IN THE MATTER OF The Resource Management Act 1991

AND

IN THE MATTER OF Lake Rotorua Nutrient Management – **PROPOSED PLAN CHANGE 10** to the Bay of Plenty Regional Water and Land Plan

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REBUTTAL EVIDENCE OF REBECCA BURTON

ON BEHALF OF THE BAY OF PLENTY REGIONAL COUNCIL

Evidence topic: Response to planning evidence submitted on Plan Change 10: Lake Rotorua Nutrient Management

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Qualifications and Experience

1. My full name is Rebecca Burton. My qualifications, experience and commitment to the Environment Court's Code of Conduct for Expert Witnesses (including the Environment Court Practice Note 2014) are as set out in paragraphs 6 to9 of the Section 42A report dated 20 January 2017.

Scope of Evidence

1. Since preparing my evidence in chief I have reviewed the expert evidence in so far as they relate to planning matters from:
    a. Christopher Adrian Hansen on behalf of Ravensdown Limited
    b. Bethany Bennie on behalf of the Fertiliser Association of New Zealand
    c. Evidence of James Britton Fuller on behalf of Rotorua Lakes Council
    d. Evidence of Grant Robert Eccles on behalf of Rotorua Lakes Council
    e. Evidence of Phillip Mark Osbourne on behalf of Rotorua Lakes Council
    f. Evidence of Simon Douglas Banks on behalf of Rotorua Lakes Council
2. I do not intend to repeat matters recorded in the evidence submitted by the above parties in my rebuttal evidence, but I do wish to briefly expand and comment on key matters raised, including:

Evidence submitted on behalf of the Fertiliser Association of New Zealand & Ravensdown Limited

a. Control of inputs versus outputs
b. References to good management practises (GMP)
c. Reference to Schedule 1 and 7 within policies
d. The consent pathway of plan change 10
e. Definitions of Nutrient Budget and Suitably experienced and qualified person
f. Revised Policy LRP6 and LRP11
g. Interpretation of Rule LRR2 and LRR7

Evidence submitted on behalf of Rotorua Lakes Council

h. Reticulation of Lake Tarawera Settlement
i. Integrated planning
    i. Population and Economic Projections
    ii. Infrastructure capacity
    iii. Restriction of WWTP discharge by PC10
j. Transfer of Nitrogen between the rural and urban sectors
    i. Implementation of the Transfer of Nitrogen between the Rural and Urban sectors
k. Activity status of the WWTP resource consent
l. Natural capital
m. PC10- Waikato Regional Plan

3. I should note that I do not intend to respond to every point raised in the evidence, rather I have focused more directly on what I consider to be the most relevant issues. Where I have not responded on other issues, that does not mean that I necessarily agree with evidence on those issues.

Response to Evidence submitted on behalf of the Fertiliser Association of New Zealand & Ravensdown Limited

Control of inputs versus outputs

4. Paragraphs 25-35 of Mr Hansen's evidence and paragraphs 41, 44 and 45 by Ms Bennies evidence refers to Plan Change 10 having a focus on nitrogen losses from farming activities, rather than inputs.
5. I agree with these statements and note that this is highlighted within Councils section 42A report. To ensure consistency with the proposed changes made to the rules introduction and the rules themselves it is agreed that changes need to be made to rules LRR1, LRR4, LRR5 and LRR6.
6. Both evidence statements suggest revisions to these rules. The suggested revisions in paragraph 33 of Mr Hansen evidence statement are not supported. These changes reduce the ability to ascertain what may generate an increase in nitrogen losses. An increase in stocking rates or intensification of farming activity within an effective area has the ability to increase nitrogen losses, not just the expansion of an effective area.

7. The changes suggested by Ms Bennie in paragraph 45 and Appendix C are supported with these coming to identify the key activities that may result in an increase in nitrogen loss, this helping to provide certainty to plan users. These changes continue to provide certainty, and avoid compliance being based on a number, as the case with Rule 11.
8. These changes align with the intent of PC10 to manage losses from farm activities primarily through land use rules (although coupled with a discharge rule), removed uncertainty by removing the term 'may' and clarifies the relationship between inputs (such as those related to actions in an NMP) and outputs.

References to good management practises (GMP)

9. Paragraphs 62 to 65 of Mr Hansen's evidence refer to the need for Plan Change 10 to include reference to GMP's.
10. In response to paragraph 63 I would like to note an error in the section 42A report. It was intended to refer to Policy LRP2 not LRP3 as already providing for good management practices.
11. I have reviewed the amendments suggested in Annexure 3 of Mr Hansen's evidence. In regard to policy LRP4 the intent is to highlight how PC10 intends to be flexible and take into account new science and OVERSEER versions. This does not align with the requested amendment to include GMP's.
12. Direction on what actions are to be included within NMP's is provided in Schedule LR6. Policy 8 outlines this intent and therefore the changes suggested by Mr Hansen are supported with this upholding the initial intent of the policy.
13. With a potential increase in reference to GMPs within PC10 (Schedule LR6, Policy 2, Policy 8) there may be a need to provide a definition of GMP's as a consequential amendment. The below is taken from the 2012 LAWF 3rd report and is what is used within the Hawkes Bay Regional Council Plan change:
    a. *GMP refers to the evolving suite of tools or practical measures that could be put in place at a land user, sector and industry level to assist in achieving community agreed outcomes (in this case for water quality).*
14. It is recommended that this definition or words to the similar effect be included within Plan Change 10 to assist implementation.

Reference to Schedule 1 and 7

15. Paragraphs 71 to 72 of Mr Hansen's evidence requests that reference to schedule LR1 and LR7 are made within policies LRP5 or LRP7.
16. I note that each rule that requires an NDA to be calculated or an NMP all refer to the relevant schedule. Whilst I continue to believe that sufficient direction is provided in the rules I am neutral about the changes to LRP5 and LRP7 as suggested.

Consent Pathway and Non Complying Activities

17. Paragraph 80 of Mr Hansen's evidence and Paragraph 65 of the evidence submitted by Ms Bennie highlights that a non-compliance with Rule LRR1(a) defaults to a non-complying activity status, with this considered to be onerous.
18. In response to the comments made on LRR1(a) I refer to Councils legal opening statement presented by Sharron Wooler, who has outlined the consent pathway for Rule LRR1 as determined by the Resource Management Act 1991. Rule LRR1 upholds the intent of Rule

11, and ensure no further noncompliance occurs prior to other activities within PC10 becoming operative. This also avoids further increases in diffuse nitrogen sources, and help to avoid any significant reductions from applicants (hence reduce economic and social impacts) to be compliant with their start point, and first managed reduction target.

19. Paragraph 81 of Mr Hansen's evidence and Paragraphs 62 to 65 of Mr Bennies refer to the non-compliance with controlled activities resulting in a non-complying resource consent.
20. Controlled activities require a NDA and NMP to be completed. Without these the ability to manage losses from the site is prevented, impacting the ability to achieve the 435tN load by 2032. With a significant reduction required within a specified timeframe a strong position is required with such non-compliance.
21. Appendix 3 of Councils section 42A report outlines the reasons for a non-complying activity status in more detail. In brief it considered that a non-complying activity is suitable given the issue of water quality in Lake Rotorua being a regionally significant issue. A non-complying activity status provides a more rigorous assessment than discretionary and signals that any approved consent is an exception, this not being gained through the use of a discretionary Rule. A discretionary activity signals such activities are generally more appropriate, which is not the case for Lake Rotorua which has a set cap of 435t/ N/ yr. This is supported by the Environment Court decision (123/2008) in regard to appeals made on Variation 5 of the Waikato Regional Plan.
22. Paragraph 60 of Ms Bennie's statement highlights the inability for applicants to identify actions within an NMP over the next 15 years to achieve the 2032 NDA.
23. Amendments are suggested in response to these points to highlight that actions listed within an NMP to achieve the 2027 MRT and 2032 NDA would be more fluid, (refer to track change version of Plan Change 10: Schedule LR6 Contact B5(a)(ii)) with this being revised every 5 years. Paragraph 61 requests explanation on what 'modelled probabilities' implies (Schedule LR 6 Content 5(a)(ii). To clarify any action must be able to be modelled within OVERSEER or another approved nitrogen budgeting model to determine the level of losses generated from the activity, and to gain an idea that this activity, along with others, would achieve the MRT and overarching NDA. I highlight that every 5 years these actions are able to be reviewed.
24. It is noted that Ms Bennie has suggested changes to further clarify this intent (Paragraph 81). It is considered that these support the direction intended and are supported.

Definitions of Nutrient Budget and Suitably Experienced and qualified person

25. In response to paragraph 88 of Mr Hansen's evidence it is noted that oversights may have occurred in the track change version of PC10 (Appendix 2(a) of the section 42A report).
26. The intent was to remove the term nitrogen budgets and replace this with either 'nitrogen budgeting model'. It is noted that there are cases where these change has not been completed within the track change version of Plan Change 10. Dependant on the Panel's decision to remove the definition of nitrogen budget, changes have been recommended to ensure consistent term use as intended.
27. The suggested change by Mr Hansen (Paragraph 88) is not supported with this broadening the budget to all nutrients rather than having a focus on nitrogen.

28. Paragraphs 94 to 96 and 97 of Mr Hansen's evidence and Paragraphs 71 and 74 of Ms Bennies evidence raise concerns on the need for any suitably qualified person to be certified under the Nutrient Management Advisors Certification Programme.
29. Bullet point 3 of the definition provides the ability for the BoPRC Chief Executive to determine any requirements other than those already listed in bullet point 1 and bullet point 2 of the definition. It is considered that this provides the ability to require certified persons as requested, whilst providing flexibility to allow other people with high levels of experience and skill to also be considered as a suitable qualified and experienced person. It is recommended that no changes are made.

Revised Policy LRP6 and LRP11

30. Paragraph 48 and 49 of Ms Bennie's evidence identifies that Policy LRP6 and LRP11 imply a NDA and NMP are required for permitted activities.
31. It is noted that the proposed wording of Policy LRP6 and Policy LRP11 result in farm enterprises 10ha and above requiring a NMP and NDA. This is inaccurate with only enterprises over 10 hectares being subject to these requirements (i.e. it does not apply to enterprises 10ha in size). Minor corrections have been proposed to correct this error.

Interpretation of Rule LRR2, LRR7 and LRR8(iii) – LRR11(iii)

32. Paragraphs 50 to 52 of Ms Bennie's evidence requests that Rule LRR2(c) is revised to avoid trading under LRR10 to an enterprise that contains forestry, bush or scrub from becoming a non-complying activity.
33. I have reviewed this and believe that there needs to be alignment between Rule LRR10 and this condition of Rule LRR2. This can be achieved by including '*prior to 2022'* at the end of Rule LRR2(c). Alternatively text could be included stating '*unless consented under LRR10'*.
34. The amendments proposed by the submitter will prevent the nitrogen allocation from being moved around the enterprise which is made up of a series of blocks. This will reduce the flexibility in operations across the farm enterprise and is not supported.
35. In response to Paragraph 53 and 54 the intent of Matters 1 and 2 of Rule LRR7(a) is to provide two options to showing compliance with the initial OVERSEER file on an annual basis.
36. Matter 1 allows an annual report to be submitted showing land uses and the scale of activity has not changed from those recorded in the initial OVERSEER file. It is noted that this could be easily clarified, therefore changes have been proposed.
37. The intent of LRR7 is to avoid the need for a NMP. The changes suggested by Ms Bennie result in a NMP being required and refer to 'significant farm system change', the definition of which also refers to a NMP. Therefore the changes proposed do not align with the intent of the permitted activity and are not supported.
38. Paragraph 58 of Ms Bennie's statement identifies a perceived conflict between the assessment criteria and wording at the end of each controlled activity rule (Rules LRR8(iii)-LRR11(iii)) outlining the need for written approval/ notification.
39. The statement at the end of each controlled activity refers to notification (s95A of the Act) and deeming who is affected under Section 95E of the Act. It I should be noted that section 95d(a)(i) of the Act prevents any land owner of occupier from being deemed an affected parties. Therefore assessment criteria (iii) does not intend to refer to the need for written approval from the land owner as an affected party.

40. Assessment criteria (iii) states that written approval of the proposed nitrogen mitigation actions from the land owner is required as part of the controlled activity resource consent. This is to assure Council that in cases where a farm enterprise includes leased land the land owner is aware of the future mitigation actions within the NMP and any effect on land use available to the leased block long term. This does not alter the notification status of the consent application, but does provide an avenue to ensure the land owner is aware any future impacts on their land.
41. To further clarify the intent of assessment criteria (iii) amendments have been suggested for the Panel to consider.

Response to Evidence submitted on behalf of Rotorua Lakes Council

Reticulation of Lake Tarawera Settlement

42. Paragraph 26 and 27 of Mr Eccles statement highlights the benefits of reticulation on lake side communities and the need for the proposed Policies 16 and 17 to acknowledge this. As outlined in the section 42A report PC10 only relates to farming activity (as recorded between 2011 and 2004) within the Lake Rotorua groundwater catchment with the intent to reduce losses from this area to achieve the capacity of Lake Rotorua.
43. Paragraphs 26 and 27 of Mr Eccles statement relate to the stance of RLC that the Tarawera community will not be reticulated unless an increase in nitrogen discharge to Lake Rotorua above the 30tN currently approved is provided for.
44. Paragraph 28 of Mr Eccles statement states the 30tN is a fixed limit for the WWTP with this enforced by PC10, preventing the load of Tarawera being treated by the WWTP.
45. It is highlighted that Lake Rotorua has the ability to receive a set limit of 435tN from the Lake Rotorua Groundwater catchment. In instances where the wastewater is transferred to the WWTP from another catchment there is a need of offset this load to ensure that the capacity of 435tN/yr is not exceeded. This does not imply that upgrades are required, offsets can include the purchase of Nitrogen from within the Lake Rotorua catchment (such as buying and converting a dairy farm).
46. The Rotorua Te Arawa Lakes Strategy Group, of which RLC is a partner, intends to manage and enhance water quality of 14 lakes subject to the Te Arawa Lakes Deed of Settlement including Tarawera to:
    a. *promote the sustainable management of the Te Arawa/Rotorua Lakes and their catchments for the use and enjoyment of present and future generations, while recognizing and providing for the traditional relationship of Te Arawa with the lakes.*
47. As set by section 49 of the Te Arawa Lakes Settlement Act 2006. The Te Arawa Lakes Programme includes representatives of each of the partners (RLC, TALT, BoPRC and MfE), and is a group that reports to RTALSG and intends to identify and implement actions to enhance and maintain the water quality of the 14 lakes. Significant levels of funding have been provided by Central government to support the implementation of such actions. To date actions have included reticulation of Hamurana, WWTP upgrades, gorse removal, alum dosing and involvement in PC10.
48. The reticulation of Tarawera has been identified as a key action by the Te Arawa Lakes Programme. The Rotorua LTP aligns with this stance and funding is also available through the programme to support this action. It is considered that the stance of RLC to remove their

support to reticulate Tarawera unless provided with 'more N' under PC10 undermines the programme and intent of RTALSG. As a partner in the programme it is considered that the issue of reticulating Tarawera and any offset within the Rotorua catchment is able to be addressed and dealt with by the programme.

49. Paragraph 32 of Mr Eccles statement recommends the inclusion of a policy acknowledges the benefits of wastewater reticulation to lake side communities. I disagree with this recommendation.
50. As outlined above at this point in time the focus of PC10 is on reducing N losses from farming activity within the Lake Rotorua groundwater Catchment. Reducing N losses from land uses to Lake Tarawera will be dealt with in the upcoming plan change completed to uphold the NPS-FM. At this time such a policy would be relevant.

Integrated planning

51. Paragraphs 18 to 20 of Mr Eccles evidence identifies the need for integrated approach between land use and infrastructure development, this taking into account future population growth and implies that PC10 has not met this requirement. This is also highlighted in Paragraph 12 to 15 of Mr Eccles statement.
52. The evidence has focused on the WWTP and the alleged need to increase the current consented condition cap of 30tN to allow for such an increase in development and highlighted the PC10 restricts discharge from the WWTP, this conflicting with the needs of any future population growth in regarding to reticulated sewage disposal.
53. To clarify, the 30tN restriction was been established through a resource consent approved under Rule 37 of the Regional Plan. This rule and resource consent process is outside of the scope of PC10. The restriction within the consent upholds the 435tN target set within the operative RPS (not PC10) and reflects the portion of the sustainable lake load (435tN) provided to the urban sector as at 2001-2004. A future resource consent process will consider the re-consenting / new WWTP and the appropriate conditions. That consent application would be considered under Rule 37 RWLP.
54. It is considered that Plan Change 10 has sufficiently taken into account the impacts on the surrounding environment, as defined by the RMA, to highlight how the components have been addressed that Mr Eccles implies are missing (infrastructure and the flow on social and economic impact of the community) the below provides a brief overview of the approach taken by Plan Change 10.

Operative District Plan

55. The Rotorua District Plan was recently reviewed with this becoming operative on the 10 July 2016. As part of this review the land available for commercial, industrial, residential activities were considered along with the type and scale of activities provided for within each zone.
56. Rezoning, subdivision and household density provided for within each zone were covered within the technical discussion papers. Papers 4B and 4C analysed the requirements for new zones within the district and took into account the direction provided within the eastern, western and integrated structure plan. These papers formed the basis for the district plan review.
57. The section 32 report released alongside the Proposed District Plan when notified identified the overarching policy framework (based on community feedback) of the Draft District Plan

and how RLC intended to respond to these matters. These directions where taken through the process and informed the Proposed District Plan. Of relevance to PC10, RLC's submission and the evidence submitted on behalf of RLC are the following:

Policy direction	Response
Helping improve lake water quality by enabling land use change	• Incentive rules for changing from high nutrient activity to low nutrient activity • Additional subdivision right in rural areas • Permissive approach for activities signalled as responsive to improving lake water quality • Coinciding providing for additional residential development in lakeside settlement zones with sewerage • reticulation
Enabling sustainable economic growth	• New zones for innovation and enterprise, commercial, and tourist activity, and zone changes to platform Growth • Reduced resource consent triggers for commercial and industrial zones • Removal of financial contributions required for industrial zones, and trigger for waiving/reducing financial • contributions widened
Facilitating development opportunities on Maori land	• Recognising water quality as a cultural and natural heritage issue. • Including enabling provisions for development on Maori land and for Papakāinga • Consideration of land use change
Subdivision	• Recognising that many lakeside settlements are going to be reticulated for wastewater and provide for growth in these areas • Freeing up the ability to subdivide in rural areas

58. Each of these policy directions and responses had impacts on infrastructure provision. Section 5.2.1 of the section 32 report identified the analysis completed to determine the appropriateness of any rezone. This took into account the services available, lake water quality benefit, compatibility with surrounding land use.
59. The section 32 report also describes the population projections that were taken into account in the rezoning of land. It specifically states *'The new rezoning areas proposed for the district (between residential and rural lifestyle) will allow for approximately 6912 new lots in the next 10 years showing a differential of approximately 5976 of what is expected through the population growth data.* ***This means that new land proposed to be rezoned is way above what is required'****(Page 30, RLC Section 32 Report Volume 1, 31 October 2012)(emphasis added).*
60. Section 5.2.1.2 of the Section 32 report then states the reasons why such rezoning was considered necessary this including to achieve nutrient reduction and economic growth. In

response to feedback received two additional areas were rezoned and notified within the Proposed District Plan being Lynmore and Pukehangi. The infrastructure requirements of each of these were also taken into account and deemed to be suitable. The decisions released by the Council also resulted in a number of additional sites being rezoned to enable future development potential.

Development Contributions

61. Under Section 102(2) of the Local Government Act 2002 a local authority must adopt a range of funding and financial policies. One of these is a policy on development contribution or financial contributions. The purpose of a development contribution is outlined in Section 197AA:

    'The purpose of the development contributions provisions in this Act is to enable territorial authorities to recover from those persons undertaking development a fair, equitable, and proportionate portion of the total cost of capital expenditure necessary to service growth over the long term.'

62. A range of principles apply to development contributions (outlined in 197AB of the LGA 2002) including section 197AB(a) *'development contributions should only be required if the effects or cumulative effects of developments will create or have created a requirement for the territorial authority to provide or to have provided new or additional assets or assets of increased capacity.'*

63. Rotorua District Council adopted a development contributions policy in 2006 that required *a financial contribution towards the cost of providing the increase in capacity of the network infrastructure and the community infrastructure.' N*etwork infrastructure including transportation, water supply, wastewater and land drainage/stormwater.
64. Appendix D of the policy lists a range of backlog actions and further upgrades that the development contributions would be used toward. Table 2 of this Appendix lists the following relevant upgrades as being supported by development contributions:
    a. City Treatment Plant Process and Capacity Upgrades
    b. Land Treatment Capacity Upgrade
    c. Tarawera Sewerage Scheme.
65. However, as part of the 2014/2015 Annual Plan the requirement for development contributions was removed (council extraordinary meeting 27 June 2014)
66. 2015-2015 LTP meeting held by full council (15-17 June 2015) identified the need to support funding capital projects resulting in a targeted economic development rate removed from utilities and rated from those ratepayers that benefit from that rate.
67. Page 112 of the current 2015-2025 Long Term Plan highlights that '*The district has seen little growth over the last 10 years but is forecast to grow modestly over the next ten. No capital expenditure is required for growth over the coming years. The council reviewed its policy on development contributions and removed the policy for the financial years commencing 1 July 2015. Developments underway before this date will require payments under the previous policy.'*

New Population and Economic Projections

68. Since the District Plan review it is noted that that new census data has been released and other population projections were completed for the BoP Region. One of these was from NIDEA with this being completed as part of Invest BoP, and provides a set of population projections out to 2063. Invest BoP was launched in 2013 and included representatives from each of the regions territorial authorities, including RLC. The second set of projections are from StatsNZ, which projected population out to 2043 reflecting the 2013 census and historical trends.
69. The third known set of population projections are through sourced by RLC from BERL. These were obtained to highlight the conflict between projected economic growth and projected population growth. This latter report has been adopted by RLC as the future population projections for the Rotorua district.
70. Paragraph 7 to 11 of Mr Osborne's evidence describes the Rotorua economic environment, recent population growth experienced and future projections. This sets the scene for the rest of the evidence particularly the need to consider the impacts of such growth on the WWTP.
71. I have reviewed the BERL report referred to and have concerns regarding the expected growth rate being based on the unrestrained scenario of this report. I also hold concerns regarding the reliance on this report to inform future rezones and infrastructure requirements of the District.
72. I raise these concerns as I believe that these are directly related to the claims made within the evidence submitted by RLC, that an integrated planning approach has not been taken in the development of PC10 and that PC10 will prevent the WWTP from supporting this level of projected growth.
73. The BERL report projects population growth based on the performance of the economy and has the stance that an increase in economic activity would result in reduced migration from Rotorua, increased migration to Rotorua and that with each migrants will come another 0.75 of a person (family). These projections are reliant on there being no future failure in the economy as highlighted within the BERL report.
74. The BERL report is also reliant on the full range of the Bay of Connections strategies and Economic Action Plan being implemented. BoPRC support these documents and continue to be an active partner, but notes that these documents are non-regulatory and do not legally bind organisation to implement their allocated actions.
75. It is unclear how the BERL projections factor into account the ageing population as seen both internationally and within New Zealand. The age of the migrants will impact the demands on future infrastructure and influence future population projections. It should be noted that with an ageing population the pool of migrants of a reproductive age is small, with a number of other regions competing for these migrants.
76. It is also noted that the projections do not factor in account the potential that some employees may commute from outside of the district rather than be a permanent resident.
77. In addition the projections included within the BERL report do not go beyond 2036. This could be extrapolated out to 2050 however this further reduces the certainty of the modelling with the economy be a fluid every changing environment.
78. I consider that there is a high risks associated with planning infrastructure and future land uses based on potential economic performance. Particularly given that this does not seem to

factor into account the impacts of an ageing population, the lower rates of fertility and other reasons listed above.

79. On the other hand, the aging population is factored into projections completed by Statistics NZ which focuses on fertility, mortality, and migration. A report completed by NIDEA commissioned by the Bay of Plenty Regional Council used Stats NZ data and has a baseline but estimated migration per age group, this providing a more detailed analysis on the make up for future population for each town within the Bay of Plenty region.
80. The NIDEA report projected population growth in the Rotorua District out to 2063. From here the effects of an aging population (natural decline), outwards migrations, and the loss of youth and reproductive potential causes population to decline. Population projections from Stats NZ also projected growth out to 2033 and a decline in population from thereon.
81. It is from 2033 that there is a significant departure between the BERL, NIDEA and Stats NZ projections with BERL projecting population growth to continue, and accounting for the significantly higher estimates being used in the RLC evidence.
82. It is unclear how and if the BERL report has taken into account these matters, noting that the initial BERL report only provided projections out to 2036. I would think such factors would be important components in predicting future population growth of a district. Given the life frame of the wastewater treatment plant, and the potential of population decline to occur from 2033 onwards, it is considered more likely that the WTTP would have sufficient capacity for the future long term population of the district. Any reduction in population would also potentially result in less demand from land use change, again avoiding the perceived impact of PC10 on future development.
83. Another report recently released by the Maxim Institute aligns with the findings of Stats NZ and NIDEA. I believe that this add more weight to the conclusions of Stats NZ and NIDEA, and strongly believe that potential future decline should be factored into any infrastructure planning to avoid over investment and capital expenditure. Given this I cannot agree that the economic /population growth data put forward is 'robust'.
84. Paragraph 55 identifies an increase in visitor spend. A component of this would relate to accommodation with this resulting in the impacts outlined in Paragraph 55. Currently the Operative District Plan has limited commercial space that provides for the development of tourism accommodation. These impacts are able to be addressed during the plan change completed for any rezone of land to enable increased development to support a significant increase in visitor nights.

Plan Change 10: Lake Rotorua Nutrient Management

85. Plan Change 10 has taken into account the current operative zones and land uses provided for by the Operative District Plan and therefore provided an integrated approach. It was also noted that the existing land uses are restrained by the zones of the Operative District Plan and Rule 11 of the Operative Regional Land and Water Plan.
86. An assessment completed by Council staff found that based on current subdivision rules and housing development provided for per lot, the NDA allocated to each rural farming/property enterprise will not significantly reduce the residential development provided for within the Lake Rotorua groundwater catchment. In cases where there is insufficient nitrogen to support the level of residential development envisaged by the developer there is the option of trading from 2022, although in my opinion it is more likely that land use change will occur

at a rate designed to obtain and secure overall reductions in the N loss, even after ensuring that each new lot is provided with a house lot allocation of N (via conditions of consent).

87. It is considered Plan Change 10 enables the level of development envisioned within the land rezoned by the District Plan. Given this it is considered that the integrated planning has been completed as part of PC10 based on the direction of the District as outlined in the Operative District Plan. This is further enhanced through the development of the concept described below.
88. Given the recent timing of the District Plan review it is considered that the impact of development potential resulting from any subdivision standards and the release of rezoned land on infrastructure capacity would have been considered. To support such growth it is considered that there is the ability to recoup the actual costs of growth via the LGA development contributions mechanism (which could then be applied to securing N allocation if required for future security of discharge as relevant to any future conditions of consent).
89. The recent population projections completed by BERL that have since been adopted by Council were not available at the time of the District Plan review and have resulted in demand for additional development that is potentially not able to be serviced by existing zones, a 'potential' need for future increased infrastructure capacity causing conflict with the direction of the just completed District Plan review.
90. It is assumed that a district plan review will be required in the future to support this expected growth, at which stage the impact on infrastructure would again need to be considered.
91. Placing the onus on the Regional Council to have undertaken an analysis on the impact of a plan change based on population projections that do not inform the District Plan is not appropriate. It is considered that this task should sit with the District Council.

Rotorua Wastewater Treatment Plant

Capacity

92. Paragraph 51 identifies that based on the **unrestrained** scenario growth (it is assumed this means the strategy stretch scenario) significant growth will occur over the next 20 years. The proposed concept developed provides for population growth out to 2080 without exceeding the targeted operation level of the WWTP. In addition to this the upcoming upgrade seems to have the ability to generate a concentration of 3.45mg/l if this was achieved the population growth envisaged by BERL would be easily provided for.
93. As highlighted in the integrated planning response above the rezoning completed as part of the district plan review considered that capacity of the district infrastructure. For this reason I disagree that PC10 has the ability to restrict growth now or in the future with significant levels of population growth being able to be provided for through the proposed WWTP upgrade.
94. Whilst it is acknowledged that the situation may have changed for Rotorua (Paragraph 25 of Mr Fullers evidence) due to new population projections (BERL). However it is considered using these population projections in isolation to other reports such as NIDEA or Stats NZ could result unsustainable long term planning and investment in excess of needs. I would expect that this would be one projection taken into account alongside Stats NZ and NIDEA to

provide a range of growth scenarios and future planning and infrastructure investment being based on mid- range scenario.

Restricting discharge from the WWTP by PC10

95. Paragraph 41 of Mr Eccles evidence states PC10 has set a static limit of 30tN/yr to be discharged from the WWTP. I disagree with this statement.
96. The 30tN/yr restriction is not set by PC10, no policy or rule within the RPS, PC10, or the Regional Plan identifies 30tN as being the set limit for the WTTP. As noted above, changes in the current conditions of consent around discharge amounts are a matter to be considered via that process.
97. Rule LRR2 of PC10 results in existing forestry, bush and scrub remaining as such, unless trade occurs in the future. Trees make up about 76tN/yr of the 435tN sustainable load.
98. This results in approximately 73tN/yr to be allocated to urban activity including the WWTP and septic tanks. The allocation over each land use that makes up this 73tN is able to be moved around to ensure that the overarching 435tN is maintained. This is the same concept that allows for the shift between the rural and urban sector upon urbanisation of rural land with an NDA.

Transfer of Nitrogen between the Rural and Urban sectors

99. The urban area recorded between 2001 and 2004 is not part of PC10, along with catchments outside of the Lake Rotorua groundwater catchment. No rules in PC 10 apply to either. Discharges from the urban environment and land outside of the Lake Rotorua groundwater catchment are managed under the Operative Regional Plan (Rule 11 and Rule 37).
100. Within the Rotorua Lakes Programme discussion have been held to develop a methodology for how shifts of nitrogen loss from the rural area to the WWTP can be acknowledged.
101. For example, the reticulation of lakeside settlements has removed a substantial amount of nitrogen from being discharged to Lake Rotorua from septic tanks. The sewage is reticulated to the WWTP and approximately 90% of the nitrogen is removed leaving over a nett amount to be accounted for in relation to the WWTP point source discharge. This is an overall positive result for the Lake and the public funding committed to the reticulation projects reflects this.
102. The discussion on a methodology has progressed substantially and an accounting methodology has been developed. It is anticipated that this will be taken into consideration in the assessment of the upcoming resource consent for the WWTP.
103. Paragraph 53 of Mr Osbourne's statement highlights that this concept does not expressly allow for growth through residential intensification or an increase in tourism. This was because discussions between the Councils were predicated on RLC absorbing intensification within the 01-04 urban area, i.e it was an agreed precondition to how such a concept might work.

Implementation of the Transfer of Nitrogen between the Rural and Urban sectors

104. Paragraph 33 of Mr Eccles statement highlights that no method has been included to implement the proposed policies supporting this concept. This was due to RLC and BoPRC not having reached agreement at this time.
105. At paragraph 49 Mr Eccles recommends adding a substantial part of the draft accounting methodology to PPC10.

106. This is not supported for the following reasons:
    a. Inclusion of the concept effectively locks in numbers and prevents new science and OVERSEER® versions from being used where necessary without the need for a plan change.
    b. Some of the material recommended for inclusion was developed for explanatory purposes. It does not make for a robust rule.
    c. Flexibility is required when looking at subdivisions as they are all different. Having an agreed accounting methodology sit outside the Plan Change provides for this discretion.
    d. There may be the need to refine the material up to the point of consent application and beyond. To illustrate this, a number of amendments have already been suggested to the material that has been copied into Mr Eccles' evidence.

107. The request to include an extensive methodology in PPC10 is not therefore supported. However to provide a degree of direction on this matter it is recommended that a bullet point be added to Method LR M5 to reflect the usefulness of having such a methodology to both the Regional Council and Rotorua Lakes Council:

    (g) develop within the Rotorua Te Arawa Lakes Programme an accounting methodology for the shift in nitrogen losses between rural and urban land uses (including for the purposes of recognising changes to waste water discharge loads).

108. Paragraph 44 of Mr Eccles statement questions how and when the nitrogen allocated to a new lot will be registered against the title. In response to this query it is considered that this will be completed as part of the subdivision consent assessed and approved by RLC. It is considered that this is the most cost effective and easiest method of ensuring the parent NDA is upheld.
109. Paragraph 52 of Mr Eccles statement highlights a situation where nitrogen allocated to a farming enterprise could be sold preventing future subdivision. The concept required the Nitrogen allocated to each newly subdivided lot to be sufficient to provide for the maximum number of houses provided for per under the operative zones of the District Plan as a controlled or permitted activity.
110. In instances where the land has not yet been rezoned and is operating as a farm enterprise the NMP required at 2017 or 2022 dependant on the size of the enterprise, will outline committed actions to achieve each MRT and NDA. This process will identify any desired subdivision, determine the level of nitrogen required for the subdivision (and maximum houses provided per lot) and identify any nitrogen remaining for other activities onsite, or if not needed, available to be sold to the Incentive Board. This process will ensure that the land owner is aware of any nitrogen requirements for future land uses. To further clarify this to land owners I support the suggested amendments in Paragraph 56 of Mr Eccles statement.
111. I also note the comments in Paragraph 55 of Mr Eccles statement and agree that future plan changes for the rezoning of rural land will ensure such effects were considered at that time.

Activity status of the WWTP resource consent

112. Paragraph 37 of Mr Eccles statement requests a new rule to be included to allow for increased discharges as a restricted discretionary activity. Paragraph 28 of Mr Banks statement also raises this as a concern. I do not agree with this proposal, as currently it is a discretionary activity, and no reason to down grade this status is not provided, nor was it contemplated within the scope of PC 10 matters.
113. Rule 37 of the Operative Regional Plan is a discretionary status and relates to any discharge to a waterbody. Rule 11F (which become operative since the last WWTP consent review) has a focus on Nitrogen and Phosphorus within the Lake Rotorua Catchment and is a restricted discretionary activity. This rule also relates to any increase in discharge from an activity.
114. Therefore the resource consent for the WTTP would be a discretionary activity under rule 37 and Restricted Discretionary under Rule 11F in relation to Nitrogen and Phosphorus discharge and the proposed increase from the baseline of 30tN/yr, but consent would be required under both rules. Therefore the removal of 11F as a consequential amendment does not change this overall activity status, it would remain discretionary under rule 37.
115. The proposed rule replicated Rule 11F and is an attempt to continue what was considered to be the Restricted Discretionary status. However, in my opinion sufficient assessment is provided for in existing operative Rule 37 to ensure all adverse effects are managed. The proposed rule broadens the scope of PC10 to relate to the urban areas. This goes beyond the intent of the RPS and is not supported.

Natural capital

116. Each of the evidence statements lodged on behalf of RLC highlight the preference for natural capital rather than the notification allocation methodology of sector averaging.
117. The allocation methodology was determined through an extensive engagement process with the Stakeholder Advisory Group (StAG) at which RLC had a seat as a both as a stakeholder and as a partner to the Te Arawa Lakes Programme.
118. The nitrogen allocation methodology was specifically discussed at a number of meetings of StAG (see Appendix 1). These resulted in the nitrogen allocation methodology as notified being developed and approved by StAG and taken to the Regional Strategy, Policy and Planning Committee and Rotorua Te Arawa Lakes Strategy Group for approval and endorsement.
119. An assessment of the allocation methodologies was completed against the RPS Policy WL5b and additional criteria identified by StAG as outlined within Paragraph 1 of Mr Osbornes statement. An overview of this analysis is provides in the rebuttal evidence presented by Stephen Lamb.
120. On the 27 September 2013 a paper was presented to the Rotorua Te Arawa Lakes Strategy Group providing information on the integrated framework, the Gorse programme and proposed nutrient trading. A supporting document to this agenda item was a report titled *Framework for allocation and incentives in the Lake Rotorua catchment.*
121. This report contained a detailed overview of two allocation and incentive approaches available for the Lake Rotorua Catchment. One of these approaches (approach one) was the integrated framework. Section 4.1 of this report outlines the analysis of the different nitrogen allocation methods available and the proposed ranges to be used for each sector. Further detail was included in an appendix attached to this report called *Allocating Lake*

Rotorua's sustainable nitrogen limit amongst land use activities: Background information, assessment of allocation approaches and initial analysis of potential options. The report provided a robust analysis of the allocation options available and the risks associated with each.

122. The meeting was chaired by former Rotorua Mayor Kevin Winters the report was received, and the recommendations approved and endorsed by the Committee.
123. The proposed rules and the allocation methodology were again presented to the Rotorua Te Arawa Lakes Strategy Group on 19 March 2014. The rules were endorsed by the Committee (of which the Rotorua Mayor was the Deputy Chair). The recorded minutes do not identify any concerns raised with the proposed allocation methods.
124. Given the extensive level of engagement and collaboration completed to identify a suitable allocation methodology over the past three years, there is a disconnection between this process and the now apparently significant opposition evidenced within the evidence statements of RLC. BoPRC continue to stand beside the engagement process completed with StAG and the resulting allocation methodology.

Water Quality Approach of other Regional Plans

Plan Change 1 - Waikato Regional Plan

125. Paragraph 20-22 of Mr Fullers evidence summarises the approach taken with PC1 to the Waikato Regional Plan (Healthy Rivers). Mr Fuller states that PC1 is a more comprehensive policy with this dealing with a broader range of nutrients, compared to PC10 which focuses on nitrogen.
126. In response to this I wish to draw Mr Fullers attention to Policy WL3b of the Operative Bay of Plenty RPS which requires the establishment of limits for contaminants entering water bodies. This policy also sets the limit of Nitrogen for Lake Rotorua. To date this is the only limit established for the Rotorua Te Arawa Lakes.
127. The remaining limits will be identified through future plan changes to implement the NPS-FM. At this time this process is being completed within other catchments of the Bay of Plenty Region with Rotorua scheduled to commence from 2022.
128. Paragraph 24 of Mr Fullers evidence states that the Regional Council has identified the need to get reliable science and put a halt to Land use change. WRC are in the process of information gathering and effectively undertaking a benchmarking process similar to Rule 11 of the Operative BoP Regional Plan. In response to Paragraph 24 it should be noted that BoPRC have progressed well beyond this stage, with Rule 11 setting a benchmark and preventing any further increase in farm losses. This has provided council with sufficient knowledge of land uses which have then help to inform research completed. Extensive research has been completed by the University of Waikato and other lakes within the Rotorua district providing sound information on water quality and lake dynamics. These has enabled and informed the development of PC10.
129. Due to this it is considered that comparing the approach taken by PC1 and PC10 is inappropriate.

Plan Change 5 – Waikato Regional Plan

130. Paragraph 25 to 27 of Mr Fullers evidence provides a summary on Variation 5 to the Proposed Waikato Regional Plan. Paragraph 25 highlights that the variation has successfully

reduced nitrogen as an input to the Lake Taupō Catchment, providing benefits of reduced algal blooms and a reduced TLI.

131. Paragraph 27 then explains how the impact of the variation in the wastewater treatment plant was overcome through nitrogen transfers, and offsetting of Nitrogen resulting from land use change.

132. Plan change 10 provides for trading of Nitrogen between farms under Rule LRR10 to allow for an increase activity or development above the allocated NDA while continuing to progress towards the sustainable limit. The WWTP is able to purchase nitrogen from any farm located within the catchment to offset any increase in discharge (refer to Schedule 7 of PC10).

133. It is also noted that the most recent water quality results published by the Waikato Regional Council for Lake Taupō shows no improvement in chlorophyll, Secchi depth, total phosphorus or total nitrogen across the the 17-year period 1999–2015. The results have also shown an increase in total nitrogen identifying the impacts of residual loads and groundwater lag times on lake water quality. These results can be found on the following website https://www.waikatoregion.govt.nz/Environment/Natural-resources/Water/Lakes/Lake-Taupo/How-clean-is-Lake-Taupo/Lake-Taupos-water-quality/.

Name: Rebecca Burton

Date: 06 March 2017

Appendix 1: An overview of Stag Meetings regarding Nitrogen Allocation

Overview of StAG meetings

a. 29 January 2013: different allocation approaches were discussed. The minutes of this meeting show that significant support from StAG members was received from the sector and pastoral allocation methodology. Land use capability/natural capacity ranked the lowest option preferred by attendees. (Note: An RLC Councillor and staff were present at this meeting)
b. 14 February 2013: Discussions on District Plan TDR's and Discussion on Draft Nutrient Allocation Principles and Guidelines. (Note: An RLC Councillor and staff were present at this meeting)
c. 19 March 2013: The intent of the meeting was to identify suitable allocation approaches to be further investigated. Board agreement was received to continue investigations into sector averaging, in corporate grandparenting with clawback (Note: An RLC Councillor and staff were present at this meeting)
d. 13 May 2013 – draft analysis of sector averaging vs grandparenting was provided. Noted that in either case there would be winners and losers. Discussion on how to combine the approach to reduce the extremes. (Note: An RLC Councillor and staff were present at this meeting)
e. 18 June 2013: A draft policy decision paper was presented. Agreement that a hybrid allocation approach was suitable. (*Allocating Lake Rotorua's sustainable nitrogen limit amongst land use activities)*. *(Note: An RLC Councillor and staff were present at this meeting).*
f. *13 August 2013: Discussion on the Development of a StAG Position Paper – Allocation Rules and Incentives. Identifies sector allocation as the preferred approach.* (Note: An RLC Councillor and staff were present at this meeting).

Appendix 2: Revised Track Change Version: Plan Change 10 Lake Rotorua Nutrient Management

Suggested revisions made in response to evidence submitted have been identified as follows:

- Deletions – Double Strikethrough ~~(Double Strikethrough)~~
- Additions – Double Undermine (Double Undermine)

The original changes made in response to submissions continue to be included within this version and shown in either single track change (~~single track change~~) or single underline. (underline)

This is to enable readers to identify differences from the track change version released as part of Councils Section 42A report on 20 January 2017.

Plan Change 10: Lake Rotorua Nutrient Management

The Lake Rotorua Nutrient Management provisions are being introduced into the Bay of Plenty Regional Water and Land Plan as a separate subject. Policies and methods are contained in Part II of the Bay of Plenty Regional Water and Land Plan and the rules (including the definitions and schedules) are contained in Part III. Both parts of this subject are identified by the unique identifier "LR".

PART II LR: Lake Rotorua Nutrient Management

Introduction

These plan change provisions apply to the land containing rural production (pastoral activities) and forestry within the (47-2) Lake Rotorua groundwater catchment, as shown in Map LR 1, excluding land located within the Waikato region (75-18, FS2-6).

Scope is restricted to the management of land use activities which contribute nitrogen to Lake Rotorua. This plan change gives effect to the following requirements in the Regional Policy Statement~~. This plan change~~ and (75-18, FS2-6) provides for a staged implementation of these requirements.

Policy WL 3B: Establish limits for the total amount of specified contaminants that enter the receiving waters within a catchment at risk including:

(a) Contaminants to be managed to avoid compromising public health and each catchment's ecology, mauri, fishability, swimmability and aesthetics;
(b) For the Rotorua Te Arawa Lakes the amount of nitrogen and phosphorus that can enter each lake in order to achieve its target trophic level index; and
(c) For Lake Rotorua the total amount of nitrogen that enters the lake shall not exceed 435 tonnes per annum.

Policy WL 5B: Allocate among land use activities the capacity of Rotorua Te Arawa lakes and other water bodies in catchments at risk to assimilate contaminants within the limits established in accordance with Policy WL 3B having regard to the following principles and considerations:

(a) Equity/fairness, including intergenerational equity;
(b) Extent of the immediate impact;
(c) Public and private benefits and costs;
(d) Iwi land ownership and its status including any Crown obligation;
(e) Cultural values;
(f) Resource use efficiency;
(g) Existing land use;
(h) Existing on farm capital investment; and
(i) Ease of transfer of the allocation.

Policy WL 6B: Require, including by way of rules, the managed reduction of any nutrient losses that are in excess of the limits established under Policy WL 3B by ensuring that:

(a) Rural production land use activities minimise their loss of nutrients as far as is reasonably practicable by implementing on-farm best management practices;
(b) Any land use change that is required within the Rotorua Te Arawa lakes catchments to achieve the limits takes into account an equitable balancing of public and private costs and benefits; and
(c) No discharges shall be authorised beyond 2032 that results in the limit for Lake Rotorua being exceeded. A Managed Reduction Target for the managed reduction of nitrogen loss is to be set to achieve 70% of the required reduction from 746 t/yr to 435 t/yr by 2022.

These policies are provided for information purposes only and are not part of the plan change. These provisions are from the Operative Regional Policy Statement for the Bay of Plenty, and are not open for submission.

The need to achieve the sustainable lake load of 435 tonnes of nitrogen per annum is based on the best science available. Adaptive management is a core element of the implementation of nutrient management for the Lake Rotorua groundwater catchment. This includes regular reviews of the (70-16) science and policy ~~reviews~~ (70-16) and responding to the outcomes of these reviews. Achieving the sustainable lake load for nitrogen also forms part of the National Policy Statement for Freshwater Management (NPSFM 2014) implementation. Council may need to consider further changes to the Plan to address other NPSFM 2014 attributes of relevance at some point in the future.

The nitrogen load to Lake Rotorua will be reduced through an integrated programme of regulated land use nitrogen reductions (Nitrogen Discharge ~~Allowances~~ Allocation),(49-78) engineering solutions, incentives and gorse conversion. This package of interventions forms the Integrated Framework, summarised in Table LR 1 below. The Integrated Framework was developed through the Lake Rotorua Stakeholder Advisory Group process and adopted by the Regional Council on 17 September 2013 as being the preferred approach to managing nitrogen losses from rural land use activities in the Lake Rotorua groundwater catchment. It provides the basis for the proportional nitrogen reductions being implemented through these rules and for the allocation methodology.

Table LR 1: Lake Rotorua Integrated Framework - annual catchment loads and reductions

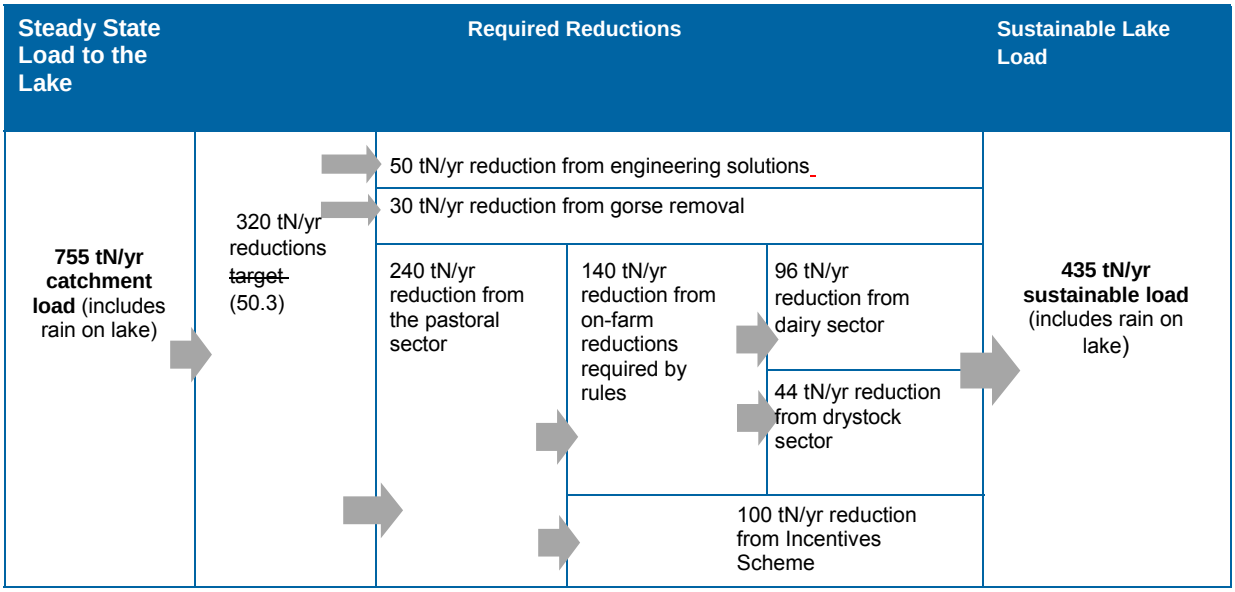

Table notes:(a) The values used are based on OVERSEER® 5.4 for pastoral land uses and reflect the best science estimates of nitrogen entering the lake;

(b) tN/yr is the load to the lake in "tonnes of nitrogen per year".

The Integrated Framework contains the following proportional reductions for the dairy and drystock pastoral farming sectors (Table LR 2) which are used in the allocation methodology:

Table LR 2: Pastoral farming sector proportional reductions.

Sector	ROTAN[1] 2011 Area (ha)	ROTAN 2011 Load (tN/yr)	2032 Sector allocation (tN/yr)	Reduction (tN/yr)	Proportional reductions from sector as % of sector load
Dairy	5050	273.2	176.8	96.4	35.3%
Drystock	16125	253.2	209.6	43.6	17.2%

Table note: The values used are based on OVERSEER® 5.4 numbers and reflect the best science estimates of nitrogen entering the lake. The dairy and drystock areas are effective grazing areas (including fodder crops).

The pastoral farming sector proportional reductions are carried through into the methodology used to allocate ~~nitrogen loss entitlements~~ Nitrogen Discharge Allocations and Managed Reduction Targets (49-30, 49-79, 53-73, 66-110, 75-204) to individual properties/farming enterprises.

Allocation of nitrogen losses is based on benchmark information applied to the 2014 GNS groundwater boundary area and expressed as OVERSEER® 6.2.0 values. Table LR 3 contains the basis for the modelled 2015 sector contributions to achieve the sustainable lake load.

Table LR 3: Sector contributions.

Sector	Sector area (ha)	Sector proportional reduction (Integrated Framework)	Sustainable lake load by sector (tN/yr)	Average nitrogen loss rate to achieve sustainable lake load (kgN/ha/yr)	Standard nitrogen loss rates (kgN/ha/yr)
Dairy	5016	35.3%	324	64.5	
Drystock	16266	17.2%	416	25.6	
~~Forestry~~	~~19215~~				
• Plantation Forestry	8946	0%	22.5		2.5
• Bush/Scrub	10269	0%	30.9		3
House blocks	468	0%	20.2		43.2

Table note: values are OVERSEER® 6.2.0 numbers.

[1] ROTAN is the Rotorua and Taupō Nutrient Model. This is a geographic information system based catchment hydrology and water quality model developed to predict nitrogen yields and exports in the catchment under different scenarios.

Plan Change 10 - Lake Rotorua Nutrient Management Boundaries
GIS-497507-9
Sheet 1 of 1
Printed 15/02/2016
Scale 1:175000
2.5 0 2.5 5 7.5
Kilometres
Legend
Lake Rotorua Groundwater Catchment Boundary (GNS 2014)
Bay of Plenty Regional Boundary
Rural
Rural land not subject to Lake Rotorua Nutrient Management rules
Lake Rotoiti
Lake Okataina
Lake Tarawera
Lake Okareka
Lake Rotorua
Lake Rotokakahi (Green Lake)
ROTORUA
Mamaku
Bay of Plenty
REGIONAL COUNCIL
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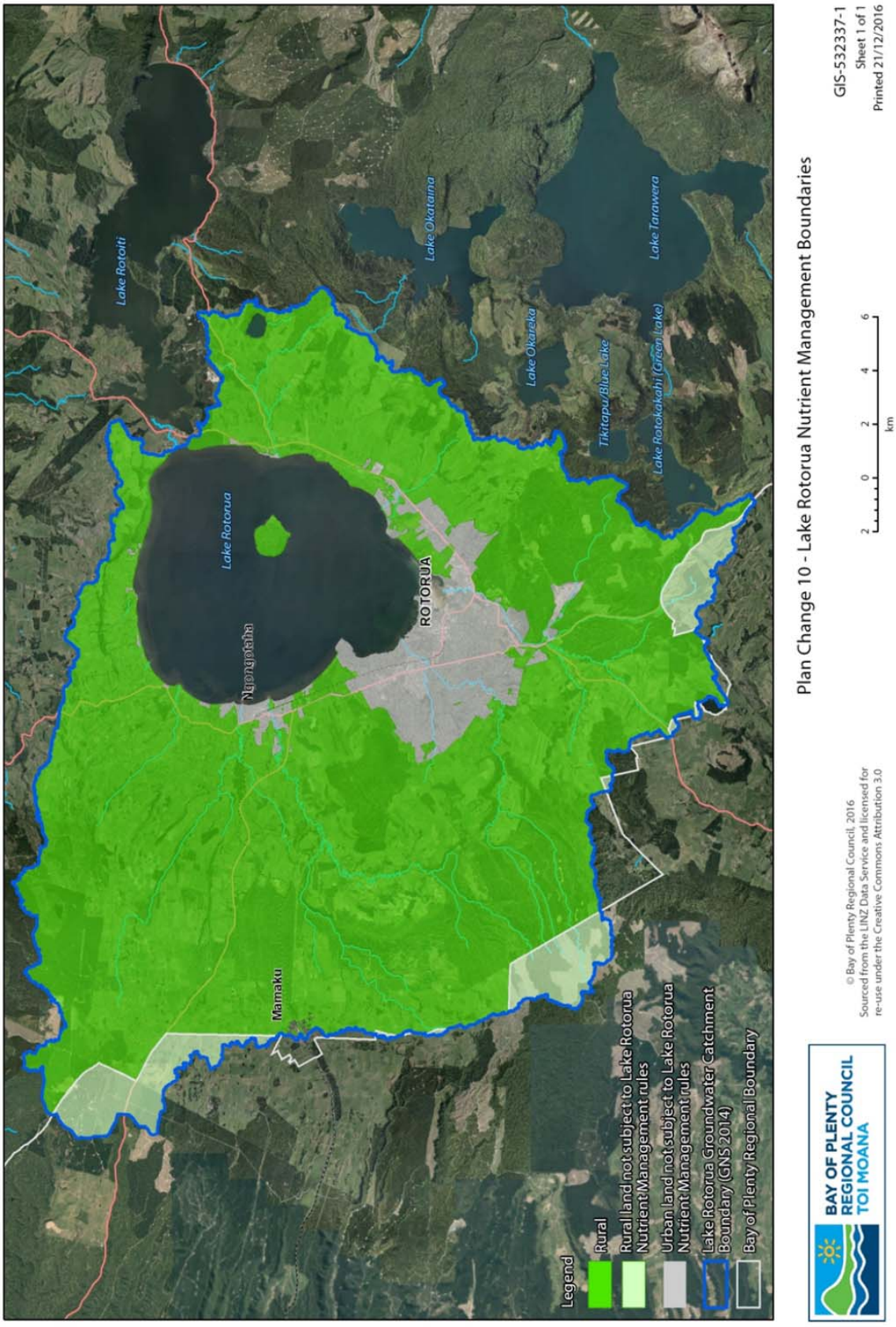


Map LR 1: Lake Rotorua Nutrient Management – Groundwater Catchment Boundary and Rural Land. (47-3, FS8-43, FS12-7, 56-1, FS8-44, FS12-8)

Objectives

No new objectives are required because the following objectives from the Operative Regional Policy Statement and Operative Regional Water and Land Plan already establish the freshwater objectives for Lake Rotorua:

Regional Policy Statement Objective 28: Enhance the water quality in the lakes of the Rotorua District and other catchments at risk.

Regional Water and Land Plan Objective 11: The water quality in the Rotorua lakes is maintained or improved to meet the Trophic Level Index of 4.2 for Lake Rotorua.

The above Objectives are provided for informational purposes only and intend to show how PC10 links to the RPS and wider RWLP and are not part of the Plan Change. They are not open for submission.

Policies

Policies LR P1 to LR P17 apply to the management of nutrient loss in the Lake Rotorua groundwater catchment.

LR P1 ~~To r~~Reduce ~~the~~ (70-9) nitrogen losses from farming activity ~~land~~ (43-23)to Lake Rotorua to achieve the 2032 sustainable lake load as required by the Regional Policy Statement ~~and to monitor this target through science and policy reviews~~ while providing for an adaptive management approach. (43-23)

LR P2 ~~To m~~ Manage (70-9) phosphorus loss through the implementation of good (43-24, FS15-17) management practices ~~that will be detailed in~~ through the use of Nutrient ~~Nitrogen~~ (43-24, FS15-7, 70-17, FS15-33) Management Plans prepared for individual properties/farming enterprises.

Adaptive management

LR P3 ~~To r~~Recognise (70-9) the balance between certainty and the use of best science and good environmental data in the management of nitrogen within the Lake Rotorua groundwater catchment by using:

(a) the 435 tonne sustainable annual nitrogen load for Lake Rotorua from the operative Regional Policy Statement Policy WL 3B(c)

(b) the 755 tonne load to Lake Rotorua estimated by the ROTAN model in 2011 as the position from which nitrogen loss reductions will be determined

(c) the most current version of OVERSEER®, except for initial allocation purposes where OVERSEER® 6.2.0 applies. (70-38) ~~for nitrogen discharge allowance allocation (49-78) purposes;~~ and

(d) the pastoral sector reductions within the Integrated Framework approach.

LR P4 ~~To i~~Implement (70-9) adaptive management in the management of nitrogen within the Lake Rotorua groundwater catchment through:

(i) science reviews set out in Method LR M2 and subsequent consideration by Council of recommendations;

(ii) regular reviews of the Regional Policy Statement and Regional Water and Land Plan policies, rules and methods under the Resource Management Act 1991;

(iii) five-year individual on-farm Nutrient ~~Nitrogen~~ (43-26, FS15-4)Management Plan review timeframes; and

(iv) the use of OVERSEER® reference files and proportional requirements to reduce the variability for individual property nitrogen loss limits ~~targets.~~ (58-1, 58-2)

Nitrogen allocation

LR P5 ~~To achieve the~~ Ensure the (70-9) sustainable load to Lake Rotorua is achieved by allocating nitrogen discharge allocations ~~allowances~~(49-78, 49-30, FS14-17) that align with the ranges for (43-29) ~~to~~ dairy and drystock activities within the Lake Rotorua groundwater catchment (Table LR 4) and to recognise standardised (cl16) OVERSEER® loss rates for plantation forestry, bush/scrub and house blocks.

Table LR 4: Allocated nitrogen loss rates to sectors.

Sector	Average nitrogen loss by sector (kgN/ha/yr) (OVERSEER® 6.2.0)	Nitrogen loss range within each sector (kgN/ha/yr) (OVERSEER® 6.2.0)
Dairy	64.5	54.6 – 72.8
Drystock	25.6	18 – 54.6

~~No property/farming enterprise will be required to reduce its nitrogen loss below the bottom of the relevant sector nitrogen loss range.~~(75-138)

LR P6 ~~To d~~Determine (70-9, 43.30, FS14-17) individual ~~Nutrient~~ Nitrogen (cl16) Discharge Allocations ~~Allowances~~(49-78, 49-30, FS14-17) for the purpose of achieving by 2032 the sustainable lake load ~~that must be achieved by 2032~~ (70-26, FS15-37,43-29) in accordance with Schedule LR One for all properties/farming enterprises that are not provided for as permitted activities. ~~by Rules LR R1 to LR R7~~. (70-9)

LR P7 ~~To enable~~ Manage (70-9) the ~~authorised~~ (43-30, FS14-17) transfer of ~~nitrogen loss entitlements~~ Nitrogen Discharge Allocations or Managed Reduction Offsets (49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) between properties/farming enterprises from 1 July 2022 to encourage efficient outcomes by way of resource consent (43-30, 70-26, FS15-37).

Managed reduction

LR P8 ~~To r~~Require (70-9)property/farming enterprise specific ~~Nitrogen~~ Nutrient (43-31. FS6-24, FS15-5, 70-28, FS15-38) Management Plans and require the implementation of mitigation actions including adopting good management practices (43-26,FS15-4, 43-24, FS15-7) to achieve and maintain Managed Reduction Targets ~~(five- yearly nitrogen loss reduction targets)~~ (43-31, FS6-24, FS15-5, 70-28, FS15-38) and Nitrogen Discharge Allocations ~~Allowances~~. (49-30, FS14-17)

Use of rules

LR P9 Enable the continued use of land for low intensity farming, bush/scrub and forestry within the Lake Rotorua groundwater catchment. (49-32, 70-29, FS6-26)

~~To allow as a permitted activity:~~ (49-32, 70-29, FS6-26)

~~(a) All land uses until 30 June 2017 provided that the land uses do not increase their nitrogen loss.~~ (49-32, 70-29, FS6-26)

(b) ~~The use of land for plantation forestry and bush/scrub.~~ (49-32, 70-29, FS6-26)

~~(c) The use of land for farming activities on properties/farming enterprises 5 hectares or less in area from 1 July 2017 provided there is no intensive land use.~~ (49-32, 70-29, FS6-26)

~~(d) The use of land for farming activities on properties/farming enterprises greater than 5 hectares in area or between 5 hectares and 10 hectares or less in effective area from 1 July 2017 provided there is no intensive land use.~~ (49-32, 70-29, FS6-26)

~~(e) The use of land for farming activities on properties/farming enterprises between 10 and 40 hectares in effective area from 1 July 2017 to 31 June 2022 provided there is no increase in nitrogen loss and the information keeping and reporting conditions are met.~~ (49-32, 70-29, FS6-26)

~~(f) The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment not previously managed by Rules 11 to 11F from 1 July 2017 to 31 June 2022 provided there is no increase in nitrogen loss and information keeping and reporting conditions are met.~~ (49-32, 70-29, FS6-26)

~~(g) The use of land for farming activities on properties/farming enterprises that can demonstrate low nitrogen loss~~. (49-32, 70-29, FS6-26)

~~(h) The discharge of nutrients onto or into land provided the land use associated with the discharge is authorised under Rule LR R1 to LR R11.~~ (49-32, 70-29, FS6-26)

LR P10 Provide for farming activity within property/farm enterprises that have an effective area exceeding 10 ha ~~of 10ha and above~~ where these have identified Nitrogen Discharge Allocations, Managed Reduction Targets and appropriate methods to achieve the staged reduction of nitrogen losses by 2032. (43-33, 70-32, FS6-29)

~~To require resource consents for:~~ (43-33, 70-32, FS6-29)

~~(a) The use of land for farming activities on properties/farming enterprises over 40 hectares in effective area from 1 July 2017.~~ (43-33, 70-32, FS6-29)

~~(b) The use of land for farming activities on properties/farming enterprises between 10 and 40 hectares in effective area from 1 July 2022.~~ (43-33, 70-32, FS6-29)

~~(c) The use of land for farming activities on properties/farming enterprises less than 5 hectares in area or that are between 5 hectares and less than 10 hectares in effective area that are not low intensity land use from 1 July 2022.~~ (43-33, 70-32, FS6-29)

~~(d) The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment not previously managed by Rules 11 to 11F that are not low intensity land use from 1 July 2022.(~~43-33, 70-32, FS6-29)

~~**LR P11**~~ ~~To classify land use consent applications for farming activities that submit a Nitrogen Management Plan demonstrating the achievement of Managed Reduction Targets and Nitrogen Discharge Allowances by 2032 as controlled activities.~~ (43-34, 53-25, 66-64, 70-36, FS6-30, 75-150)

LR P11~~12~~ Avoid the establishment or continued operation of farming activities within farming/property enterprises within the Lake Rotorua groundwater catchment that are not permitted and have no identified or agreed Nitrogen Discharge Allocation and Managed Reduction Targets or have not provided Council with a Nutrient Management Plan. (70-37, FS6-31)

~~To classify as non-complying activities, farming activities that require a land use consent application to be made and that do not submit a Nitrogen Management Plan demonstrating managed reduction.~~ (70-37, FS6-31)

Use of OVERSEER®

LR P12~~13~~ ~~To u~~ Use OVERSEER® version 6.2.0 for initial allocation purposes (70-38) and subsequent versions to determine ~~the~~ nitrogen losses from land.(70-9)

LR P13~~14~~ ~~To c~~ Consider ~~nitrogen budgets and~~ the use of alternative nitrogen budgeting models (70-9) ~~for~~ to determine ~~ing~~ nitrogen losses if OVERSEER® cannot be ~~readily~~ (43-37) used for a specific land use. Consideration of whether alternative nitrogen budgetings models (70-9) may be used will take into account:

(a) The ability to reliably estimate a property/farming enterprise's long-term nitrogen loss;

(b) The acceptability of information inputs, for example, a robust and ~~verifiable~~ verifiable process for estimating (70-39, FS6-34, FS15-40, 70-40, FS6-35)leaching rates; and

(c) The potential ~~availability~~ (70-41) of suitably qualified and experienced persons to develop ~~the~~ nitrogen budgeting files.(70-9)

Any alternative to OVERSEER® for nitrogen budgeting purposes must be authorised by the

Regional Council by way of resource consent (3-4, FS6-33).

~~*Information requirements*~~(43-38)

~~**LR P15**~~ ~~To require information to be supplied for:~~ (43-38)

~~(a) All farming activities on properties/farming enterprises between 5 hectares and 10 hectares in effective area that are not low intensity land use,~~ (43-38)

~~(b) All permitted farming activities on properties/farming enterprises between 10 and 40 hectares; and~~(43-38)

~~(c) All permitted farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment not previously managed by Rules 11 to 11F that are not low intensity land use.~~ (43-38)

~~This information will be used to monitor compliance with permitted activity conditions.~~(43-38)

Assessment of Consent Applications ~~duration~~

LR P14~~16~~ ~~To g~~Grant (70-9) controlled activity consents for a duration of twenty years and non-complying activity consents, where granted, for durations less than 20 years. The duration of consent will reflect the nature, scale and robustness of any on-farm mitigation options proposed and any associated risk of not ~~to~~ achieving~~e~~ the property/farming enterprise's 2032 Nitrogen Discharge Allocation ~~Allowance.~~ (40-9)

~~*Declining consent*~~

LR P15~~17~~ ~~To decline the re-consenting of activities that have failed to achieve the required reductions in nitrogen loss.~~(43-40, FS15-21, 48-24, 53-30, 66-69, 75-157,)
~~Ensure the 2032 sustainable load of 435t/N/yr is met through~~ Only provide approval to non-complying farming activities and/or bush/scrub and/or plantation forestry ~~farm/property enterprises~~ where assessment has shown adverse effects to be minor and will to contribute to the Lake Rotorua Water Quality Objectives and Policies being met. ~~and reflect the:~~

~~i. need for all property/farming enterprises to contribute nitrogen reductions to achieve the annual sustainable load of 435tN.~~

~~ii. risk imposed on achieving the farming/property nitrogen loss exceptions or set reduction targets set for other organisations/operations (~~70-45)

Implementation matters

LRP16~~18~~ Acknowledge the 435tN/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.(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)

LRP17~~19~~ Acknowledge the increased demand on infrastructure located within the Lake Rotorua Groundwater Catchment resulting from future potential land use change. (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)

Methods

LR M1 Regional Council will supply information to Rotorua District Council for inclusion on Land Information Memorandum and resource consents that: (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)

(a) clearly identifies rural properties/farming enterprises that lie within the Lake Rotorua groundwater catchment boundary and are subject to these nitrogen management rules; and

(b) advises landowners of rural properties/farming enterprises identified in Method LR M1(a) to contact the Bay of Plenty Regional Council for further information.

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

providing for: (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)

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

LR M2 Regional Council will review and publish the science that determined the limits set in the RPS and the Regional Water and Land Plan for Lake Rotorua on a five yearly basis commencing from 2017 (16-3, 16-5, 45-13, 53-33, 75-161). These reviews ~~may~~ will (25-3, 26-20, 64-1, FS6-40, FS8-33, FS12-20, FS12-48, 82-16) include:

(a) Review of trends in Lake water quality attributes including nitrogen, phosphorus, Chlorophyll a, algal blooms, clarity, trophic level index[2] for in-lake, inflows, and outflow where relevant.

(b) Review of progress towards achieving the RPS Policy WL 6B(c) 2022 catchment nitrogen load ~~target~~ limit. (58-3)

(c) Review of the RPS Policy WL 3B(c) catchment nitrogen load, and a nominal phosphorus (external and internal) catchment load of 37 tP/yr[3], and any other nitrogen and phosphorus load combinations that catchment modelling shows would meet the Lake Rotorua Trophic Level Index of 4.2. This may necessitate:

(i) a review and rerun of the lake model (or any successor model), including its ability to replicate recent years data;

(ii) a review and rerun of ROTAN (or any successor model), including nitrogen loss rates, groundwater trends and attenuation rates, including OVERSEER® or similar estimates;

(iii) an assessment of the efficacy and risks of alum dosing and an assessment of land-based phosphorus loss mitigation.

(iv) Scenario runs of the Lake model, ROTAN or OVERSEER® for sensitivity analysis. (49-52, FS14-23)

(d) Review of relevant New Zealand and international lake water quality remediation science.

(e) Recommendations to Council to consider whether any action is appropriate. (53-38, 66-77, 75-166)

(f) Any science review and recommendations completed under Method 2 will be peer reviewed by a suitable qualified independent expert.(49-55, FS14-26)

LR M3 Regional Council will respond to the recommendations that result from Method LR M2 science reviews through a formal and public decision making process. This may include initiation of a plan change and review of resource consent conditions to ensure consents are aligned to the required water quality targets.(49-55, FS14-26)

LR M4 Regional Council will monitor permitted activities and any developing technologies to ensure that any related risks of ~~nitrogen~~ nutrient (53-40, FS6-42, 75-168, 66-78) loss to the catchment are understood ~~and acted on if necessary~~ to inform future plan changes and a review of permitted activity thresholds if required.(49-56, FS14-27, 70-49)

LR M5 Regional Council will:

(a) develop and maintain a Rule Implementation Plan to ensure accurate and consistent interpretation and implementation by Council and the public (56-4, FS8-45, FS12-52);

(b) report on the achievement of the Rule Implementation Plan on a five-yearly basis through

[2] Trophic Level Index is defined in the Operative Regional Water and Land Plan.

[3] This nominal phosphorus load was first determined by Rutherford et al (1989) and confirmed in subsequent advice from the Water Quality Technical Advisory Group.

plan effectiveness reporting;

(c) develop and maintain a Nitrogen Discharge Allocation ~~Allowance~~ (49-78, 49-30, FS14-17) Register, that will monitor catchment-wide progress towards meeting the RPS Policy WL 3B(c) catchment nitrogen load;

(d) provide land advisory services and incentives to support land use management ~~change~~ practices and/or (43-44, 70-51, FS15-42) land use change that reduces nitrogen and phosphorus loss in the catchment; and

(e) encourage ~~industry~~ good management practices to be implemented on rural properties/farming enterprises to reduce nitrogen and phosphorus loss in the catchment.

(f) Work collaboratively with community and industry experts to facilitate local community efforts to improve the water quality of Lake Rotorua. (62-6, FS7-30, FS8-34, 70-52, FS15-43)

(g) Develop within the Rotorua Te Arawa Lakes Programme an accounting methodology for the shift in nitrogen losses between rural and urban land uses (including for the purposes of recognising changes to waste water discharge loads). (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)

The Operative Regional Policy Statement outlines the following approach to address cross boundary issues specific to Waikato Regional Council

Regional Policy Statement Method 10: Liaise on cross boundary issues specific to Waikato Regional Council

Liaise with Waikato Regional Council to ensure:

- Any regional plans for that part of the Rotorua Lake Catchment within the Waikato region achieve the objectives set for the lake, particularly in relation to managing land use and nutrient discharge levels.

This method is provided for informational purposes only and not part of the plan change. It is not open for submission.

PART III LR: Lake Rotorua Nutrient Management

Rules

Rules LR R1 to LR R13 apply to the management of land use activities on properties/farming enterprises in the Lake Rotorua groundwater catchment for the purpose of managing nitrogen loss ~~onto or~~ from land (70-53, FS15-44, 43-46) where it could enter Lake Rotorua.

~~**Property/farming enterprise:** A single operating unit regardless of its ownership structure, size, arrangement and number of parcels and legal tenure.~~

~~For the purposes of these provisions, property/farming enterprise only relates to rural land within the Lake Rotorua groundwater catchment.~~ (43-47, 75-176)

General Advice Notes for rules

1 In accordance with the Resource Management Act 1991 Section 86B(3)(a) the following rules all have legal effect on and from the date this plan change is publicly notified.

2 In instances where a property/farming enterprise is located partly within the Lake Rotorua groundwater catchment and partly in another groundwater catchment, only the area within the Lake Rotorua groundwater catchment is subject to the rules in Part LR. Regardless of this, Bay of Plenty Regional Council will encourage a holistic property-based approach to reducing nitrogen loss wherever possible.

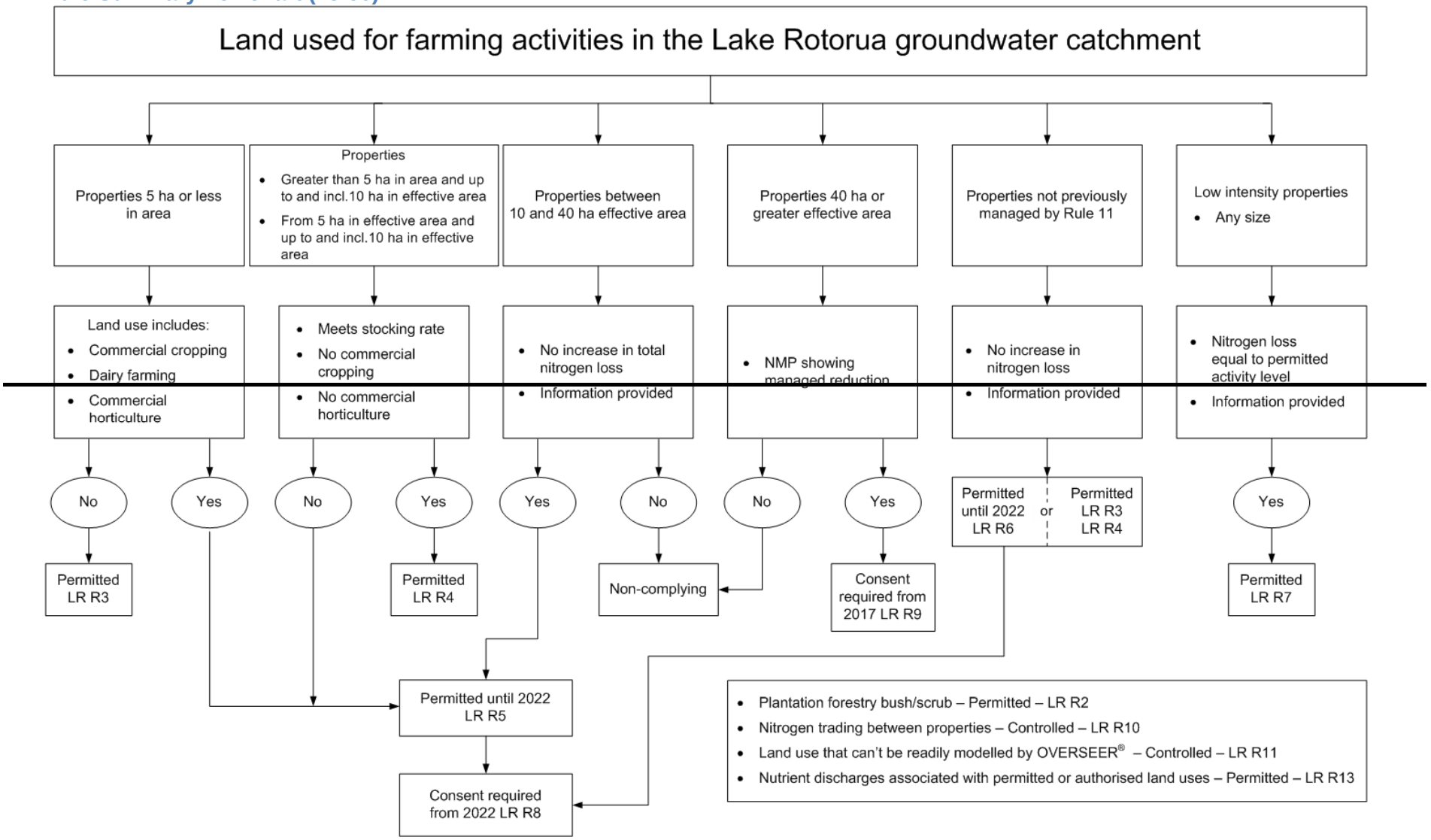
3 Discharges of nitrogen and phosphor~~e~~us (cl16) from on-site effluent treatment systems (including septic tanks) are addressed by provisions in the On-Site Effluent Treatment Regional Plan. Where an on-site effluent treatment system requires a consent under the On-Site Regional Effluent Treatment Plan, the activity will be assessed in accordance with the On-Site Effluent Treatment Regional Plan.

4 Provisions in the operative Regional Water and Land Plan that manage land, water, discharges and land use activities still apply to activities managed under Part II LR and Part III LR. Where there is an overlap between other regional plan provisions the more restrictive activity status or more stringent conditions to permitted rules apply.(43-48, 70-54, FS15-45)

~~5 Any grazing or lease arrangements need to comply with these rules and property owners (or persons undertaking the farming activities) are ultimately responsible for compliance.~~ (43-49, 70-55)

6 Templates for consent applications and information reporting requirements will be provided electronically and in hard copy.

~~Rule Summary flowchart (43-50)~~



Land Use Rules

LR R1 **Permitted – Until 30 June 2017, the use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment**

The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment is a permitted activity until 30 June 2017, subject to the following condition:

(a) There is no increase in the nitrogen loss from land resulting from an increase in effective area, nitrogen inputs or stocking rates from 29 February 2016 (cl16) ~~[date of notification] that may contribute to an increase in nitrogen loss onto, into or from land.~~(70-57)

LR R2 **Permitted – From 1 July 2017, the use of land for plantation forestry or bush/scrub**

From 1 July 2017, the use of land for plantation forestry or bush/scrub in the Lake Rotorua groundwater catchment is a permitted activity, subject to the following conditions:

(a) The land use remains in plantation forestry with no more than a two year interval between harvesting and replanting or upon harvesting the land is permanently retired; or

(b) The land use remains in bush/scrub and is not used for grazing; and

(c) There is no transfer of ~~nitrogen loss entitlement~~ Nitrogen Discharge Allocations or Managed Reduction Offsets (49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) either to or from the property/farming enterprise prior to 2022.(70-58)

Advice Note:

1 Plantation forestry and bush/scrub may be managed as part of a pastoral property/farming enterprise.

LR R3 **Permitted – From 1 July 2017, the use of land for farming activities on properties/farming enterprises 5 hectares or less in area**

Farming activities on properties/farming enterprises 5 hectares or less in area in the Lake Rotorua groundwater catchment are a permitted activity from 1 July 2017 subject to the following conditions:

(a) No commercial cropping or commercial horticulture or commercial dairying occurs on the land; and

(b) There is no transfer of ~~nitrogen loss entitlement~~ Nitrogen Discharge Allocations or Managed Reduction Offsets (49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) either to or from the property/farming enterprise prior to 2022. (70-58)

Advice Notes:

1 Rule LR R3 uses “area” as opposed to “effective area”.

2 If the land use does not meet the conditions of LR R3, it may be permitted by LR R5 (until 30 June 2022) or LR R7 or consent will be required by Rule LR R8.

LR R4 **Permitted – From 1 July 2017, the use of land for farming activities on properties/farming enterprises greater than 5 hectares in area and up to and including 10 hectares in effective area**

The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment~~: G~~ greater than 5 hectares in area and up to and including 10 ha in effective area~~; or From 5 hectares in effective area and up to and including 10 hectares in effective area,~~ (56-6, 70-62, 43-54) is a permitted activity from 1 July 2017 subject to the following conditions:

(a) The stocking rate that occurs on the effective area does not exceed the stocking rates specified in Schedule LR Two at any point in time; and

(b) No commercial cropping or commercial horticulture occurs on the land; and

(c) There is no increase in the nitrogen loss from land resulting from an increase in effective area or nitrogen inputs from 29 February 2016 [~~date of notification~~] (92-2, FS6-72) ~~that may contribute to an increase in nitrogen loss onto, into or from land;~~ (70-57) and

(d) There is no transfer of ~~nitrogen loss entitlement~~ Nitrogen Discharge Allocations or Managed Reduction Offsets (49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) either to or from the property/farming enterprise prior to 2022.(70-58)

Advice Notes:

1 Schedule LR Two provides permitted activity stocking rates to enable the calculation of stock unit numbers to meet the requirements of Rule LR R4.

2 If the land use does not meet the conditions of LR R4, it may be permitted under Rule LR R5 or Rule LR R6 (until 30 June 2022). As of 1 July 2022, consent will be required under LR R8 unless permitted by LR R7.

LR R5 Permitted – From 1 July 2017 until 30 June 2022, the use of land for farming activities on properties/farming enterprises greater than 10 hectares in effective area and less than 40 hectares in effective area or that are not permitted under Rule LR R3 or LR R4.

The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment:

- Greater than 10 hectares in effective area and less than 40 hectares in effective area; or
- Greater than 5 hectares in area and up to and including 10 hectares in effective area but the land use does not comply with LR R4 (a) and LR R4(b); or
- 5 hectares or less in area but the land use does not comply with Rule LR R3(a).

is a permitted activity from 1 July 2017 until 30 June 2022 subject to the following conditions:

(a) There is no increase in the nitrogen loss from land resulting from an increase in effective area, nitrogen inputs or stocking rates from 29 February 2016 [~~date of notification~~] (92-3, FS6-73) ~~that may contribute to an increase in nitrogen loss onto, into or from land;~~ (70-57) and

(b) Annual land use information records, as required in Schedule LR Three must be submitted by 31 October each year from and including 2017; and

(c) There is no transfer of ~~nitrogen loss entitlement~~ Nitrogen Discharge Allocations or Managed Reduction Offsets (49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) either to or from the property/farming enterprise prior to 2022.(70-58)

Advice Note

1 If properties/farming enterprises less than 40 hectares in effective area do not meet the conditions of Rule LR R5, they may still be permitted by Rule LR R7 or consent will be required under Rule LR R8 after 2022.

2 This rule applies to properties in the Lake Rotorua groundwater catchment that were previously managed by Rule 11 – 11F. Properties within the catchment that were not managed by Rule 11 – 11F (see Schedule LR Four) are managed by Rule LR R6.

LR R6 **Permitted – From 1 July 2017 until 30 June 2022, the use of land for farming activities on properties/farming enterprises not previously managed by Rules 11 to 11F**

The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment that

- Has not been previously managed by Rules 11 to 11F as shown in Schedule LR Four, or
- Is not otherwise permitted in Rules LR R2, LR R3, LR R4 or LR R5

is a permitted activity until 30 June 2022 subject to the following conditions:

(a) The majority (greater than 50% by title area) of the property has not been previously managed by Rules 11 to 11F; and

(b) There is no increase in the nitrogen loss from land resulting from an increase in effective area, nitrogen inputs or stocking rates from 29 February 2016 [~~date of notification~~] (92-4, FS6-74) ~~that may contribute to an increase in nitrogen loss onto, into or from land~~; (70-57) and

(c) Annual land use information records, as prescribed in Schedule LR Three must be submitted by 31 October each year from and including 2017; and

(d) There is no transfer of ~~nitrogen loss entitlement~~ Nitrogen Discharge Allocations or Managed Reduction Offsets (49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) either to or from the property/farming enterprise prior to 2022.(70-58)

Advice Note:

1 Rule LR R6 applies to properties/farming enterprises that are not located in the surface water catchment of Lake Rotorua, but are located in the groundwater catchment of Lake Rotorua as shown in Schedule LR Four.

2 From 2022 (65-4) ~~I~~if properties/farming enterprises in the Lake Rotorua groundwater catchment not previously managed by Rules 11 to 11F do not meet the permitted (65-4) conditions of Rules LR R3, LR R4, LR R6 or LR R7 they will be managed by Rule LR R8.

3 Properties/farming enterprises with 50% or more of the title area subject to Rule 11 to 11F will be managed by Rules LR R3, LR R4, LR R5 or LR R9.

LR R7 **Permitted – From 1 July 2017, the use of land for low intensity farming activities on properties/farming enterprises**

The use of land for low intensity farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment, ~~where the nitrogen loss from the effective area is less than 68% of the nitrogen loss rate generated by the drystock reference file prescribed in Schedule LR Five~~ is a permitted activity from 1 July 2017, ~~subject to the following condition~~ where the nitrogen loss from (56-12, FS8-27):

- the effective area is less than 71% of the nitrogen loss rate generated by the drystock reference file prescribed in Schedule LR Five (excluding areas of grazed trees that existed in the 2001-04 period) (56-12, FS8-27).
- the effective area of grazed trees that existed in the 2001-04 period does not exceed the Benchmarked discharge rate or if not Benchmarked the average Benchmark discharge rate for grazed trees (56-12, FS8-27).

Subject to the following conditions (56-12, FS8-27):

(a) Landowners must submit an OVERSEER® file ~~upon the commencement of use of land for low intensity farming activities~~ and every three years thereafter, prepared by a suitably qualified and experienced person, demonstrating that the ~~effective area (excluding areas of grazed trees that existed in the 2001-04 period) complies with the definition of low intensity farming (56-12, FS8-27, 56-11) property/farming enterprise's nitrogen loss is less than 68% of the nitrogen loss rate generated by the drystock reference file prescribed in Schedule LR Five~~; (43-64, 43-65) and~~:~~ the grazed trees effective area does not exceed

the Benchmarked discharge rate or if not Benchmarked the average Benchmark discharge rate for grazed trees; and (56-12, FS8-27, 56-11):

Either

1 ~~Annual~~(56-12, FS8-27) Land use information records must be submitted on an annual basis, by 31 October each year to confirm that the activities and practices within the ~~nitrogen loss from the~~ effective area of the property/farming enterprise~~'s from (56-10) stocking rates, nitrogen inputs~~ and areas of land use (including fodder cropping, cultivated area and land clearance) remain the same or less than that recorded within the OVERSEER® file from (a)(70-71, 70-73)

Or

2 Provide a new OVERSEER® file, prepared by a suitably qualified and experienced person, demonstrating that the property/farming enterprise's nitrogen loss from the effective area ~~is less than the nitrogen loss rate generated~~ (56-10) meets the requirements described in (a).~~by the permitted activity reference file prescribed in Schedule LR Five.~~(56-12, FS8-27)

(b) There is no transfer of ~~nitrogen loss entitlement~~ Nitrogen Discharge Allocations or Managed Reduction Offsets (49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) either to or from the property/farming enterprise prior to 2022.(70-58)

(c) There is no increase in the nitrogen loss from land resulting from an increase (70-57) in effective area or nitrogen inputs from 29 February 2016 ~~that contributes to an increase in nitrogen loss onto, into or from land~~. (92-5, FS18-1)

~~**Advice Note:**~~

~~1 Under OVERSEER® version 6.2.0 the permitted activity reference file has a value of 18 kg N/ha/yr. See Schedule LR Five.~~ (43-66, 70-72)

LR R8 Controlled – The use of land for farming activities on properties/farming enterprises less than 40 hectares in effective area, or ~~that~~ ~~were~~ (43-69, FS15-23) not previously managed by Rule 11 to 11F, ~~that~~ or where neither ~~do not~~ (43-69, FS15-23) meet permitted activity conditions

The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment where:

- The property/farming enterprise is less than 40 hectares in effective area or
- The property/farming enterprise was not previously managed by Rule 11 to 11F or; ~~and~~ (43-69, FS15-23)

  ~~The activity does not comply with permitted activity conditions in Part LR,~~ The activity does not comply with permitted activity conditions for the use of land for farming activities.(56-14, 65-6)

is a controlled activity ~~from 1 July 2022~~ (43-69, FS15-23) subject to the

following conditions:

(a) A 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and relevant Managed Reduction Targets have been determined for the land in accordance with Schedule LR One and Policy LR P8; and

(b) A Nutrient ~~Nitrogen~~ (43-70, FS15-8) Management Plan has been prepared for the property/farming enterprise by a suitably qualified and experienced person and that person has certified that the Nutrient ~~Nitrogen~~ (43-70, FS15-8) Management Plan has been prepared in accordance with Schedule LR Six.

Bay of Plenty Regional Council reserves control over the following:

(i) The approval of the 2032 Nitrogen Discharge Allocation ~~Allowance~~ (49-78) and Managed

Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P8.

(ii) Setting of the appropriate frequency for the submission of an ~~annual~~ (43-73, FS15-24, 70-74) OVERSEER® file, prepared by a suitably qualified and experienced person, demonstrating implementation of the Nutrient ~~Nitrogen~~ (43-94, FS15-17) Management Plan.

(iii) The requirement for ~~-~~contractual written ~~landowner~~ approval from the land owner of any leased land agreeing to proposed nitrogen loss mitigations to be undertaken. on ~~their~~ that ~~-~~land.(70-80)

(iv) The form of information and documentation to support the OVERSEER® file including data inputs and protocols.

(v) Circumstances that may require a review of a Nitrogen Discharge Allocation, (56-15) Nutrient ~~Nitrogen~~ (43-71, FS15-9) Management Plan or consent conditions including a change to property size, the sale or disposal of land, permanent removal of Nitrogen Discharge Allocation ~~Allowance~~ (49-78) from the catchment, changes in lease arrangements, significant farm system changes and subdivision, or changes to the Regional Policy Statement or Regional Plan resulting from Method 2 and Method 3. (49-72) ~~.~~

(vi) Implementation of the ~~Nitrogen~~ Nutrient (43-72, FS15-10) Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allocation ~~Allowance~~ (49-78).

(vii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nutrient ~~Nitrogen~~ (43-94, FS15-17, 53-74) Management Plan.

(viii) The duration of the consent to reflect the nature, scale and robustness of any on farm mitigation options proposed and Policy LRP16. (56-19)

Applications for controlled activities under this rule do not require the written approval of affected persons and shall not be publicly notified except where the Regional Council considers special circumstances exist in accordance with Section ~~94C~~ 95A(4) (cl16) of the ~~Resource Management~~ Act (cl16).

LR R9 Controlled – From 1 July 2017, the use of land for farming activities on properties/farming enterprises that are 40 hectares or more in effective area

The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment where:

- The property/farming enterprise is 40 hectares or more in effective area, and
- The activity does not comply with the permitted activity conditions in Rule LR R7,

is a controlled activity from 1 July 2017, subject to the following conditions:

(a) A 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and relevant Managed Reduction Targets have been determined for the land in accordance with Schedule LR One and Policy LR P8; and

(b) A ~~Nitrogen~~ Nutrient (43-77, FS15-11) Management Plan has been prepared for the property/farming enterprise by a suitably qualified and experienced person and that person has certified that the Nutrient ~~Nitrogen~~ (43-77, FS15-11) Management Plan has been prepared in accordance with Schedule LR Six.

Bay of Plenty Regional Council reserves control over the following:

(i) The approval of the 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P8.

(ii) Setting of the appropriate frequency for the submission of an ~~annual~~ (70-82) OVERSEER® file prepared by a suitably qualified and experienced person, demonstrating implementation of the ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74)

Management Plan.

(iii) The requirement for ~~-~~contractual written ~~landowner~~ approval from the land owner of any leased land agreeing to proposed nitrogen loss mitigations to be undertaken. on ~~their~~ that ~~-~~land.(70-80)

(iv) The form of information and documentation to support the OVERSEER® file, including data inputs and protocols.

(v) Circumstances that may require a review of a Nitrogen Discharge Allocation, (56-16) Nutrient ~~Nitrogen~~ (43-78, FS15-12)Management Plan or consent conditions including a change to property size, the sale or disposal of land, permanent removal of Nitrogen Discharge ~~Allowance~~ Allocation from the catchment, changes in lease arrangements, significant farm system changes and subdivision~~.~~, or changes to the Regional Policy Statement or Regional Plan resulting from Method 2 and Method 3 . (49-73).

(vi) Implementation of the ~~Nitrogen~~ Nutrient (43-79, FS15-13) Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge ~~Allowance.~~Allocation. (49-78)

(vii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the ~~Nitrogen~~ Nutrient (43-79, FS15-13) Management Plan.

(viii) The duration of the consent to reflect the nature, scale and robustness of any on farm mitigation options proposed and Policy LRP16. (56-20)

Applications for controlled activities under this rule do not require the written approval of affected persons and shall not be publicly notified except where the Regional Council considers special circumstances exist in accordance with Section ~~94C~~ 95A(4) (cl16) of the ~~Resource Management~~ Act (cl16).

LR R10 Controlled – From 1 July 2022, the transfer of ~~nitrogen loss entitlements~~ Nitrogen Discharge Allocations or Managed Reduction Offsets ~~(~~49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) between properties/farming enterprises

The transfer of ~~nitrogen loss~~ entitlement ~~(~~Nitrogen Discharge ~~Allowance~~ Allocations (49-78) or Managed Reduction Offsets~~)~~ between properties/farming enterprises in the Lake Rotorua groundwater catchment that occurs after 1 July 2022 is a controlled activity subject to the following conditions:

(a) Any transfer of a ~~nitrogen loss entitlement~~ (49-30, FS14-17, 49-79, 53-73, 66-110, 75-204) ~~(~~Nitrogen Discharge Allocation ~~Allowance~~ (49-78) or Managed Reduction Offset~~)~~ complies with Schedule LR Seven;

(b) A new 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and new Managed Reduction Targets have been determined for both the source and destination land in accordance with Schedule LR One and Policy LR P8; and

(c) A ~~Nitrogen~~ Nutrient (43-84, FS15-14) Management Plan has been prepared for both the source and destination land by a suitably qualified and experienced person and that person has certified that each ~~Nitrogen~~ Nutrient (43-84, FS15-14) Management Plan has been prepared in accordance with Schedule LR Six.

Bay of Plenty Regional Council reserves control over the following:

(i) The approval of the 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P8.

(ii) Setting of the appropriate frequency for the submission of an ~~annual~~ (70-83) OVERSEER® file, prepared by a suitably qualified and experienced person, demonstrating implementation of the ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan.

(iii) The requirement for ~~-~~contractual written ~~landowner~~ approval from the land owner of any leased land agreeing to proposed nitrogen loss mitigations to be undertaken. on ~~their~~ that ~~-~~land.(70-80)

~~(iv) The form of information and documentation to support the OVERSEER® file. This includes data inputs used for the OVERSEER® file and the application of the Lake Rotorua Groundwater Catchment Nitrogen Protocols published by the Regional Council.~~ (56-23)

(iv) The form of information and documentation to support the OVERSEER® file, including data inputs and protocols.(56-23)

(v) Circumstances that may require a review of a Nitrogen Discharge Allocation, (56-17) ~~Nitrogen~~ Nutrient (43-85, FS15-15) Management Plan or consent conditions including a change to property size, the sale or disposal of land, changes in lease arrangements, significant farm system changes and subdivision, or changes to the Regional Policy Statement or Regional Land and Water Plan resulting from Method 2 and Method 3 (49-73).

(vi) Implementation of the ~~Nitrogen~~ Nutrient (43-86, FS15-16) Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge ~~Allowance.~~ Allocation.(49-78)

(vii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the ~~Nitrogen~~ Nutrient (43-94, FS1517, 53-74) (Management Plan.

(viii) The duration of the consent to reflect the nature, scale and robustness of any on farm mitigation options proposed. (56-21)

Applications for controlled activities under this rule do not require the written approval of affected persons and shall not be publicly notified except where the Regional Council considers special circumstances exist in accordance with Section ~~94C~~ 95A(4) (cl16) of the Act.

Advice Note:

1 Transfer does not include the permanent removal of Nitrogen Discharge ~~Allowances~~ Allocation (49-78) from the catchment by the Lake Rotorua Incentives ~~Board~~ Committee (cl16) or other organisation.

2 Managed Reduction Offsets can be used to meet 2022 and 2027 Managed Reduction Targets.

3 The transfer of nitrogen between properties either as Managed Reduction Offsets (short term trading) or Nitrogen Discharge Allocations (long term trading) is implemented by the issuing of new resource consents and new Nutrient Management Plans for the source and destination land. (56-24)

LR R11 Controlled – The use of land for farming activities on properties/farming enterprise that cannot be ~~readily~~ (64-25) modelled by OVERSEER®

The use of land for farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment:

- From 1 July 2017, that are 40 hectares or greater in effective area; and
- From 1 July 2022, that are less than 40 hectares in effective area unless otherwise permitted by Rules LRR3 to LRR7 (65-7).

that cannot be ~~readily~~ (64-25) modelled by OVERSEER® is a controlled activity subject to the following conditions:

(a) A 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and relevant Managed Reduction Targets have been determined for the land in accordance with Policy LR P8; and

(b) A ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan has been prepared for the property or farm enterprise, in accordance with Schedule LR Six, by a suitably qualified and experienced person.

Bay of Plenty Regional Council reserves control over the following:

(i) The suitability of any alternative nutrient budgeting ~~or alternative~~ model (43-93, 70-94), in accordance with Policy LR P14, when OVERSEER® is not applicable.

(ii) The extent or proportion of nitrogen reductions required and estimates of nitrogen reductions likely to be achieved.

(ix) The requirement for ~~-~~contractual written ~~landowner~~ approval from the land owner of any leased land agreeing to proposed nitrogen loss mitigations to be undertaken. on ~~their~~ that ~~-~~land.(70-80)

(iii) The specification of the 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and Managed Reduction Targets for the land subject to the application, set in accordance with Policy LR P8.

(iv) Setting of the appropriate frequency for ~~T~~the submission of ~~annual~~ (70-83) information ~~or nitrogen budget,~~ prepared by a suitably qualified and experienced person, demonstrating implementation of the ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan.

(v) The form of information and documentation to support ~~the nutrient budget or~~ alternative nutrient budgeting model. (43-93, 70-94)

(vi) Circumstances that may require a review of a Nitrogen Discharge Allocation, (56-18) ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan or consent conditions including a change to property size, the sale or disposal of land, changes in lease arrangements, significant farm system changes and subdivision, or changes to the regional policy statement or regional plan resulting from Method 2 and Method 3. (49-72).

(vii) Implementation of the ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge ~~Allowance~~ Allocation (49-78).

(viii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan.

(ix) The duration of the consent to reflect the nature, scale and robustness of any on farm mitigation options proposed.(56-22)

Applications for controlled activities under this rule do not require the written approval of affected persons and shall not be publicly notified except where the Regional Council considers special circumstances exist in accordance with Section ~~94C~~ 95A(4) (cl16) of the Act.

Advice Note:

1 In determining the extent or proportion of nitrogen reductions required for a property/farming enterprise Council will adopt an approach that seeks an “equal effort” reduction in nitrogen loss against comparable land uses or sector.

LR R12 Non-complying – The use of land for farming activities with non point source loss of nitrogen from land use activities that do not meet the conditions of permitted or controlled rules

The use of land for farming activities with non-point source loss of nitrogen from land use activities that is not otherwise authorised by permitted or controlled activity rules is a non-complying activity.

Discharge Rule

LR R13 Permitted – Incidental nutrient discharges

The discharge of nutrients onto or into land in circumstances that may result in a contaminant entering water that would otherwise contravene section 15(1)(b) of the Resource Management Act is a permitted activity, provided the land use associated with the discharge is authorised under Rules LR R1 to LR R11.

Definitions

The following definitions apply only to Part II LR and Part III LR of the Regional Water and Land Plan.

Block: An area of land within a property/farming enterprise that has common physical and management attributes. OVERSEER® categorises blocks into types e.g. pastoral, fodder crop, trees and scrub, house. There may be multiple blocks of the same type within a property/farming enterprise reflecting the different physical or management characteristics of each of the blocks.

Bush/Scrub: Areas of native forest, bush, scrub, wetlands and exotic non-productive woody species (including gorse) which are not grazed by stock.

Commercial cropping: The intensive cultivation of forage crops, fodder crops or maize for the intent of sale to the general public. (21-11, 56-27)

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. (21-11, 56-27)

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. (21-11, 56-27)

Cropping: Includes a property/farming enterprise's effective area used for forage crops, fodder crops, maize and cultivation but does not include alternative pasture species.

Dairy: The effective area on which milking cows are grazed during the milking season and includes the animal effluent disposal area and fodder crop areas but excludes land used as dairy support, plantation forestry and bush/scrub.

Dairy support: land used for heifer grazing or the wintering off of cows. *Note: dairy support's nitrogen loss allowance is included within the drystock allocation range.*

Drystock: The effective area used for non-dairy activity, including grazing of sheep, beef cattle, goats, horses, deer, cropping and dairy support but excluding plantation forestry and bush/scrub.

Effective area: The part of the property/farming enterprise that is used for grazing, cultivation, cropping, horticulture, ~~and~~ effluent disposal and includes areas of grazed trees (56-25).

Farming Activity: dairy, dairy support and drystock activities, cropping and horticulture, but not including plantation forestry or bush/scrub

Good management practices (GMP): GMP refers to the evolving suite of tools or practical measures that could be put in place at a land user, sector and industry level to assist in achieving community agreed outcomes (in this case for water quality) (43-24, FS15-7).

Grazed trees: Areas of trees, scrub or wetlands that ~~under Rule 11~~ were ~~also~~ grazed by stock during the 2001-04 benchmarking period (56-26). These areas typically have low nitrogen discharges.

House block: The area around a house including gardens, driveways and sheds where these areas are not grazed by stock**.**

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.(21-11, 56-27)

Horticulture: Includes a property/farming enterprise's effective area used for nurseries, orchards, vineyards

or growing vegetables for human consumption.

Lake Rotorua groundwater catchment: All land within the groundwater catchment boundary identified in Map 1.

Low Intensity Farming: Farming activities that generate less than 71% (56-8) of the nitrogen loss rate generated by the drystock reference file as prescribed in Schedule LR5. (43-92, FS15-31, 43-63, 49-34, 70-89, FS6-52, 56-9, FS6-48, 70-70)

Managed Reduction: The planned progressive reduction of nitrogen losses from a property/farming enterprise over time to reach a Nutrient Discharge Allowance.

Managed Reduction Target: Managed Reduction Targets describe the nitrogen reductions required in each five-year timeframe which in total equal the difference between the Start Point and Nitrogen Discharge Allocation. They are ~~T~~ the maximum amounts of nitrogen loss ~~that is~~ allowed to occur from a property/farming enterprise at a target date (1 July 2022 and 1 July 2027). They are calculated as a percentage of the total reduction required and will be expressed as a percentage of the relevant reference files. (70-93, FS15-49)

Managed Reduction Offset: Nitrogen loss capacity that is transferred from a source property/farming enterprise for addition to the managed reduction pathway of a destination property/farming enterprise to meet a Managed Reduction Target.

Nitrogen: refers to elemental nitrogen as measured as Nitrogen Discharge Allowances (kgN/ha/yr) or as annual lake loads (tonnes N/yr). It is noted that the predominant form of leached nitrogen is the nitrate ion (NO_3^-).

~~**Nitrogen budget:** An estimate of the total nitrogen balance for a particular property/farming enterprise, taking into account all the nitrogen inputs and all the outputs~~ (70-40, FS6-35, 66-67, 75-153, 53-28)

Nitrogen Discharge Allocation ~~Allowance~~ (49-78): The maximum annual amount of nitrogen loss that is allowed to occur from a property/farming enterprise post 1 July 2032. A property/farming enterprise's Nitrogen Discharge Allocation equals the sum of the allowable nitrogen losses, for all of the blocks within the property/farming enterprise (drystock, dairy, bush/scrub, plantation forestry and house blocks). They are expressed as a percentage of the relevant reference files. (70-93, FS15-49)

~~Nitrogen Discharge Allowances are allocated on a block basis and these are summed to provide a property/farming enterprise total.~~(43-96, 70-96, FS15-52)

~~**Nitrogen loss entitlement:** A Nitrogen Discharge Allowance Allocation (49-78) or Managed Reduction Offset.~~ **(**49-79, 53-73)

~~**Nitrogen**~~ **Nutrient (43-94, FS15-17, 53-74) Management Plan:** A plan prepared for a property or farming enterprise that identifies sources of nutrients associated with land uses ~~the farming activity~~ (49-74) and that records mitigation actions to reduce nitrogen losses to meet Managed Reduction Targets and the Nitrogen Discharge ~~Allowance~~ Allocation(49-78) and to manage phosphorus loss. The requirements of a Nutrient ~~Nitrogen~~ (43-94, FS15-17, 53-74) Management Plan are specified in Schedule LR Six.

OVERSEER®: OVERSEER® Nutrient Budgets model (commonly referred to as OVERSEER®) is a software application that generates information about the flow of nutrients on and off a farm. OVERSEER® calculations are based on a 01 July to 30 June period.

OVERSEER® File: An OVERSEER® File represents the record of farm system data which is used to execute the OVERSEER® Nutrient Budgets model for a single analysis of the farm and its management system. (70-96, FS15-52, 43-97). This provides ~~A~~an estimate of the total nitrogen balance for a particular property/farming enterprise using OVERSEER®, taking into account nitrogen inputs and outputs. (70-96, FS15-52, 43-97)

Plantation forestry: Areas of planting, earthworks, forestry tracks, skid sites, the maintenance and/or harvesting of tree species for commercial purposes, and non-planted areas directly related to forestry operations (3-3, FS6-55) which are not grazed by stock

Permanently retired: The permanent removal of plantation forestry and/or agricultural production to enable a natural reversion back to native forest cover (or a land use with the same nitrogen loss rate as bush/scrub)

that is legally secured.

Phosphorous (cl16): refers to elemental phosphorus in dissolved, particulate and organic forms.

Property/farming enterprise: A single operating unit regardless of its ownership structure, size, arrangement and number of parcels and legal tenure.

For the purposes of these provisions, property/farming enterprise only relates to rural land within the Lake Rotorua groundwater catchment.

Reference files: Reference files are OVERSEER® files that have been created for plantation forestry, bush/scrub, house blocks and hypothetical dairy and drystock properties that are used to manage changes in nitrogen loss rates arising from OVERSEER® version updates.
~~OVERSEER® files that provide a point of reference for the Lake Rotorua groundwater catchment and that represent the biophysical factors and farming systems found within the catchment.~~ (43-98, FS6-57, 70-97, FS15-53)

Rural: In relation to land and properties/farming enterprises within the Lake Rotorua groundwater catchment means land identified on Map LR 1.

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. (70-50, FS15-41)

Significant Farm System Change: A change in farm ~~practice~~ system 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. (70-90)

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. (43-101, 70-91)

Suitably qualified and experienced person: A person who:

- Implements OVERSEER® input best practice and uses standard protocols recognised and approved by the Bay of Plenty Regional Council including those specific to the Lake Rotorua groundwater catchment; and
- has completed both the “Intermediate” and the “Advanced” courses in “Sustainable Nutrient Management in New Zealand Agriculture” conducted by Massey University and has at least five years’ work experience in a land use/farm advisory role; or
- is approved in writing by the Chief Executive (or delegate thereof) of the Bay of Plenty Regional Council.

Schedule LR One – Methodology to determine Start Points, Managed Reduction Targets and Nitrogen Discharge ~~Allowances~~ Allocations (49-78)

Start Points, Managed Reduction Targets and Nitrogen Discharge ~~Allowances~~ Allocations (49-78) must be calculated and authorised by the Regional Council.

Start Points, Managed Reduction Targets and Nitrogen Discharge ~~Allowances~~ Allocations (49-78) are expressed as a percentage of the relevant reference file (see Schedule LR Five).

A. Start Points and Nitrogen Discharge ~~Allowances~~ Allocations (49-78)

The Start Points from which the 2032 Nitrogen Discharge ~~Allowances~~ Allocations (49-78) are calculated are set out in Table LR 5 below~~:~~ .

For Benchmarked properties - the Benchmark, land use and effective area are defined by, and are what existed in, the 2001-04 period. For non-Benchmarked properties the Derived Benchmark is defined by the 2001-04 Benchmark averages, and the land use and effective area are what existed in the 2002/03 period. Any lawful change is taken into account. All Benchmark information is converted to OVERSEER® 6.2.0 for the purpose of calculating Nitrogen Discharge Allocations. (56-28)

Table LR 5: Start Points and Nitrogen Discharge Allowances.

Rules category	Rule 11 status	~~2017~~ (70-95) Nitrogen management start	2032 NDA
40 ha or greater	Benchmarked	Actual Benchmark~~.~~ (from Benchmarked land use and effective area). (56-29)	Actual Benchmark and land use applied to allocation methodology.
	Not benchmarked	Derived Benchmark. (function of 2001-04 sector benchmark average, and 2002-03 land use and effective area) (56-32) ~~Function of 2002-03 land use and 2001-04 sector average~~ ***unless evidence of ~~substantial~~ significant farm system change.(70-100)***	Derived Benchmark and land use applied to allocation methodology.
Between 10-40 ha Consented	Benchmarked	Actual Benchmark. (from Benchmarked land use and effective area). (56-30)	Actual Benchmark and land use applied to allocation methodology.
	Not Benchmarked[2]	Derived Benchmark. (Function of 2001-04 sector Benchmark average, and 2002-03 land use and effective area (56-33) ~~Function of 2002/03 land use and 2001-04 sector average~~ ***unless evidence of ~~substantial~~ significant farm system change.)(70-100)***	Derived Benchmark and land use applied to allocation methodology.
Rules category	**Rule 11 status**	**~~2022~~ (70-95) Nitrogen management start**	**2032 NDA**

Less than 40 ha 2017 Permitted 2022 Consented	Benchmarked	Actual Benchmark. (from Benchmarked land use and effective area). (56-31)	Actual Benchmark and land use applied to allocation methodology.
	Not Benchmarked	Derived Benchmark. (~~Function of 2002/03 land use and 2001-04 sector average~~ (function of 2001-04 sector benchmark average, and 2002-03 land use and effective area) (56-32) ***unless evidence of ~~substantial~~ significant farm system change.)(75-102, 75-100)***	Derived Benchmark and land use applied to allocation methodology.
For properties/farming enterprises within the Lake Rotorua groundwater catchment that were not previously managed under Rule 11 to 11F (LR R5)	Not Benchmarked	Derived Benchmark (This will be created through the application of OVERSEER® to the actual land use and effective area (56-34) in place during the 36 month period ending on 01 January 2016.)(75-102)	Derived Benchmark and land use applied to allocation methodology

B. Nitrogen Discharge Allocation methodology

The following process will be used to calculate Nitrogen Discharge Allocations ~~Allowances~~ (49-78) for all Dairy and Drystock blocks. For house blocks, plantation forestry and bush/scrub no reductions are required.

(a) Take actual or Derived Benchmark from Table LR 5.

(b) Apply the standard sector % reduction (from Table LR 6) for all blocks except:

(i) Those blocks where the benchmark is already below the relevant Nitrogen Discharge ~~Allowance~~ Allocation (49-78) sector range; or

(ii) Those blocks where applying the standard sector % reduction would cause the Nitrogen Discharge ~~Allowance~~ Allocation (49-78) to fall below the relevant Nitrogen Discharge ~~Allowance~~ Allocation (49-78) sector range,

where in both cases the Nitrogen Discharge ~~Allowance~~ Allocation (49-78) shall be set at the bottom value of the relevant Nitrogen Discharge ~~Allowance~~ Allocation (49-78) sector range.

(iii) No property/farming enterprise will be required to reduce its nitrogen loss below the bottom of the relevant sector nitrogen loss range.(75-138)

(c) Following the application of the standard sector % reduction (from Table LR 6), any block that is above the relevant Nitrogen Discharge ~~Allowance~~ Allocation (49-78) sector range is assigned the upper value of that range.

A property's Nitrogen Discharge ~~Allowance~~ Allocation (49-78) equals the sum of the allowable nitrogen losses for all of the blocks within the property (drystock, dairy, bush/scrub, plantation forestry and house block). Nitrogen Discharge Allocations are calculated in kg/N/ha/yr using OVERSEER® 6.2.0 and are then expressed as a percentage of the relevant reference file. (56-36)

The combination of parameters and figures in Table LR 6 below supports the allocation methodology that

achieves the required reductions and sector contributions within the Integrated Framework:

Table LR 6: Allocation parameters and figures.

	Dairy	Drystock
Standard sector % reduction	31.3%	20.0%
Nitrogen Discharge Allowance average	64.5	25.6
Lower Nitrogen Discharge ~~Allowance~~ Allocation (49-78) range boundary	54.6	18.0
Upper Nitrogen Discharge ~~Allowance~~ Allocation (49-78) range boundary	72.8	54.6
Sector contribution from Integrated Framework	35.3%	17.2%

Table notes: ~~*a) the Nitrogen Discharge Allowances are in kgN/ha/yr*~~ *(56-36, 56-35)*

~~*B*~~ *a) the Nitrogen Discharge ~~Allowance~~ Allocation (49-78) average shows the average for blocks within the range. The application of the methodology results in some blocks being given an increase in relative NDA meaning non-benchmarked blocks receive an average NDA of 24.7* kgN/ha/yr for drystock and 68.5 kgN/ha/yr for dairy.

C. Managed Reduction Targets

Managed Reduction Targets are the reductions required in each five-year timeframe which in total equal the difference between the Start Point and Nitrogen Discharge ~~Allowance~~ Allocation. (49-78) They are calculated as a percentage of the total reduction required (as shown in Table LR 7) and will be expressed as percentages in relation to the relevant reference files (see Schedule LR Five).

Table LR 7: Managed Reduction Targets.

Managed Reduction Target Date For 2017 Start	Integrated Framework reduction (tN/yr) to be achieved	% of total reduction required	Managed Reduction Targets as % of total reduction required
1 July 2022	44	31.4%	31.4%
1 July 2027	48	34.3%	65.7%
1 July 2032	48	34.3%	100.0%
	140	**100.0%**	

Managed Reduction Target Date For 2022 Start	% of total reduction required	Managed Reduction Targets as % of total reduction required
1 July 2022	N/A	N/A
1 July 2027	50%	50%
1 July 2032	50%	100%
	100.0%	

If there is a need to recalculate a Nitrogen Discharge ~~Allowance~~ Allocation (49-78) due to a transfer of Nitrogen Discharge ~~Allowance~~ Allocation (49-78) the Managed Reduction Targets will be recalculated to maintain the same proportional rate of reduction.

D. Additional matters

- Exceptional circumstances may exist that imply a need to assess amendments to the Nitrogen

Discharge ~~Allowance~~ Allocation (49-78) calculations on a case by case basis. This may include consideration of previous on-farm nitrogen loss mitigations implemented on the property, lawfully established activities that result in nitrogen discharges and non-pasture low nitrogen discharge activities.

- Areas of trees that were grazed and that were benchmarked as pastoral will be allocated the current benchmarked allocation unless after applying the Drystock reduction calculations the discharge is greater than the Permitted Activity level. If this occurs, the Drystock calculation applies.
- Plantation Forestry and bush/scrub will be given a Nitrogen Discharge ~~Allowance~~ Allocation (49-78) that equates the OVERSEER® discharge rate for these land uses within the Lake Rotorua groundwater catchment.
- A house block is defined as the OVERSEER® discharge calculation for three people, 100 square metres of cultivated garden, plus the area of land.
- Non-Benchmarked grazed trees will be allocated the Benchmarked grazed trees average discharge rate. (56-37)

E. Amendment of Nitrogen Discharge ~~Allowances~~ Allocation (49-78)

- Any amendment to Nitrogen Discharge ~~Allowance~~ Allocation (49-78) that occurs due to subdivision, changes to property boundaries, addition of house blocks, contractual permanent removal of Nitrogen Discharge ~~Allowance~~ Allocation (49-78) from the system or other circumstances must be authorised by the Regional Council.
- New lots created by way of subdivision will require a portion of the Nitrogen Discharge Allocation from the parent lot to be registered against each new title (Computer Freehold Register). This will need to be sufficient to provide for potential losses from sewage disposal, residential activity, residual losses from the land, and losses from any area available for farming activity (33-10).
- The creation of new properties may lead to the requirement for resource consent.

Schedule LR Two – Stocking rates

The following stocking rates show how many animals are allowed per hectare of effective area at any point in time to comply with the permitted activity rule LR R4. For mixes of stock classes, the total hectares required must sum to less than or equal to the property's effective area (in hectares). The below stocking rates comply with the permitted losses provided for by LRR4 and LRR7 and the definition of low intensity farming activity. (70-63, 70-105)

Stock class	Total animals by stock class allowed per hectare	Total hectares required per animal in each stock class
Horses		
Pony	2.1	0.48
Pony brood mare w/ foal	1.6	0.64
Small hack	1.6	0.64
Small hack broodmare w/ foal	1.2	0.80
Large hack	1.0	0.96
Thoroughbred	1.0	0.96
Large hack broodmare w/ foal	0.9	1.12
Dairy		
Dairy bull	1.5	0.66
Dairy cow	0.9	1.15
Dairy heifer 1-2 years age	1.6	0.65
Dairy heifer calf (weaned)	3.5	0.29
Drystock		
Beef bull	1.5	0.68
Beef cow	1.3	0.79
Bull 1- 2 years age	1.5	0.65
Steer 1-2 years age	1.8	0.56
Heifer 1-2 years age	1.7	0.58
Steer calf <1 year (weaned)	3.8	0.26
Bull calf <1 year (weaned)	3.5	0.29
Heifer calf <1 year (weaned)	3.0	0.33
Sheep		
Ram	15.5	0.06
Adult ewe	15.0	0.07
Sheep 1-2 years of age	14.2	0.07
Sheep <1 years of age (weaned)	25.9	0.04
Goats		
Bucks & does <1 year	24.9	0.04
Angora does	11.3	0.09
Feral does	13.8	0.07
Feral bucks & wethers	24.9	0.04
Deer		
Stag	4.9	0.21
Breeding hind	5.0	0.20

Stock class	Total animals by stock class allowed per hectare	Total hectares required per animal in each stock class
Hind 1-2 year	9.9	0.10
Hind fawn (weaned)	15.0	0.07
Stag 1-2 years age	4.2	0.24
Stag fawn (weaned)	15.2	0.07
Other		
Alpaca	15.4	0.06
Llama	7.7	0.13

For animal species not listed in Schedule LR Four (such as outdoor pigs), the corresponding maximum stocking rate under permitted Rule LR R4 is 10 Revised Stock Units per hectare. Note that a revised stock unit corresponds to an annual animal feed intake of 6000 Megajoules of Metabolisable energy which in turn equates to an annual pasture drymatter intake of approximately 550 kg.

Note: The term *Feral goats* is the OVERSEER® definition and applies only to goats within a farming operation.

Schedule LR Three – Information requirements for Permitted Rules LR R5 and LR R6

The following information shall be provided to the Bay of Plenty Regional Council annually. In cases where the land use has changed, but losses are considered to remain the same, additional information may be required (70-65, FS15-46). Information shall be provided in a Excel spreadsheet and shall include the following details: (43-105, 70-106)

(a) Contact details of landowner (and any leaseholder).

(b) Legal description of the land and farm identifier as provided by the Regional Council.

(c) A map or aerial photograph showing the boundaries or land areas of the property and land use cover including pasture, horticulture, crops, fodder crops and non-grazed areas (including forestry, riparian and tree areas).

And where applicable:

(d) Stocking rate within the effective area (49-86, 49-85) (numbers, classes and ages) including a breakdown by month.

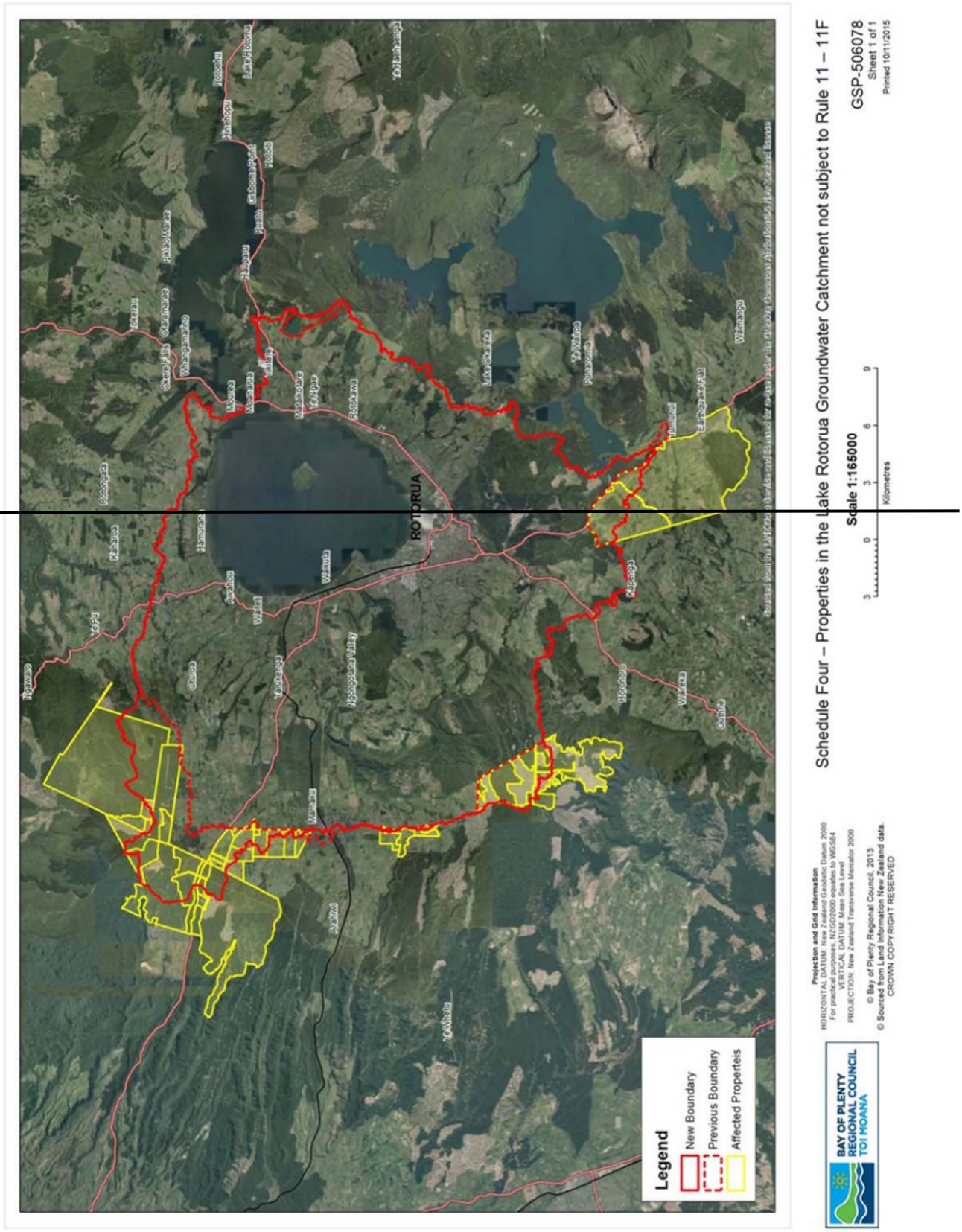
(e) Type, quantity and timing of effluent and fertiliser application~~s~~ within the effective area (49-86).

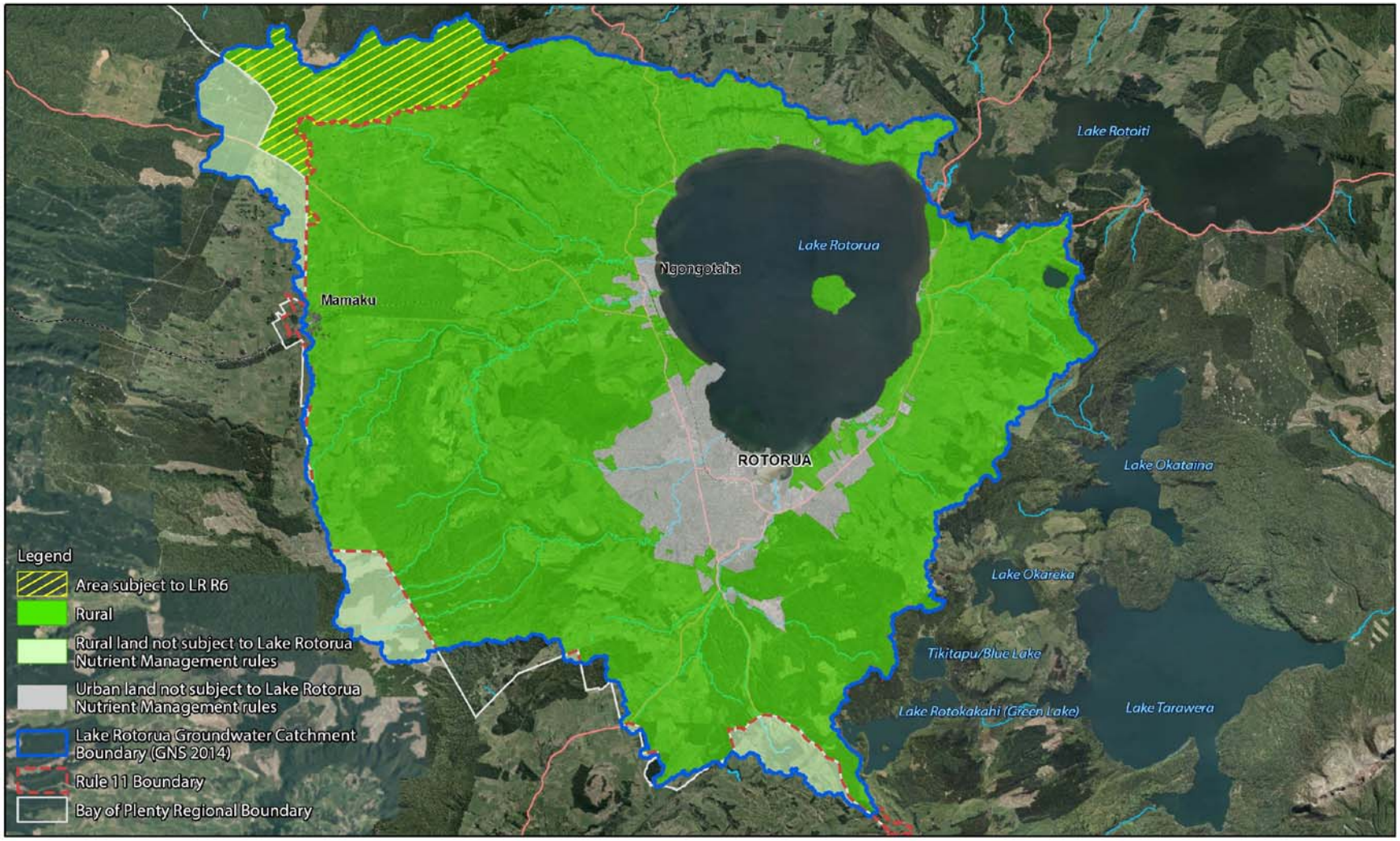
(f) Type, area and planting dates for crops (i.e. exported or on farm use) (56-38) within the effective area (49-86).

(g) Type ~~and~~, quantity and source (56-38) of supplementary feed within the effective area (49-86).

This information is to be collated for the period 1 July to 30 June each year and be provided to the Regional Council annually, or at greater intervals as demanded by the Regional Council, no later than 31 October each year. The Regional Council reserves the right to seek clarification from information provided. The information provided is required to be of sufficient detail to determine if the level of losses generated from the property/farming enterprise continue to comply with the level of nitrogen losses initially recorded in 2017. (43-105, 70-106)

Schedule LR Four – ~~Properties in the Lake Rotorua Groundwater catchment not previously managed by Rule 11 – 11F~~ Land Area subject to LRR6 (75-18, FS2-6)





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Schedule 4 - Land Area Subject to LR R6

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Sheet 1 of 1
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Schedule LR Five – Use of OVERSEER® and Reference Files

Introduction

The OVERSEER® nutrient budget model is updated from time to time with new versions that reflect:

- Improvements to the model algorithms and the user interface.
- Additions of new farm systems, farm practices and mitigation options.
- Corrected software issues.

While each of these OVERSEER® version updates represents progressive improvements, they may result (to varying degrees) in different nitrogen leaching outputs, even though the same farm inputs are entered. Some version updates will impact some farms, and some farm practices, more than others.

It is therefore appropriate to adopt an OVERSEER® methodology that:

- Enables the latest version of OVERSEER® to be used for every assessment (except for nitrogen discharge allocation purposes where version 6.2.0 applies) (70-38) and so takes advantage of the best available science.
- Adjusts a property's Start Point, Managed Reduction Targets and 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) in a way that enables a fair comparison with the property/farming enterprise's current nitrogen leaching rate, including when a new Nutrient ~~Nitrogen~~ (43-94,FS15-17, 53-74) Management Plan is generated every five years.
- Maintains reasonable Nitrogen Discharge ~~Allowance~~ Allocation (49-78) relativity between properties/farming enterprises i.e. maintains the overall integrity of the nitrogen loss ~~allowance~~ (49-78) allocation method in Schedule LR One.
- Is understandable to landowners and managers.
- Enables effective compliance and reporting.

~~Annual OVERSEER® files submitted as part of consent or permitted activity conditions will be monitored on a three year rolling basis but also may be assessed on an annual basis.~~ (43-107, 70-108, FS12-31, FS15-56)

Use of Reference Files

Summary

Reference files are simplified single land use OVERSEER®representations of the five main rural land uses in the Lake Rotorua catchment: drystock, dairy, forestry, native bush/scrub and house blocks. These reference files are used to 'index' the initial nitrogen allocation rates (measured in kgN/ha/yr, in OVERSEER® version 6.2.0) for each of these five land uses on a property. As new versions of OVERSEER® are released, the reference files will be updated. If the new OVERSEER®version results in a percentage change to a reference file's N loss, the same percentage change is applied to real blocks with the same land use i.e. real block nitrogen allocation rates (Start Point, Managed Reduction Targets and 2032 Nitrogen Discharge Allocations) are all 'indexed' against the relevant reference file. The reference file method is explained in detail below: (71-8, FS6-67)

Step 1: Create OVERSEER® reference files

OVERSEER® "reference files" have been established for a hypothetical dairy farm and a hypothetical drystock farm ("drystock reference file"), and to represent the permitted activity nitrogen discharge level. The OVERSEER® input parameters for these files and methodology are provided in in *Methodology for and output from further revision of NDA reference files, December 2016* ~~*creation of NDA reference files and stocking rate table February 2016*~~ (62-2, 64-5, 64-6, 64-7, 64-8) In summary, each pastoral (56-28) reference file is based on:

- A simplified and hypothetical 100 ha farm.
- Input parameters selected to give a nitrogen leaching loss approximately at the mid-point of the two pastoral sector Nitrogen Discharge ~~Allowance~~ Allocation (49-78) ranges. In OVERSEER® version 6.2.0 these are:

- 25.6 kgN/ha/yr for drystock.
- 64.5 kgN/ha/yr for dairy.

In addition to the two pastoral reference files, it is also necessary to define ~~the standard~~ a reference file ~~nitrogen losses~~ for plantation forestry (typically *pinus radiata*), due to potential changes in how OVERSEER® models forestry nitrogen losses (e.g. by OVERSEER® linking to the NuBalM model under development by Scion). To ensure consistency with the suite of reference files for dairy, drystock and forestry, it is necessary to have comparable reference files for, (71-8) bush/scrub, ~~grazed trees~~ (71-8, FS6-67) and house blocks. Together, these land uses constitute the major land uses underpinning the Nitrogen Discharge ~~Allowance~~ Allocation (49-78) method.

The reference file parameters for plantation forestry, bush/scrub and house blocks are described in Table LR8 below: (71-8, FS6-67)

Table LR8: Reference file inputs for plantation forestry, bush/scrub and house blocks (71-8, FS6-67)

Reference file land use	Input Parameters	Nitrogen loss in OVERSEER® version 6.2.0
Plantation forestry	1000 ha pine block; 45 km from coast (prevailing NE wind); 1663mm catchment average annual rainfall (catchment average for benchmarked land in plantation forestry 2001-04)	2.5 kgN/ha/yr
Bush/scrub	1000 ha native block; 45 km from coast (prevailing NE wind); 1836mm catchment average annual rainfall (catchment average for benchmarked land in plantation forestry 2001-04)	3.0 kgN/ha/yr
House block	2.1ha property comprising two blocks A and B. Block A: 2.0ha house block with 1755mm annual rainfall and 45 km from coast, 10 standard houses on conventional septic tanks: 30 people, 5% cultivated garden area. Block B: 0.1 ha trees and scrub block, 1800 mm annual rainfall and 45 km from coast, and native bush type. (the N loss from Block B is ignored as its inclusion is a work-around to enable the file to run i.e. OVERSEER® will not run if the only block is a house block).	78 kgN/ha/yr or 15.6 kgN/house/yr

Step 2: Calculate property/farming enterprise's targets in relation to the reference files
Each property/farming enterprise's nitrogen targets (Start Point, Managed Reduction Targets for 2022 and 2027, and 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) will be calculated as set out in A, B and C below.

A. Setting nitrogen loss targets in OVERSEER® version 6.2.0 and as percentages of reference files

1 The property's land use and 2017 start point are described in accordance with its 2001-2004 land uses and nitrogen losses, consistent with its 2001-2004 nutrient benchmark, being an actual Rule 11 benchmark value or a derived benchmark value in accordance with Schedule LR One.

2 The 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) is calculated in accordance with Schedule LR One using OVERSEER® version 6.2.0.

3 The reduction increments for the five year periods (corresponding to managed reduction) are as described in Schedule LR One and show the total reduction required over the 15 year period from 2017 to 2032, unless otherwise prescribed in a ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan and resource consent conditions.

4 The reference file nitrogen loss rates are calculated using OVERSEER® version 6.2.0, using the file input parameters in in *Methodology for and output from further revision of NDA reference files, December 2016* ~~*creation of NDA reference files and stocking rate table February 2016*~~ (62-

2, 64-5, 64-6, 64-7, 64-8)

5 The target Nitrogen loss rates (Start Point, Managed Reduction Targets for 2022 and 2027, and 2032 Nitrogen Discharge ~~Allowance~~ Allocation (49-78) are then expressed as a percentage of the relevant reference file Nitrogen loss rate.

6 The relevant land uses and areas, and Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and Managed Reduction Targets as percentages of reference files will be included within consent conditions (LR R8~~7~~(a), LR R9~~8~~(a) LB R10~~9~~(b),(92-6) ~~consistent with Table LR 8 below~~ (66-125).

B. Using reference files with subsequent OVERSEER® versions

7 The reference files for the major land uses are rerun upon each new OVERSEER® version release, using the file input parameters provided in *Methodology for and output from further revision of NDA reference files, December 2016* ~~*creation of NDA reference files and stocking rate table February 2016*~~ (62-2, 64-5, 64-6, 64-7, 64-8) with the nitrogen loss results (in kgN/ha/yr) to provide an updated output. The nitrogen loss results (in kgN/ha/yr) will be made publicly available by the Regional Council. This will include a statement of any minor adjustments to the reference file input data necessary to maintain the detailed functionality of the reference files.

8 As a result of version changes there may be a need for additional information or minor adjustments to the reference file input data to maintain the detailed functionality of the reference files. Any adjustments will be independently certified by agricultural advisors with experience of the Lake Rotorua groundwater catchment and will align with changes to published OVERSEER® user guides. No adjustments will be made that impact on the integrity of the reference files or that have more than a minor effect on the reference file farm systems.

C. Use of updated reference files

9 A property's nitrogen targets are reassessed by applying the property's relevant reference percentage rates (from step 6 above) to the updated reference file nitrogen loss rates. This reassessment shall be carried out when any of the following occurs:

(a) Upon updating the ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan at the standard five-year renewal.

(b) When the ~~Nitrogen~~ Nutrient (43-94, FS15-17, 53-74) Management Plan needs to be updated to reflect actual or proposed changes in the property's nitrogen management, including any transfer of Nitrogen Discharge ~~Allowance~~ Allocation (49-78) or Managed Reduction Offset.

(c) Upon request for a reassessment.

OVERSEER® descriptions used to define sectors

OVERSEER® descriptions relate to definitions in the following ways[4]:

Drystock areas are OVERSEER® pastoral block types where the land use is not dairy, and cut and carry, crop and fruit crop.

Dairy areas are OVERSEER® pastoral blocks or fodder blocks that are primarily used for dairy.

Bush/Scrub areas are OVERSEER® native blocks

Plantation Forestry areas are OVERSEER® forestry blocks

[4] OVERSEER® Technical Manual: Technical Manual for the description of the OVERSEER® Nutrient Budgets engine, April 2015.

Table LR 8: Example description of hypothetical property with multiple land uses - Nitrogen Discharge Allowance Allocation (NDA) (49-78) and Managed Reduction Targets (MRT) expressed relative to reference file values(66-125)

2001-2004 Land use	OVERSEER® 6.2.0, kgN/ha/yr						Nitrogen targets expressed as a % of reference files			
	Start Point	2022 MRT	2027 MRT	2032 NDA	Total reduction	Ref file	Start Point	2022 MRT	2027 MRT	2032 NDA
Drystock	40	37.5	34.7	32	8	25.6	156%	146%	136%	125%
Dairy	102	92	81	70	32	64.5	158%	143%	126%	109%
Bush/scrub	3	3	3	3	0	3	100%	100%	100%	100%
Plantation forestry	2.5	2.5	2.5	2.5	0	2.5	100%	100%	100%	100%

Table notes: (66-125)

- *All quantitative nitrogen loss rates are per annum values.* (66-125)

  The Start Point, Managed Reduction Targets and NDA follow the methodology provided under Schedule LR One. The total reduction in nitrogen losses is achieved across three five-year periods (2017-2022, 2022-2027 and 2027-2032).(66-125)

Schedule LR Six – ~~Nitrogen~~ Nutrient (43-108, FS15-18, 70-109, FS15-57) Management Plan requirements

The aim of the ~~Nitrogen~~ Nutrient (43-108, FS15-18, 70-109, FS15-57) Management Plan is to manage nutrient reduction so the property/farming enterprise meets the Nitrogen Discharge ~~Allowance~~ Allocation (49-78) by 2032.

A ~~Nitrogen~~ Nutrient (43-108, FS15-18, 70-109, FS15-57) Management Plan shall be prepared in accordance with A or B below by a suitably qualified and experienced person.

The ~~Nitrogen~~ Nutrient (43-108, FS15-18, 70-109, FS15-57) Management Plan shall take into account sources of nitrogen associated with the farming activity and identify all relevant nitrogen management practices and mitigation measures.

Nutrient Management Plans are the primary point of monitoring and if necessary compliance, particularly the mitigation actions, described land uses and OVERSEER® input parameters specified in the Nutrient Management Plan. These provide a point of comparison so that monitoring of resource consents issued under the land use activity rules can ensure that Managed Reduction Targets and Nitrogen Discharge Allocations are being met.(64-11)

The plan requirements will apply to:

1 A Nutrient Management ~~p~~Plan (43-108, FS15-18, 70-109, FS15-57) prepared for an individual property or farm enterprise; or

2 A Nutrient Management ~~p~~Plan (43-108, FS15-18, 70-109, FS15-57) prepared for an individual property which is part of a farming enterprise or a collective of pastoral properties.

A ~~Nitrogen~~ Nutrient (43-108, FS15-18, 70-109, FS15-57) Management Plans prepared for an individual property or a farming enterprise as part of an industry environment management programme approved by the Bay of Plenty Regional Council.

B Nutrient Management Plans prepared for an individual property or a farming enterprise that are not derived from an industry environment management programme.

~~Nitrogen~~ Nutrient (43-108, FS15-18, 70-109, FS15-57) Management Plans shall contain as a minimum:

1 Property details:

(a) Physical address.

(b) Name of a contact person.

(c) Description of ownership structure.

(d) Legal description of the land and farm identifier as provided by Regional Council.

(e) Name and contact details of the person responsible for managing the property/farming enterprise if different from above.

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

(a) The boundaries of the property.

(b) A block map for the property/farming enterprise.

3 The start point on which nitrogen loss allocation is based, relevant Managed Reduction Targets and the Nitrogen Discharge ~~Allowance~~ Allocation (49-78) allocated to the property/farming enterprise that must be achieved by 2032.

4 Any nitrogen benchmark under Rule 11 of the Regional Water and Land Plan.

5 A description of how each of the following management objectives, where relevant, will be met.

(a) *Nitrogen management:* To minimise nitrogen losses and achieve the Nitrogen Discharge Allowance allocated to the property/farming enterprise by 2032. The Nitrogen Management Plan must include:

(i) A nitrogen budgeting file (70-9) for the property/farming enterprise that matches the current system or use of the system.

~~(ii)~~ A pathway, including a schedule of mitigation actions, described land uses and OVERSEER® (or other model) input parameters,(62-4) that demonstrates managed reduction to achieve the next (70-79, 70-110) Managed Reduction Targets ~~and the 2032 Nitrogen Discharge Allowance~~(70-79, 70-110) in accordance with LR P8. ~~Future parts of the pathway will be more uncertain in nature but must be able to be demonstrated as modelled probabilities~~ Identified actions shall include best management practices where available.(43-45, FS15-6, 48-17, 43-24, FS15-7, 43-31, FS6-24, FS15-5, 75-173)

(iii) A pathway demonstrating potential mitigation actions and/or adaptive management options to achieve future Managed Reductions Targets and the 2032 Nitrogen Discharge Allocation in accordance with LR P8. (62-4, 37-4, 70-79, 70-110, FS15-58).

(iv) The specific data and records that will be kept to measure compliance with specific targets and mitigation actions defined in 5(a)ii.

(v) A description of any specific risks related to nitrogen leaching and runoff risks and how these will be addressed.

(b) *Phosphorus management:* To identify the environmental risks associated with phosphorus and sediment loss from the subject property, the significance of those risks and implementation of ~~industry best~~ good management practices ~~management measures~~(43-24, FS15-7) to avoid or reduce the risks. This shall include the identification of appropriate mitigation actions within critical source areas, with these areas including:

(i) overland flow paths and areas prone to flooding and ponding,

(ii) erosion prone areas

(iii) farm tracks and races and livestock crossing structures

(iv) areas where effluent accumulates including yards, races and underpasses

(v) fertiliser, silage, compost, or effluent storage facilities and feeding or stock holding areas (43-24, FS15-7, 43-26, FS15-4)

(c) *Effluent management:* To manage the risks associated with the operation of effluent systems to ensure effluent systems are compliant with either an approved resource consent ~~conditions~~ (49-94) ~~(including~~ or permitted activity standards of the regional plan (49-94) every day of the year.

(d) *Gorse management:* To manage gorse to minimise nitrogen losses.

(e) Water irrigation management: To operate water irrigation systems in a way that minimises nitrogen losses from the property.

(f) *Fertiliser management:* To manage the risks associated with the application of fertiliser. Fertiliser must be applied in accordance with the Code of Practice for Nutrient Management 2013 or as updated~~;~~ and either

(i) the Spreadmark Code of Practice 2015 or as updated; or

(ii) With spreading equipment that is maintained and self-calibrated to Spreadmark Code of Practice standards.

6 Nitrogen budgeting files (70-9) must be prepared using the OVERSEER® Nutrient Budget model or an alternative nutrient budgeting model authorised by the Regional Council (43-93, 70-94, FS15-50) in accordance with Policy LR P~~13~~12 and LR P~~14~~13(cl16). The OVERSEER® file or alternative nutrient budgeting file that describes the farm system for the period of the Nutrient Management Plan must be provided to Council. (62-4, 64-10)

7 ~~Nitrogen~~ Nutrient (43-108, FS15-18, 70-109, FS15-57) Management Plans shall be updated:

(i) at no more than five yearly intervals from 1 June 2017; and

(ii) in response to a significant farm system change; or

(iii) in response to the addition or removal of leased land or land with contractual arrangements in support of a property/farming enterprise; or

(iv) on the transfer of Nitrogen Discharge Allowances; or

(v) on the transfer of Managed Reduction Offsets to meet a Managed Reduction Target; or

(vi) by agreement with the Chief Executive of the Regional Council.

All updated ~~Nitrogen~~ Nutrient (~~43~~-108, FS15-18, 70-109, FS15-57) Management Plans must meet the intent of the original ~~Nitrogen~~ Nutrient (~~43~~-108, FS15-18, 70-109, FS15-57) Management Plan and include an updated nitrogen budgeting file. (70-9)

The information requested by the Bay of Plenty Regional Council shall be provided in an electronic format compatible with Regional Council information systems and may include but shall not be limited to the following reports from OVERSEER® or their equivalent if an alternative nutrient budgeting (43-93, 70-94, 15-50) model is used: Nutrient Budget, Nitrogen~~,~~ Summary, and Nitrogen Overview.

Schedule LR Seven – Transfer of Nitrogen Discharge ~~Allowance~~ Allocation (49-78) or Managed Reduction Offset

Transfer of Nitrogen Discharge ~~Allowance~~ Allocation (49-78)

The transfer of Nitrogen Discharge ~~Allowance~~ Allocation (49-78) between properties/farming enterprises can enable a destination property/farming enterprise to permanently increase its Nitrogen Discharge ~~Allowance~~ Allocation (49-78).

- Any proposed increase in nitrogen loss (consequently triggering the need for a new Nitrogen Discharge ~~Allowance~~ Allocation (49-78)) associated with land must be offset by a corresponding and equivalent permanent decrease in nitrogen loss (also triggering the need for a new Nitrogen Discharge ~~Allowance~~ Allocation (49-78)) on one or more other properties/farming enterprises in the Lake Rotorua groundwater catchment.
- Any Nitrogen Discharge ~~Allowance~~ Allocation (49-78) that is transferred between properties/farming enterprises must be authorised by the Regional Council to confirm the new source (transferor) Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and new destination (transferee) Nitrogen Discharge ~~Allowance~~ Allocation (49-78).
- Evidence will be required of the legal basis (i.e. a legally binding agreement between parties) (43-110, 70-112) for how the Nitrogen Discharge ~~Allowance~~ Allocation (49-78) transfer is secured.
- New Nutrient ~~Nitrogen~~ (43-94, 53-74)- Management Plans will be required to recognise the new Nitrogen Discharge ~~Allowance~~ Allocation (49-78) and any new Managed Reduction Targets for the source and destination land.
- Transfer does not include the contractual permanent removal of Nitrogen Discharge ~~Allowance~~ Allocations (49-78) from the system by the Lake Rotorua Incentives ~~Board~~ Committee (cl16) or other organisation, including where required as a ~~c~~ondition of consent under the District Plan."

Transfer of Managed Reduction Offset

The transfer of Managed Reduction Offset between properties/farming enterprises can enable a destination property/farming enterprise to meet a Managed Reduction Target.

- Any increase in Managed Reduction Offsets associated with a property/farming enterprise must be offset by a corresponding and equivalent decrease in one or more other properties/farming enterprises in the Lake Rotorua groundwater catchment.
- Managed Reduction Offsets must be measureable and able to be delivered through mitigation actions within Nutrient ~~Nitrogen~~ (43-94, 53-74) Management Plans.
- Evidence will be required of the legal basis for how the Managed Reduction Offsets are secured for the relevant timeframe.
- New Nutrient ~~Nitrogen~~ (43-94, 53-74) Management Plans will be required to recognise any Managed Reduction Offsets as part of the managed reduction for the source and destination land.
- Managed Reduction Offsets cannot be used to meet a Nitrogen Discharge ~~Allowance~~ Allocations (49-78) target.
- The use of Managed Reduction Offsets by the destination property/farming enterprise is limited by the Managed Reduction Target timeframes for the source property/farming enterprise. Managed Reduction Offsets only last for a maximum of 5 years.