rule 4. The discretion is restricted to the same level of controls given to a controlled activity.

152 Submissions 66 and 53 have included additional rules to the above with actions being triggered by the TLI of Lake Rotorua as follows:

- Rule 6: A rule where farming activity on sites greater that 10ha are permitted if the TLI of Lake Rotorua is at or below the TLI of 4.2, or in the case of Submitter 53 the sub-catchment plan action group has an established nutrient reduction plan, and the property complies with the allocated benchmark.
- Rule 7: A controlled activity if Rule 6 is not complied with. (Note: The controlled activities suggested should include measurable outcomes and have clear directive criteria to ensure compliance is easy to ascertain. The criteria suggested are too broad to be included as a controlled activity).
- Rule 8: a restricted discretionary activity if Rule 7 is not complied with.

153 The above suggested rules are not supported for a number of reasons. These rules rely on the existing approach taken by Rule 11 of the regional plan and do not require a reduction in nitrogen losses from each property/farming enterprise due the removal of the NDA, sector averaging, ranges and

reference files. As outlined previously Rule 11 only capped nitrogen losses and has no requirement for reduction to ensure the sustainable target of 435t/N/yr is met. The suggested rules will result in the definition of effective area being removed from the plan, resulting in all activity within a property/farming enterprise being regulated under PC10.

154 This approach does not align with the intent of the RPS to only manage losses from rural production activities, a number of farming enterprises contain activities that are not related to rural production such as housing and ancillary sheds. No NMPs are required within the suggested rules, this preventing the ability to Council to collect information on progress, monitor and enforce any benchmark allocated to each enterprise. The approach taken also requires the rules and targets to be established at a sub-catchment level. This is not supported for a number of reasons as outlined in previous sections of this report. The additional rules proposed by Submitter 66 and 53 relate to the 4.2 TLI of Lake Rotorua rather than the sustainable nitrogen load as required by the RPS. It is also a very uncertain tool to determine the activity status of rules, given the fluctuations in the TLI to date, which is impacted by climatic conditions and the artificial introduction of level changes (such as manipulations via alum dosing).

Council staff recommendation

155 For the reasons outlined above the new rule framework suggested by submitters 66, 75, and 53 are not supported and submissions points relating to this new framework are recommended to be declined.

5.3.12 Impacts on Population Growth and the operation of the Rotorua WWTP

Submission Points:	26-4, FS2-1, FS4-1, 26-15, FS2-3, FS4-3, 26-5, FS2-2, FS4-2, FS8-62, FS12-5, 26-6, 26-18, FS2-4, FS3-1, FS4-4, FS8-63, FS12-6, 26-36, 26-40

156 The Rotorua Lakes Council (RLC) has placed a submission identifying the need for the plan change to provide for future growth within the District and to acknowledge the impacts that development has on the nitrogen load discharged from the WWTP.

157 Council staff have considered the concern raised by the submitter and acknowledges that Plan Change 10 may result in potential greater demand for rural subdivision within the catchment. Council also notes the flow on effect that will have on the District's Infrastructure such as the Wastewater Treatment Plant if such lots are reticulated. These matters are responded to separately below.

Consented Nitrogen discharge from the WWTP.

158 The District Council considers that Plan Change 10 locks in the discharge limit of 30t/N/yr currently consented for the WWTP. This consent expires in 2018. The WWTP is currently undergoing an upgrade to ensure that treatment levels are increased, helping to reduce nitrogen.

159 Despite this, based on future population growth expectations, and subsequent increase in loads to the plant, the District Council have informed the Regional Council of the need to increase the level of nitrogen discharge into Lake Rotorua.

160 The WTTP currently services the core urban area of the catchment. Recent extensions to Council reticulation have also seen the Hamurana settlement been connected to the Wastewater supply.

161 Plan Change 10 only relates to farming activities within the Lake Rotorua groundwater catchment, causing many of the areas serviced by the WWTP to not be impacted by Plan Change 10.

162 The manner in which the WWTP services the nitrogen losses from these activities and the subsequent load required to be discharged to the Lake is beyond the scope of this plan change process. However, the impacts on the WWTP operations resulting from land use change within the area impacted PC10 should be considered as part of this process.

163 It is acknowledged that an increase in household connections to wastewater reticulation resulting from land use change will benefit the Lake and the wider Te Arawa Lakes Programme. Such land use change will reduce losses from septic tanks and farming activity. It is noted that the load treated by the WWTP would also increase, causing the 30t/N restriction to potentially be exceeded in the future.

164 The sustainable load of 435t/N/yr provides for 375t/N to be discharged to the Lake by way of streams and groundwater, 30t/N from rain, and 30t/N from the WWTP. Reducing losses from pastoral activity and moving the level of losses from one sector to another (rural (256t/N) to urban (42t/N) would not result in

the overarching target of 435t/N being breached, and will only change the allocation for each sector under the 435t/N limit.

165 The shift between losses from the urban and rural sector, and the additional load treated at the WWTP, depends on the amount of nitrogen required to be allocated to new residential development. This information can also be used to inform the future capacity of the WWTP and the conditions of resource consent.

Nitrogen allocation to subdivided lots

166 The Regional Council has been in discussion with Rotorua Lakes Council about agreeing a methodology for how nitrogen loss from subdivision should be accounted for. An important element of this is how to recognise or account for the transfer of nitrogen loss/discharge from the rural to the urban environment as a result of reticulation. Any sewage that is reticulated adds to the load managed by the WWTP under the conditions of its discharge consent. The WWTP process removes a significant amount of the nitrogen from sewage prior to discharge and is an important element of maintaining and enhancing the Lake's water quality. The table below is indicative only of the discussion at the time of drafting this Report.

167 The methodology for subdivision is that at the point of subdivision a portion of the parent NDA will need to be allocated to each new lot. This will need to be sufficient to provide for nitrogen losses generated by activities carried out onsite and residential losses. An overview of the losses from each residential lot created from a farming enterprise is provided below in Table 6. As noted above this table is yet to be finalised.

	No grazing allowed	Potential for grazing
Non - reticulated lots (septic tanks)	13.5 kg per potential house + 6 kgN x lot area + total loss from any restricted non-pastoral land use + 1 kgN (cultivated gardens)	13.5 kg per potential house + 71% drystock reference file on potential pastoral area + total loss from any restricted non-pastoral land use
Non - reticulated lots (advanced OSET system that discharges 15mg/l N or less)	3 kg per potential house + 6 kgN x lot area + total loss from any restricted non-pastoral land use + 1 kgN (cultivated gardens)	3 kg per potential house + 71% drystock reference file on potential pastoral area + total loss from any restricted non-pastoral land use

Reticulated lots	***1.4 kg per potential house*** + 6 kgN x lot area + total loss from any restricted non-pastoral land use + 1 kgN (cultivated gardens)	***1.4 kg per potential house*** + 71% drystock reference file on potential pastoral area + total loss from any restricted non-pastoral land use

Table 6 Minimum nitrogen allocations per new residential lot (Draft)

168 Ensuring each lot is allocated the minimum nitrogen specified within Table 6 and the parent NDA is sufficient to provide for the losses created by the subdivision as a whole, will prevent an unforeseen increase in nitrogen losses to Lake Rotorua. This will also uphold the intent of PC10 to achieve the 435t/N limit as required by the Operative RPS.

169 Where the lots will be connected to reticulation, monitoring the additional level of losses treated at the WTTP based on the losses generated per house, (Table 6) will identify the future load to be treated by the WWTP, and the shift in losses between the rural and urban sector.

170 Whilst this plan change process cannot influence the decision made on the future resource consent received for the WWTP, the shift in losses between the rural to urban sector potentially initiated by PPC10 will be considered and inform the final decision issued by the Regional Council.

<u>PC10 impacts on residential development and economic growth</u>

171 The District Council considers that aligning subdivision with the losses provided for by the parent NDA will restrict growth within the catchment.

172 The western side of the Lake Rotorua catchment consist of a number of reticulated rural lots zoned Rural 2 and under 5 hectares in size. These sized lots are not impacted by PPC10, preventing future subdivision from being restricted by PPC10. Rural areas outside of the Rural 2 zone are zoned as Rural 1 by the Operative District Plan. This zone provides for limited residential development in the form of lifestyle lots, which the parent NDA should be sufficient to provide for.

173 The urban environment of the Lake Rotorua catchment (extending out to the east) consists of urban activity that either backs on to, or adjoins rural land (most of which is zoned as Rural 1 under the Operative District Plan). As noted above the Rural 1 provides for limited residential development in the form of lifestyle blocks which the parent NDA should be able to provide for.

174 The perceived restriction on development could only occur with high density development on pastoral land that existing during the 2001-2004 period and is now rezoned as residential or Rural 2 within the Operative District Plan.

175 A number of rural lots within the eastern area of the catchment were rezoned as part of the District Plan Review, or went through a plan change prior to the review, to provide for more intensive residential development. In many cases these exceed 5ha in size and have been benchmarked under Rule 11.

176 Based on this benchmark a provisional NDA and Nitrogen Management Plan under PPC10 will be required for these sites. The nitrogen management plan reflects the current and future land uses onsite and provides an assessment of nitrogen losses created to ensure this upholds the parent NDA. As part of thi process land owners are advised that nitrogen losses from future land uses (including subdivision) are required to uphold to their NDA to ensure the overall sustainable catchment load of 435t/N is achieved.

177 In cases where the parent NDA is insufficient to support the density requested additional nitrogen will either need to be purchased or the District Council can resolve how this increase in Nitrogen will be offset to ensure the overall target of 435t/N/yr is upheld. However, an initial assessment completed by Alastair MacCormick identified that based on the current minimum lots sizes provide for within each zone of the Operative District Plan in the majority of cases subdivision would continue to be achieved without exceeding the lots nitrogen allocation. It should be noted that the assessment did not take into account any restrictions on subdivision that may exist due to infrastructure capacity, topography or designations.

178 Depending on the NDA issued to the enterprise this approach may influence the number of lots created or inform the land owner's decision to undertake trading from 2022, or enter into agreements under the Lake Rotorua Incentives Scheme. It should be noted that the urban and eastern areas of the catchment are reticulated with many of the rezoned lots have access to this reticulation. This significantly reduces the level of nitrogen losses from residential activity, providing for higher levels of subdivision within the parameters of the parent NDA. Given this, and the trading option available to land owners it is considered that Plan Change 10 does not prevent appropriate land use change from occurring within the Lake Rotorua Catchment.

179 It is noted in the future zone changes may occur causing more intensive development further beyond the current urban limits. This will need to go through a Schedule 1 process at which time assessment of nitrogen requirements can be completed.

Council staff recommendation

180 The renewal of the resource consent for the WWTP will need to be submitted to the Regional Council under the Regional Plan. This is a discharge rule and does not form part of PPC10. The ability to increase the consented load through this plan change process is not able to occur, and is out of scope.

181 It is noted that the District Council requests for additional policies to ensure population growth is not restrained by PPC10.

182 A policy directly relating to the capacity and operation of the WWTP is not considered appropriate and sits outside the scope of PPC10. It is considered that a policy and method that acknowledges the shift in these losses between the rural and urban sectors as a result of land use change within the rural zone in response to PPC10 is considered appropriate. Advice within Schedule LR1 has been included outlining how nitrogen will be allocated from a parent Nitrogen Discharge Allowance to new lots.

It is recommended that the submissions points received by the Rotorua Lakes Council are accepted in part and two new policies are included in PPC10 as below:

LRP18 Acknowledge the 435t/N/yr sustainable load for Lake Rotorua provides for nitrogen losses from all sectors located within the Lake Rotorua Groundwater Catchment and provide for the shift of losses between these sectors to reflect land use change resulting from urban growth.

LRP19 Acknowledge the increased demand on infrastructure located within the Lake Rotorua Groundwater Catchment resulting from future potential land use change.

It is recommended to include the provision of information for resources consents as part of Method 1. Add a new section (c) to Method 1 as follows:

(c) identifies the minimum nitrogen losses required to be allocated to each new lot with this providing for:

- *Residual loss from land.*
- *Losses from sewage disposal (either reticulated or onsite).*
- *Losses from general residential use.*

5.3.13 **Economic impacts of Plan Change 10**

Submission Points:	75-13, 74-4, 7-4, 75-13, 78-9, 66-4, 81-7

183 A number of submissions were received in opposition to PPC10 and the proposed nitrogen allocation methodology due to the economic impacts at a farm, catchment, district and regional scale. Many submissions have challenged the economic analysis within the section 32 report and the outcomes of research completed for PPC10.

184 The decision to reduce nitrogen to the lake was made as part of the Regional Policy Statement (RPS), and the benefits were also assessed as part of the RPS process. The community was invited to make submissions on the limit at that time. In the Regional Water and Land Plan Change, the decision required was how to achieve the reduction stated in the RPS, which included by way of rules. The 2013 Farmer Solutions Project was based on a 'Rules Only' solution for reducing the annual nitrogen load to the lake, and extrapolated losses across the catchment. Under the scenarios depicted in that study, farmers were modelled as having to reduce 280 tonnes of nitrogen, which meant that every farm had a high level of reduction required.

185 The Integrated Framework was later developed, and includes the Incentives Scheme of $40m to buy nitrogen allocation, plus commitments from the Council for a further 50 tonnes of reduction through engineering solutions. These are the community contributions to increasing lake water quality and offset the economic impact of the rules.

186 Subsequent studies that have evaluated the Integrated Framework policy option include Parsons, Doole and Romera; Market Economics Limited; and case study/representative farm studies by Perrin Ag. These studies show that impacts will be different for different farms, with some farms able to achieve the necessary nitrogen reductions without losses in farm profit.

187 No economic research has concluded that the rule framework will have a devastating effect across the farmer sector. The results of economic studies for the Rule Framework are consistent in showing mixed impacts on the profitability of farming in the Lake Rotorua catchment. Work by the Council to establish Nutrient Management Plans has shown that some farmers currently have a higher nitrogen allowance than they will need to meet the reduction required by 2032, others already meet the 2032 levels, and some farms will have to undertake management changes, and in some cases land use change, to achieve the 2032 target. These results align with the economic research completed to identify impacts of the Plan Change at a farm level.

188 As outlined in the evidence provided by Dr Smith from Market Economics the economic impact of the sector ranges allocation methodology within for PPC10 proved to have the least economic impact followed by the single sector target. Scenarios such as Natural Capital proved to be the least favourable. This is supported by the evidence provided by Professor Graeme Doole which highlights that such allocation approaches would result in an increased reduction of dairy farm profits.

189 As outlined in the evidence provided by Stephen Lamb the allocation methodology was selected through a robust engagement process and informed by the principles of Policy WL5B of the RPS. For these reasons

Council staff continue to support the approach taken with nitrogen allocation by PPC10.

190 The research provided from Market Economics and as highlighted within the evidence provided by Dr Smith identified that the majority of economic impacts would be felt outside of the Rotorua Catchment as a result of supply-chain networks.

191 Further information on the economic impacts of PPC10 is available within the evidence provided by Dr Smith, Professor Doole and Lee Matheson. An overview analysis of the economic impacts of PPC10, informed by the research is provided by Sandra Barns, who also completed the Section 32 analysis for PPC10.

Council staff recommendation

192 The overall conclusion on the economic impacts of PPC10 identified that the approach taken by PPC10 was the most efficient and effective option available (Section 9.2.1 and Appendices 5-7 of the section 32 report) that ensured the sustainable load was achieved within the timeframes, as required by the RPS. Having carefully considered the submissions, Council staff continue to endorse the research completed, the conclusions outlined within the section 32 Report, and the approach taken by PPC10 with this being shown to be the least economically disruptive.

193 Based on these reasons and the evidence provided by Sandra Barns, Dr Nicola Smith, Lee Matheson and Professor Graeme Doole it is recommended that the Hearing Panel decline submissions received opposing the economic research that helped to inform the development of Proposed Plan Change 10.

5.3.14 Responses to Individual submissions

194 A number of submissions were received relating to specific Policies, Methods, Rules and Appendices of PPC10. Due to their specific nature these are not addressed by the key issues listed under Section 4.4 of this report which dealt with the overarching direction of PPC10.

195 A specific response has been provided to each submission point and further submission as shown in Appendix 1 of this report. In cases this has resulted in amendments to the text of PPC10 this change is shown within the track change version of PPC10 (Appendix 2).

196 The main issues raised outside of the key issues listed in Section 4.4 are outlined below.

Clarification of intent

197 A number of submitters have requested additional text to clarify the intent of the policy or rule or how the plan change will be implemented. Amendments made in response to this submission points have been relatively minor and have not detracted from the intent of PPC10.

198 The amendments are intended to ensure accurately interpretation and implementation of the plan change.

Revision of policies

199 Submissions highlighted that many of the policies were written to read like Rules and that a number of policies provided no additional value than the Rule Framework.

200 In response to these submissions the amendments have been made to the policy framework and four policies have been rewritten to provide clarification on the intent and direction of PPC10.

201 These changes have not deviated from the initial intent of PPC10 as notified and will contribute to the assessment of any resource consent application.

Amendments to Rule LRR7

202 Since notification of PPC10 new versions of OVERSEER® have been released, resulting in changes to the reference files. Submissions also highlighted significant gaps in rule LRR7 that would undermine the intent of PPC10, and reduce the ability to achieve the required 140t/N reduction from the Lake Rotorua catchment. Amendments have been recommended to ensure the intent of PPC10 is upheld.

Addition of definitions

203 A number of submitters raised concern on the lack of definitions for key terms used throughout the plan change. In cases where these additional definitions would not contribute to the implementation of the plan they have not been accepted by Council staff.

204 However a number of new definitions are recommended to be included. These definitions include:

- *Commercial cropping: The intensive cultivation of forage crops, fodder crops, maize for the intent of sale to the general public.*
- *Commercial dairying: An intensive dairy farming system characterised by high inputs of capital, labour and technology relative to land area. Intensive production will result in losses per hectare that exceed the permitted level of nitrogen losses.*
- *Commercial Horticulture – The intensive production of vegetable, fruit or nut crops for the purpose of resale to the general public or wholesale business. These are characterised by high inputs of capital, labour and technology (including machinery) relative to land area. Commercial Horticulture does not include any vegetable, fruit or nut crops that form an integral part of a household garden.*
- *Household garden: An area containing contains a high diversity of plants including vegetables, fruits, plantation crops, spices, herbs, ornamental and medicinal plants. Household gardens are located within close proximity to the household or within walking distance and generally have low labour requirements with the main source of labour being from occupants of the house. Any production is supplemental rather than a main source of family consumption and income.*
- *Rule Implementation Plan: A non-statutory document that provides advice on how the Lake Rotorua Nutrient Management rules are intended to be implemented and enforced. Such documents are usually developed where a regulatory plan has technical components and background information that is not able to be included within a regulatory document.*
- *Significant Farm System Change: A change in farm practice that alters the inputs, methods or areas being used in the management of the property/farming enterprise where the scale of change means that the Nutrient Management Plan is no longer a realistic representation of the farm system or the predicted discharge exceeds that in the Nutrient Management Plan.*
- *Start Points: The Nitrogen loss benchmark or derived benchmark for a property/farming enterprise as a sum of all block nitrogen loss benchmarks/derived benchmarks developed in accordance with Schedule LR One.*
- *Low Intensity Farming: Farming activities that generate less than 71% of the nitrogen loss rate generated by the drystock reference file as prescribed in Schedule LR5.*

Consultation completed for Plan Change 10

Submission Points:	49-7, FS14-5, 55-2, 66-18, 84-1, 84-2, 15-7, FS17-6, 73-1, FS6-6, 74-1, FS6-8

205 A number of submission points have raised concerns with the consultation undertaken for PPC10 prior to notification with the view that this did not adequately target all sectors in particular forestry, and deer farmers.

206 Council staff have reviewed the engagement process and conclude that the sufficient engagement was undertaken to meet the requirements of the LGA and RMA. A brief overview of the engagement undertaken prior to notification of PPC10 is provided within the evidence provided by Stephen Lamb and in more detail in the section 32 report.

207 To ensure the consultation requirements of the LGA and RMA are met Council must identify an objective, options and community views to inform the development of any plan, policy or variation. In the case of PPC10 the objective was set within the RPS, which was notified under Schedule 1 of the RMA on 09 November 2010. The RPS set the nitrogen limit for Lake Rotorua and indicated that the allocation of the limit and its enforcement was required to be completed by way of rules within the regional plan. Prior to this objective being set within the RPS engagement was undertaken with the community with the feedback received feed into the RPS policy direction.

208 In 2012 StAG was established with the key role to oversee and provide advice on the development of the rules for Lake Rotorua. Any minutes, research or reports completed as part of StAG operations were made available to the public to review with these published on a website dedicated to the Rotorua Lakes (www.rotorualakes.co.nz).

209 The integrated framework was presented to StAG by the Collective in 2013. This was endorsed by StAG and adopted by the Regional Council. From here through discussions held with StAG the rule framework was developed. Draft rules were released to the wider community in June 2014 and again in October 2015. All feedback was individually responded to, collated and used to inform changes to the draft rules.

210 The Plan Change has been developed and notified based on the feedback undertaken to date. The schedule 1 process provides further ability for any land owners, or interested parties to place a formal submission on PPC10 and present their views/relief sought to the hearing panel.

Council staff recommendation

211 The above sections only provide an overview of the issues raised within the 92 submissions and 20 further submissions received on Proposed Plan Change 10. Further detail on the issues raised from individual submissions is included within Appendix 3 along with a detailed response from Council staff.

212 It is recommended that the Hearing Panel review and consider the issues raised within Appendix 3 and accept the recommended response from Council staff.

Part 6: Recommendation

That the Hearing Committee:

1 Receives the report: *Section 42A Report, Proposed Plan Change 10: Lake Rotorua Nutrient Management* containing:

   a. Strikethrough version of Proposed Plan Change 10: Lake Rotorua Nutrient Management

   b. Staff Recommendations on Submissions and Further Submissions.

2 Hears submitters and makes decisions in accordance with Schedule 1 to the Resource Management Act 1991 on all submissions and further submissions received to Proposed Plan Change 10: Lake Rotorua Nutrient Management

3 Recommends its decisions in (2) above to the Regional Direction and Delivery Committee of the Bay of Plenty Regional Council for approval.

Appendices

Appendix 1 – DRAFT Compliance Platform

Draft Compliance Policy under the Proposed Lake Rotorua Nutrient Management Rules

BAY OF PLENTY REGIONAL COUNCIL TOI MOANA

Introduction

Monitoring and assessing compliance is challenging when implementing nutrient management rules. The rules are primarily land use rules (under section 9 of the Resource Management Act) and compliance monitoring will be undertaken on this basis.

The objective of this Compliance Policy is to ensure that the catchment and property based targets for nitrogen discharge are met and maintained, and that phosphorus discharges are managed. See also Policy LR P8.

To achieve this, the Nutrient[29] Management Plans (and their content of committed actions) that are required by resource consent are the primary point of compliance. The OVERSEER® files that are required to be submitted as a condition of consent will also be monitored to identify any deviation away from the Nutrient Management Plans, including where a planned action has unintended outcomes in terms of nutrient losses.

Implementation of the Proposed Rules has the following compliance platform:

Reference to Proposed Rules	Comment
LR R1 to LR R7	Permitted Activities have conditions that must be met to qualify as a permitted activity. Failure to meet the permitted activity conditions defaults to other rules that may require consent.
LR R8, LR R9, LR R10 and LR R11 – conditions and matters of control	Conditions may be imposed requiring implementation of Nutrient Management Plans (NMP). These rules also set requirements for NMP content – and for when NMP may need to be reviewed.
Definitions	Definitions of key terms are included, such as Managed Reduction Targets and nitrogen discharge allocations[30].
Schedule 6 – content of nutrient management plan.	Schedule LR Six includes a statement on Nutrient Management Plans being the primary point of monitoring and if necessary compliance[31]. This Schedule also contains statements articulating the requirement for mitigation actions, described land uses and OVERSEER® input parameters to be included in the Nutrient Management Plan to show how the managed reduction pathway will be delivered. Mitigation actions, described land uses and OVERSEER® input parameters will be the key compliance elements.

[29] Subject to acceptance of staff recommendation – “nitrogen” to “nutrient”.
[30] Subject to acceptance of staff recommendation – “allowance” to “allocation”.
[31] Subject to acceptance of staff recommendation – insertion of new paragraph.

Nutrient Management Plan Content

The NMP will contain mitigation actions, described land uses and OVERSEER® input parameters (known as committed actions) to show how managed reduction will meet the Managed Reduction Targets and Nitrogen Discharge Allocation. These will be in 5-year blocks. The degree of specificity will be such that:

1. The first 5-year block has clear actions modelled to deliver the required result

2. The second and third 5-year blocks have less specificity (recognising that future planning is less certain) but must demonstrate as a modelled probability the achievement of the Nutrient Discharge Allocation.

Examples of actions include specified stock numbers, change in land use or effective area, and reduced input levels (such as fertiliser). These actions, defined by the OVERSEER® file input data, will form the basis of what will be monitored for compliance.

The content of NMPs can be reviewed and amended if required. Consent conditions should be worded to enable this to occur without a s127 change to consent conditions (provided there is no change to the quantitative nitrogen limits specified in the consent). Compliance with an approved NMP will be a condition of consent.

Nitrogen Management Plan as the primary point of compliance

For activities requiring resource consent the Nitrogen Management Plan (and its content) is the primary point of compliance. The combination of actions including mitigation actions, described land uses and OVERSEER® input parameters will provide the framework for assessing compliance.

The NMP is built on the basis of an OVERSEER® budget and OVERSEER®-derived nitrogen limits, however more importantly it contains a set of defined actions to be implemented over a five-year period. These actions will include the areas for different land uses (for example, dairy pasture, crop and trees), stocking rate and stock type, fertiliser use, effluent practice and imported feed. The OVERSEER® input parameters and predictive file that accompany NMPs will be used to provide a point of comparison.

A number of these 'inputs' can be monitored by both the landowner and checked by Council compliance staff for example during site visits, assessments of documentation (for example, stock sales/purchases, fertiliser receipts) or using GIS information.

Actions that are less intensive or of lower scale than the NMP parameters in terms of nitrogen discharge – such as a lower stock number then the maximum modelled - would not be considered as compliance issues.

Each NMP must also include an assessment of phosphorus and sediment loss risks and how they will be managed, particularly through the implementation of industry good practice management.

OVERSEER® monitoring

While the NMP is the primary point of compliance, Council will monitor OVERSEER® performance files[32] submitted as required by resource consents[33] to identify any deviation away from the committed actions within a NMP.

[32] Generally for the preceding 12 month period.
[33] The timeframes for returns will depend on resource consent conditions. Timeframes may be amended in response to risks of non-compliance or non-compliance events.

Where a committed action deviates from an NMP leading to an increase in nitrogen discharge the scale of compliance action will be determined by the degree to which the discharge exceeds the NDA.

If the OVERSEER® output results indicate a higher level of nitrogen loss than limited in the consent – but the NMP is being adhered to – then the conditions of the resource consent are being complied with. Council would discuss this with the consent holder to ensure there is an awareness of any trends that will need to be addressed at the next NMP review – notably if additional mitigation effort may be required in any subsequent NMP

Compliance assessment

Compliance assessments will be based around three questions:

- Has the required information been provided?
- Have the mitigation actions, described land uses and OVERSEER® input parameters (collectively the committed actions) in the NMP been actioned?
- Are the OVERSEER® output results in line with the NMP?

Staff will assess the degree of non-compliance on a case-by-case basis. It is not appropriate to define fixed % thresholds for 'minor' and 'significant' deviation from nitrogen limits. If the deviation from the required target is considered to be minor there may be a requirement for a refresh of the NMP to be undertaken. Significant deviation may lead to enforcement action.

Non-compliance may result in enforcement action. Incidents of non-compliance may lead to more intensive monitoring and requirements to provide a greater level of information (such as invoices).

Permitted Activity Monitoring

Periodically Council will survey permitted activities to ensure compliance with rule conditions. This may be on a locality basis or on an activity basis.

Monitoring of permitted activities under LR R7 will occur through analysis of OVERSEER® files submitted as required under LR R7.

Council also has a complaints process and monitoring can indicate where actions may be required. Individual complaints are investigated however monitoring may indicate a need for a more systematic approach.

Compliance with requirements to obtain a resource consent

In instances where there is a question over whether a resource consent is required the following will occur:

- Visit site/gather information – determine whether activity is or is not complying with permitted activity rule requirements.
- If a failure to meet conditions of permitted activity is ascertained then either
    - require resource consent application to be made, or
    - require action to be taken so that activity meets permitted activity requirements.
- Further action may be contemplated if no action is forthcoming.

The Proposed Rules have clear parameters in terms of property size, effective area and timeframes/dates that establish what consents are required (that is, when activities are not permitted).

The key permitted activity requirements are that properties must:

- Be plantation forestry or bush/scrub; or
- Meet the parameters of the stocking rate table (Schedule 2) and not have certain activities occurring; or
- Have a lower nitrogen loss than the lower boundary of the drystock range if a larger property (proved by submitting OVERSEER® files).

The size of the property is also an important determining factor (for example, properties under 5 ha in size).

Resourcing

The nature of the rules and functional relationships in the Lake Rotorua Groundwater Catchment will mean that monitoring/compliance activity will occur across a number of functions:

Land Management Officers: Discussions with landowners in preparing Nitrogen Management Plans, around annual results if these do not match anticipated results, regular contact around progress, assistance/information if necessary.

Lakes Restoration Officers: monitoring of annual results, quality assurance of data, management of Nutrient Management Database System, reporting on anomalies.

Pollution Prevention: Strategic compliance monitoring/advice, enforcement activities if required.

This will require consideration when Council sets its Resource Management Charges under s36 of the RMA and will also be reflected in Annual/Long Term Planning processes.

Council will also consider resource requirements for permitted activity monitoring through its annual/long term planning processes.

Appendix 2 –Recommendations on Proposed Plan Change 10; Lake Rotorua Nutrient Management

Appendix 2(a) Proposed Plan Change 10; Lake Rotorua Nutrient Management – Strike Through

Appendix 2(b) Proposed Plan Change 10; Lake Rotorua Nutrient Management – Clean Version

Appendix 3 – Individual submission responses (Planning Management Database Report)