

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 Lake Rotorua groundwater catchment, as shown in Map LR 1.

This plan change gives effect to the following requirements in the Regional Policy Statement. This plan change 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 science and policy reviews 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), 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.

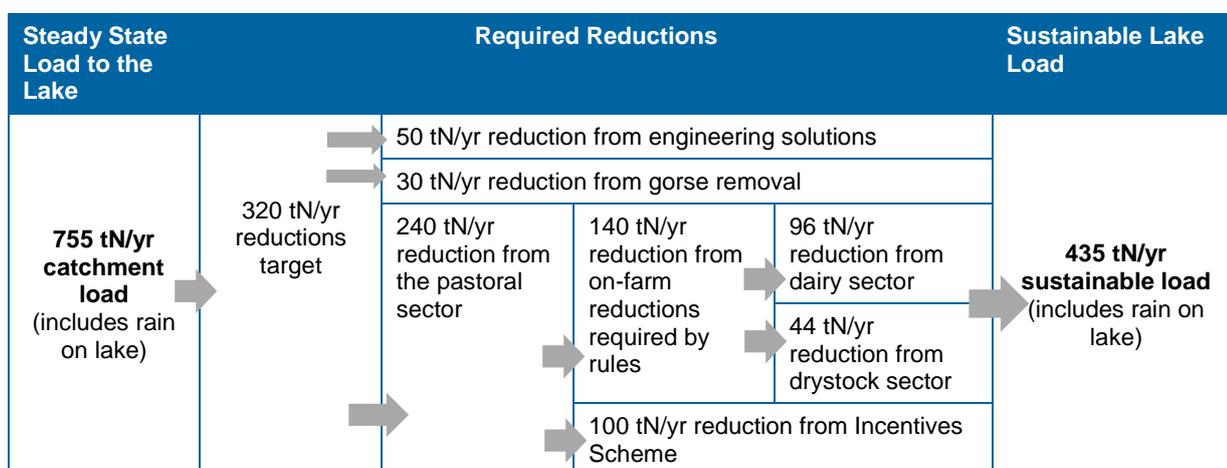


Table notes: (a) The values used are based on OVERSEER[®] 5.4 for pastoral land uses and reflect the best science estimates of nitrogen entering the lake;

(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	5,050	273.2	176.8	96.4	35.3%
Drystock	16,125	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 to individual properties/farming enterprises.

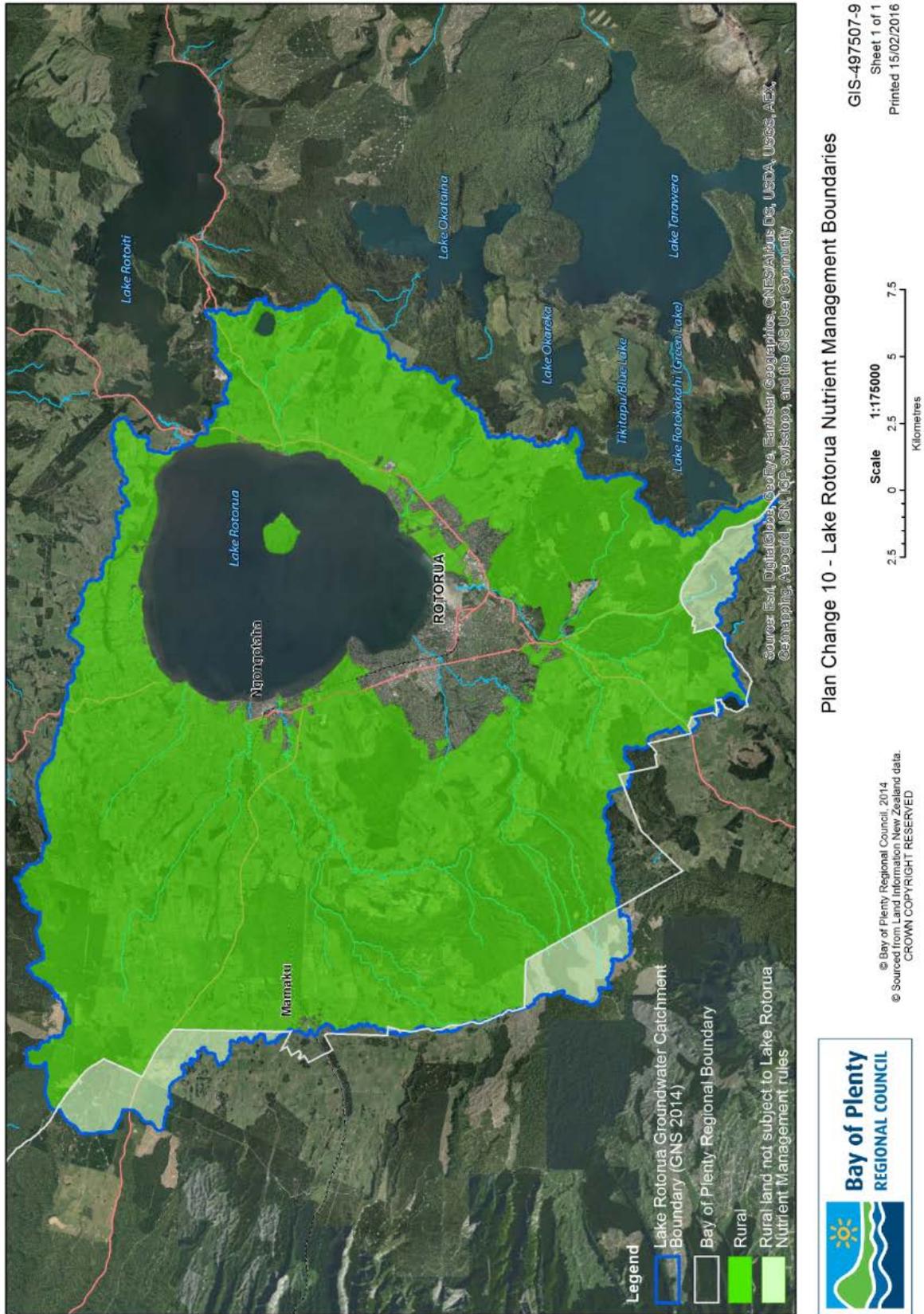
¹ ROTAN is the Rotorua and Taupō Nutrient Model. This is a geographic information system based catchment hydrology and water quality model developed to predict nitrogen yields and exports in the catchment under different scenarios.

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	5,016	35.3%	324	64.5	
Drystock	16,266	17.2%	416	25.6	
Forestry					
Forestry	19,215				
• Plantation Forestry	8,946	0%	22.5		2.5
• Bush/Scrub	10,269	0%	30.9		3
House blocks	468	0%	20.2		43.2

Table note: values are OVERSEER® 6.2.0 numbers.



Map LR 1: Lake Rotorua Nutrient Management – Groundwater Catchment Boundary and Rural Land.

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.

These Objectives are provided for informational purposes only 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 reduce the nitrogen losses from land 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.

LR P2 To manage phosphorus loss through the implementation of management practices that will be detailed in Nitrogen Management Plans prepared for individual properties/farming enterprises.

Adaptive management

LR P3 To recognise 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) OVERSEER[®] 6.2.0 for nitrogen discharge allowance allocation purposes; and
- (d) the pastoral sector reductions within the Integrated Framework approach.

LR P4 To implement 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 Nitrogen Management Plan review timeframes; and
- (iv) the use of OVERSEER[®] reference files and proportional requirements to reduce the variability for individual property nitrogen targets.

Nitrogen allocation

LR P5 To achieve the Policy LR P1 sustainable load to Lake Rotorua by allocating nitrogen discharge allowances to dairy and drystock activities within the Lake Rotorua groundwater catchment (Table LR 4) and to recognise standard 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.

LR P6 To determine individual Nutrient Discharge Allowances that must be achieved by 2032 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.

LR P7 To enable the authorised transfer of nitrogen loss entitlements between properties/farming enterprises from 1 July 2022 to encourage efficient outcomes.

Managed reduction

LR P8 To require property/farming enterprise specific Nitrogen Management Plans and require the implementation of mitigation actions to achieve and maintain Managed Reduction Targets (five-yearly nitrogen loss reduction targets) and Nitrogen Discharge Allowances.

Use of rules

LR P9 To allow as a permitted activity:

- (a) All land uses until 30 June 2017 provided that the land uses do not increase their nitrogen loss.
- (b) The use of land for plantation forestry and bush/scrub.
- (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.
- (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.
- (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.
- (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.
- (g) The use of land for farming activities on properties/farming enterprises that can demonstrate low nitrogen loss.
- (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.

- LR P10** To require resource consents for:
- (a) The use of land for farming activities on properties/farming enterprises over 40 hectares in effective area from 1 July 2017.
 - (b) The use of land for farming activities on properties/farming enterprises between 10 and 40 hectares in effective area from 1 July 2022.
 - (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.
 - (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.

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.

LR P12 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.

Use of OVERSEER®

LR P13 To use OVERSEER® version 6.2.0 and subsequent versions to determine the nitrogen loss from land.

LR P14 To consider nitrogen budgets and alternative models for determining nitrogen loss if OVERSEER® cannot be readily used for a specific land use. Consideration of whether alternate nitrogen budgets 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, verifiable leaching rates; and
- (c) The potential availability of suitably qualified and experienced persons to develop the nitrogen budgets.

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

Information requirements

- LR P15** To require information to be supplied for:
- (a) All farming activities on properties/farming enterprises between 5 hectares and 10 hectares in effective area that are not low intensity land use,
 - (b) All permitted farming activities on properties/farming enterprises between 10 and 40 hectares; and
 - (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.

This information will be used to monitor compliance with permitted activity conditions.

Consent duration

LR P16 To grant 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 consents will reflect the nature, scale and robustness of any on-farm mitigation options proposed to achieve the property/farming enterprise's 2032 Nitrogen Discharge Allowance.

Declining consent

LR P17 To decline the re-consenting of activities that have failed to achieve the required reductions in nitrogen loss.

Methods

LR M1 Regional Council will supply information to Rotorua District Council for inclusion on Land Information Memorandum that:

- (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.

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. These reviews may include:

- (a) Review of trends in Lake water quality attributes including nitrogen, phosphorus, Chlorophyll a, algal blooms, clarity, trophic level index² 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.
- (c) Review of the RPS Policy WL 3B(c) catchment nitrogen load, and a nominal phosphorus (external and internal) catchment load of 37 tP/yr³, 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.
- (d) Review of relevant New Zealand and international lake water quality remediation science.
- (e) Recommendations.

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.

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.

LR M4 Regional Council will monitor permitted activities and any developing technologies to ensure that any related risks of nitrogen loss to the catchment are understood and acted on if necessary.

LR M5 Regional Council will:

- (a) develop and maintain a Rule Implementation Plan;
- (b) report on the achievement of the Rule Implementation Plan on a five-yearly basis through plan effectiveness reporting;
- (c) develop and maintain a Nitrogen Discharge Allowance 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 and land use change that reduces nitrogen and phosphorus loss in the catchment; and
- (e) encourage industry good practices to be implemented on rural properties/farming enterprises to reduce nitrogen and phosphorus loss in the catchment.

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 where it could enter Lake Rotorua.

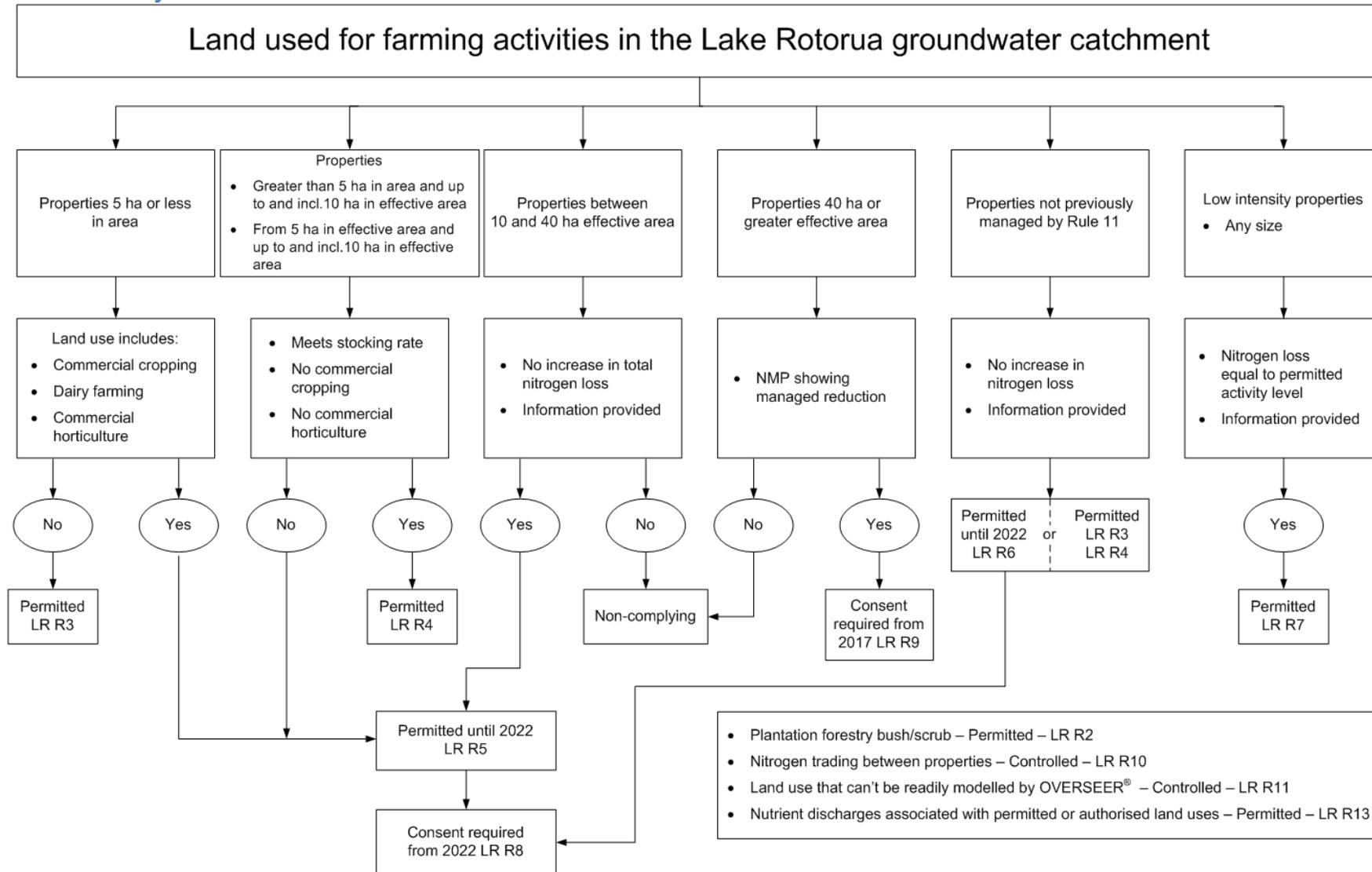
Property/farming enterprise: A single operating unit regardless of its ownership structure, size, arrangement and number of parcels and legal tenure.

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

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

Rule Summary flowchart



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 effective area, nitrogen inputs or stocking rates from [date of notification] that may contribute to an increase in nitrogen loss onto, into or from land.

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 either to or from the property/farming enterprise.

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 either to or from the property/farming enterprise.

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:

- Greater than five hectares in area and up to and including 10 ha in effective area; or
- From five hectares in effective area and up to and including 10 hectares in effective area,

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 effective area or nitrogen inputs from [date of notification] that may contribute to an increase in nitrogen loss onto, into or from land; and
- (d) There is no transfer of nitrogen loss entitlement either to or from the property/farming enterprise.

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 effective area, nitrogen inputs or stocking rates from [date of notification] that may contribute to an increase in nitrogen loss onto, into or from land; 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 either to or from the property/farming enterprise.

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 effective area, nitrogen inputs or stocking rates from [date of notification] that may contribute to an increase in nitrogen loss onto, into or from land; 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 either to or from the property/farming enterprise.

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 If properties/farming enterprises in the Lake Rotorua groundwater catchment not previously managed by Rules 11 to 11F do not meet the 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:

- (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 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; and:

Either

- 1 Annual land use information records must be submitted on an annual basis, by 31 October each year to confirm that the property/farming enterprise's stocking rates, nitrogen inputs and areas of land use (including fodder cropping, cultivated area and land clearance) remain the same or less than the OVERSEER[®] file from (a)

Or

- 2 Provide a new OVERSEER[®] file, prepared by a suitably qualified and experienced person, demonstrating that the property/farming enterprise's nitrogen loss is less than the nitrogen loss rate generated by the permitted activity reference file prescribed in Schedule LR Five.

(b) There is no transfer of nitrogen loss entitlement either to or from the property/farming enterprise.

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.

LR R8 Controlled – The use of land for farming activities on properties/farming enterprises less than 40 hectares in effective area or that were not previously managed by Rule 11 to 11F that do not 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 was not previously managed by Rule 11 to 11F; and
- The activity does not comply with permitted activity conditions in Part LR,

is a controlled activity from 1 July 2022 subject to the following conditions:

- (a) A 2032 Nitrogen Discharge Allowance 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 Management Plan has been prepared for the property/farming enterprise by a suitably qualified and experienced person and that person has certified that the Nitrogen 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 and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P8.
- (ii) The submission of an annual OVERSEER[®] file, prepared by a suitably qualified and experienced person, demonstrating implementation of the Nitrogen Management Plan.
- (iii) The requirement for written landowner approval of any proposed nitrogen loss mitigations to be undertaken on their land.
- (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 Management Plan or consent conditions including a change to property size, the sale or disposal of land, permanent removal of Nitrogen Discharge Allowance from the catchment, changes in lease arrangements, significant farm system changes and subdivision.
- (vi) Implementation of the Nitrogen Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allowance.
- (vii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nitrogen Management Plan.

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 of the Resource Management Act.

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 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 Management Plan has been prepared for the property/farming enterprise by a suitably qualified and experienced person and that person has certified that the Nitrogen 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 and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P8.
- (ii) The submission of an annual OVERSEER[®] file prepared by a suitably qualified and experienced person, demonstrating implementation of the Nitrogen Management Plan.
- (iii) The requirement for written landowner approval of any proposed nitrogen loss mitigations to be undertaken on their land.
- (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 Management Plan or consent conditions including a change to property size, the sale or disposal of land, permanent removal of Nitrogen Discharge Allowance from the catchment, changes in lease arrangements, significant farm system changes and subdivision.
- (vi) Implementation of the Nitrogen Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allowance.
- (vii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nitrogen Management Plan.

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 of the Resource Management Act.

LR R10 Controlled – From 1 July 2022, the transfer of nitrogen loss entitlements between properties/farming enterprises

The transfer of nitrogen loss entitlements (Nitrogen Discharge Allowance or Managed Reduction Offset) 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 (Nitrogen Discharge Allowance or Managed Reduction Offset) complies with Schedule LR Seven;
- (b) A new 2032 Nitrogen Discharge Allowance 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 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 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 and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P8.
- (ii) The submission of an annual OVERSEER[®] file, prepared by a suitably qualified and experienced person, demonstrating implementation of the Nitrogen Management Plan.
- (iii) The requirement for written landowner approval of any proposed nitrogen loss mitigations to be undertaken on their land.
- (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.
- (v) Circumstances that may require a review of a Nitrogen 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.
- (vi) Implementation of the Nitrogen Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allowance.
- (vii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nitrogen Management Plan.

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 of the Act.

Advice Note:

- 1 Transfer does not include the permanent removal of Nitrogen Discharge Allowances from the catchment by the Lake Rotorua Incentives Board or other organisation.
- 2 Managed Reduction Offsets can be used to meet 2022 and 2027 Managed Reduction Targets.

LR R11 Controlled – The use of land for farming activities on properties/farming enterprises that cannot be readily 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

that cannot be readily modelled by OVERSEER® is a controlled activity subject to the following conditions:

- (a) A 2032 Nitrogen Discharge Allowance and relevant Managed Reduction Targets have been determined for the land in accordance with Policy LR P8; and
- (b) A Nitrogen 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 nutrient budget or alternative model, 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.
- (iii) The requirement for written landowner approval of any proposed nitrogen loss mitigations to be undertaken on their land.
- (iv) The specification of the 2032 Nitrogen Discharge Allowance and Managed Reduction Targets for the land subject to the application, set in accordance with Policy LR P8.
- (v) The submission of annual information or nitrogen budget, prepared by a suitably qualified and experienced person, demonstrating implementation of the Nitrogen Management Plan.
- (vi) The form of information and documentation to support the nutrient budget or alternative model.
- (vii) Circumstances that may require a review of a Nitrogen 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.
- (viii) Implementation of the Nitrogen Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allowance.
- (ix) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nitrogen Management Plan.

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 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.

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.

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

Grazed trees: Areas of trees, scrub or wetlands that under Rule 11 were also grazed by stock. 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.

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.

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: The maximum amount of nitrogen loss that is allowed to occur from a property/farming enterprise at a target date (1 July 2022 and 1 July 2027).

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 (NO₃⁻).

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.

Nitrogen Discharge Allowance: The maximum annual amount of nitrogen loss that is allowed to occur from a property/farming enterprise post 1 July 2032. Nitrogen Discharge Allowances are allocated on a block basis and these are summed to provide a property/farming enterprise total.

Nitrogen loss entitlement: A Nitrogen Discharge Allowance or Managed Reduction Offset.

Nitrogen Management Plan: A plan prepared for a property or farming enterprise that identifies sources of nutrients associated with the farming activity and that records mitigation actions to reduce nitrogen losses to meet Managed Reduction Targets and the Nitrogen Discharge Allowance, and to manage phosphorus loss. The requirements of a Nitrogen 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 estimate of the total nitrogen balance for a particular property/farming enterprise using OVERSEER[®], taking into account nitrogen inputs and outputs.

Plantation forestry: Areas of planting, maintenance and/or harvesting of tree species for commercial purposes 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: 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: 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.

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

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

Start Points, Managed Reduction Targets and Nitrogen Discharge Allowances must be calculated and authorised by the Regional Council.

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

Start Points and Nitrogen Discharge Allowances

The Start Points from which the 2032 Nitrogen Discharge Allowances are calculated are set out in Table LR 5 below:

Table LR 5: Start Points and Nitrogen Discharge Allowances.

Rules category	Rule 11 status	2017 Nitrogen management start point	2032 NDA
40 ha or greater	Benchmarked	Actual Benchmark.	Actual Benchmark and land use applied to allocation methodology.
	Not benchmarked	Derived Benchmark. Function of 2002-03 land use and 2001-04 sector average <i>unless evidence of substantial change.</i>	Derived Benchmark and land use applied to allocation methodology.
Between 10-40 ha Consented	Benchmarked	Actual Benchmark.	Actual Benchmark and land use applied to allocation methodology.
	Not Benchmarked ²	Derived Benchmark. Function of 2002/03 land use and 2001-04 sector average <i>unless evidence of substantial change.</i>	Derived Benchmark and land use applied to allocation methodology.
Rules category	Rule 11 status	2022 Nitrogen management start point	2032 NDA
Less than 40 ha 2017 Permitted 2022 Consented	Benchmarked	Actual Benchmark.	Actual Benchmark and land use applied to allocation methodology.
	Not Benchmarked	Derived Benchmark. Function of 2002/03 land use and 2001-04 sector average <i>unless evidence of substantial change.</i>	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 in place during the 36 month period ending on 01 January 2016.	Derived Benchmark and land use applied to allocation methodology

Nitrogen discharge allocation methodology

The following process will be used to calculate Nitrogen Discharge Allowances 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 sector range; or
 - (ii) Those blocks where applying the standard sector % reduction would cause the Nitrogen Discharge Allowance to fall below the relevant Nitrogen Discharge Allowance sector range,

where in both cases the Nitrogen Discharge Allowance shall be set at the bottom value of the relevant Nitrogen Discharge Allowance sector range.

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

A property's Nitrogen Discharge Allowance 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).

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 range boundary	54.6	18.0
Upper Nitrogen Discharge Allowance 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

b) the Nitrogen Discharge Allowance 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.

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. 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 due to a transfer of Nitrogen Discharge Allowance the Managed Reduction Targets will be recalculated to maintain the same proportional rate of reduction.

Additional matters

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

Amendment of Nitrogen Discharge Allowances

- Any amendment to Nitrogen Discharge Allowances that occurs due to subdivision, changes to property boundaries, addition of house blocks, contractual permanent removal of Nitrogen Discharge Allowance from the system or other circumstances must be authorised by the Regional Council.
- 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).

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 year 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

Stock class	Total animals by stock class allowed per hectare	Total hectares required per animal in each stock class
Deer		
Stag	4.9	0.21
Breeding hind	5.0	0.20
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

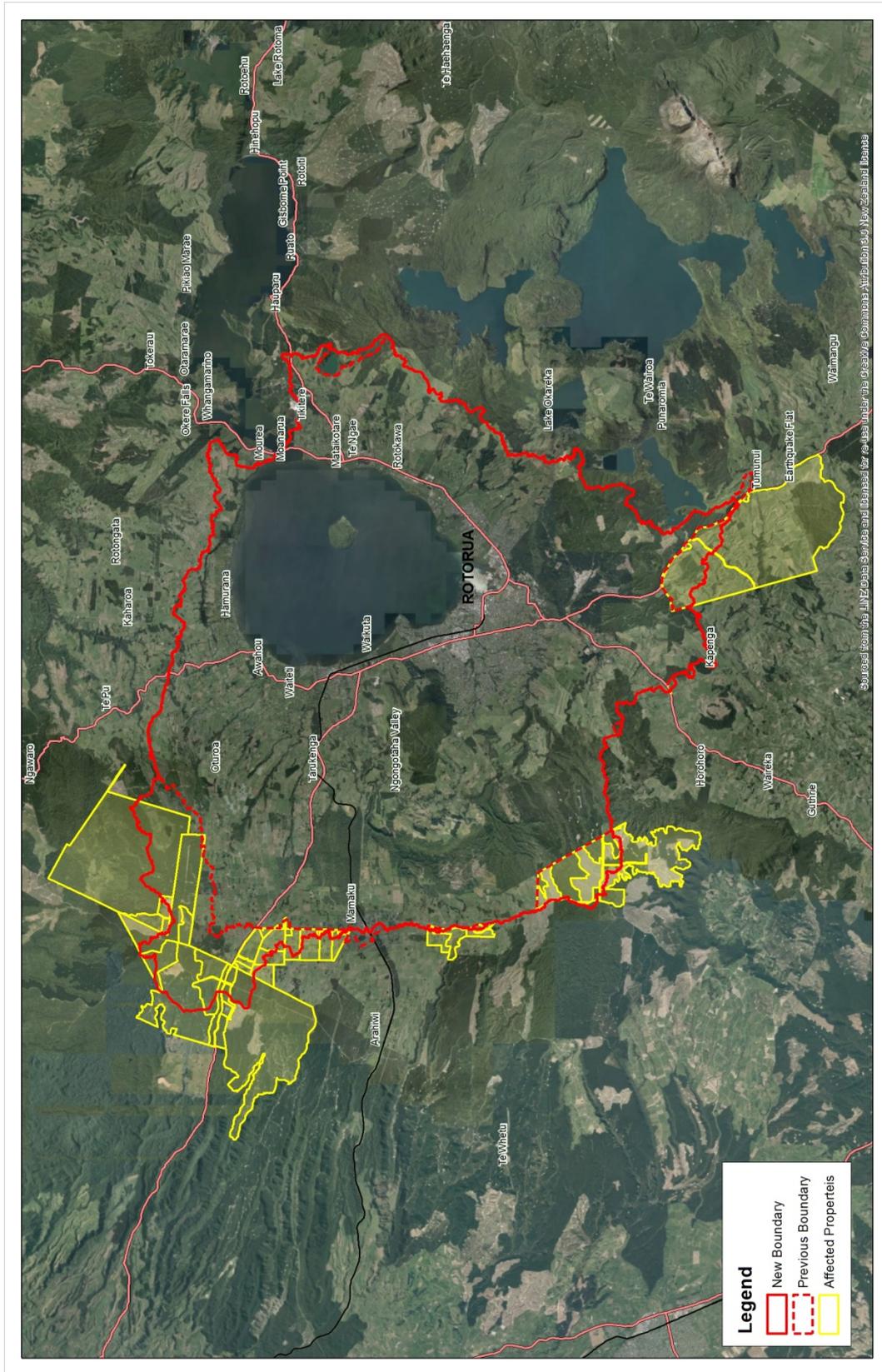
- (a) Contact details of landowner (and any leaseholder).
- (b) Legal description of the land and farm identifier as provided by the Regional Council.
- (c) A map or aerial photograph showing the boundaries or land areas of the property and land use cover including pasture, horticulture, crops, fodder crops and non-grazed areas (including forestry, riparian and tree areas).

And where applicable:

- (d) Stocking rate (numbers, classes and ages) including a breakdown by month.
- (e) Type, quantity and timing of effluent and fertiliser applications.
- (f) Type area and planting dates for crops.
- (g) Type and quantity of supplementary feed.

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.

Schedule LR Four – Properties in the Lake Rotorua Groundwater catchment not previously managed by Rule 11 – 11F



Schedule Four – Properties in the Lake Rotorua Groundwater Catchment not subject to Rule 11 – 11F

Projection and Grid Information
 HORIZONTAL DATUM: New Zealand Geodetic Datum 2000
 For practical purposes NZGD 2000 equates to WGS84
 VERTICAL DATUM: NZGD 2000
 PROJECTION: New Zealand Transverse Mercator 2000
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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 and so takes advantage of the best available science.
- Adjusts a property's Start Point, Managed Reduction Targets and 2032 Nitrogen Discharge Allowance in a way that enables a fair comparison with the property/farming enterprise's current nitrogen leaching rate, including when a new Nitrogen Management Plan is generated every five years.
- Maintains reasonable Nitrogen Discharge Allowance relativity between properties/farming enterprises i.e. maintains the overall integrity of the nitrogen loss allowance 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.

Use of Reference Files

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 *Methodology for creation of NDA reference files and stocking rate table February 2016*. In summary, each 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 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 reference nitrogen losses for plantation forestry (typically *pinus radiata*), bush/scrub, grazed trees and house blocks. Together, these land uses constitute the major land uses underpinning the Nitrogen Discharge Allowance method.

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) 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 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 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 *Methodology for creation of NDA reference files and stocking rate table February 2016*.
- 5 The target Nitrogen loss rates (Start Point, Managed Reduction Targets for 2022 and 2027, and 2032 Nitrogen Discharge Allowance) 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 and Managed Reduction Targets as percentages of reference files will be included within consent conditions (LR R7(a), LR R8(a) LB R9 (b)), consistent with Table LR 8 below.

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 creation of NDA reference files and stocking rate table February 2016* 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 Management Plan at the standard five-year renewal.
 - (b) When the Nitrogen 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 or Managed Reduction Offset.
 - (c) Upon request for a reassessment.

OVERSEER[®] descriptions used to define sectors

OVERSEER[®] descriptions relate to definitions in the following ways⁴:

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

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

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:

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

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

Schedule LR Six – Nitrogen Management Plan requirements

The aim of the Nitrogen Management Plan is to manage nutrient reduction so the property/farming enterprise meets the Nitrogen Discharge Allowance by 2032.

A Nitrogen Management Plan shall be prepared in accordance with A or B below by a suitably qualified and experienced person.

The Nitrogen Management Plan shall take into account sources of nitrogen associated with the farming activity and identify all relevant nitrogen management practices and mitigation measures.

The plan requirements will apply to:

- 1 A plan prepared for an individual property or farm enterprise; or
 - 2 A plan prepared for an individual property which is part of a farming enterprise or a collective of pastoral properties.
- A Nitrogen 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 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 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 budget for the property/farming enterprise that matches the current system or use of the system.
 - (ii) A pathway, including a schedule of mitigation actions, that demonstrates managed reduction to achieve the Managed Reduction Targets and the 2032 Nitrogen Discharge Allowance in accordance with LR P8.
 - (iii) The specific data and records that will be kept to measure compliance with specific targets and mitigation actions defined in 5(a)ii.
 - (iv) 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 practice management to avoid or reduce the risks.
 - (c) *Effluent management*: To manage the risks associated with the operation of effluent systems to ensure effluent systems are compliant with consent conditions (including permitted activity standards) 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 budgets must be prepared using the OVERSEER[®] Nutrient Budget model (or an alternative model authorised by the Regional Council) in accordance with Policy LR P13 and LR P14.
- 7 Nitrogen 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 Management Plans must meet the intent of the original Nitrogen Management Plan and include an updated nitrogen budget.

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 model is used: Nutrient Budget, Nitrogen, Summary, and Nitrogen Overview.

Schedule LR Seven – Transfer of Nitrogen Discharge Allowance or Managed Reduction Offset

Transfer of Nitrogen Discharge Allowance

The transfer of Nitrogen Discharge Allowance between properties/farming enterprises can enable a destination property/farming enterprise to permanently increase its Nitrogen Discharge Allowance.

- Any proposed increase in nitrogen loss (consequently triggering the need for a new Nitrogen Discharge Allowance) 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) on one or more other properties/farming enterprises in the Lake Rotorua groundwater catchment.
- Any Nitrogen Discharge Allowance that is transferred between properties/farming enterprises must be authorised by the Regional Council to confirm the new source (transferor) Nitrogen Discharge Allowance and new destination (transferee) Nitrogen Discharge Allowance.
- Evidence will be required of the legal basis for how the Nitrogen Discharge Allowance transfer is secured.
- New Nitrogen Management Plans will be required to recognise the new Nitrogen Discharge Allowances and any new Managed Reduction Targets for the source and destination land.
- Transfer does not include the contractual permanent removal of Nitrogen Discharge Allowances from the system by the Lake Rotorua Incentives Board or other organisation, including where required as a condition 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 Nitrogen Management Plans.
- Evidence will be required of the legal basis for how the Managed Reduction Offsets are secured for the relevant timeframe.
- New Nitrogen 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 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.