

## Plan Change 10: Lake Rotorua Nutrient Management

*The Lake Rotorua Nutrient Management provisions are being introduced into the Bay of Plenty Regional Natural Resources Plan as a separate subject. Policies and methods are contained in Part II of the Bay of Plenty Regional Natural Resources 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 Lake Rotorua groundwater catchment, as shown in Map LR 1. It does not include land located within the Waikato region.

Scope is restricted to the management of land use activities within the rural area identified in the Lake Rotorua groundwater catchment as shown in Map LR 1, which contribute nitrogen to Lake Rotorua. This plan change is one of the methods being used to give effect to Policies WL 3B, WL 5B and WL 6B of the Regional Policy Statement and 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 catchment intermediate 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.

The need to achieve the sustainable lake load of 435 tonnes of nitrogen per annum is based on what the best science available suggests is necessary to achieve the TLI objective for Lake Rotorua of 4.2. Adaptive management is a core element of the implementation of nutrient management for the Lake Rotorua groundwater catchment.

This includes regular reviews of the science and policy and responding to the outcomes of these reviews. Reviews will need to consider new potential pathways towards improved lake, community (including social and

economic impacts) and cultural outcomes that may come from opportunities presented by new technology and innovative land uses, and from changing product and land use demands. Council may also need to consider further changes to the Plan to address Science Review recommendations if required and other NPS-FM attributes of relevance.

The Regional Council has adopted a package of methods to give effect to Policies WL 3B, WL 5B and WL 6B of the Regional Policy Statement which will see the nitrogen load to Lake Rotorua being reduced through an integrated programme of regulated land use nitrogen reductions (Nitrogen Discharge Allocation), engineering solutions, incentives and gorse conversion. This package of interventions forms the Integrated Framework. 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 as well as engineering solutions that include the urban part of the catchment. It provides the basis for the proportional nitrogen reductions that apply to rural land use activities being implemented through these rules and for the allocation methodology.

The Integrated Framework contains the following proportional reductions for the dairy and drystock pastoral farming sectors (Table LR 1) which are used in the allocation methodology:

**Table LR 1: Pastoral farming sector proportional reductions**

Sector	ROTAN <sup>1</sup> 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<sup>®</sup> 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 Discharge Allocations and Managed Reduction Targets to individual properties/farming enterprises.

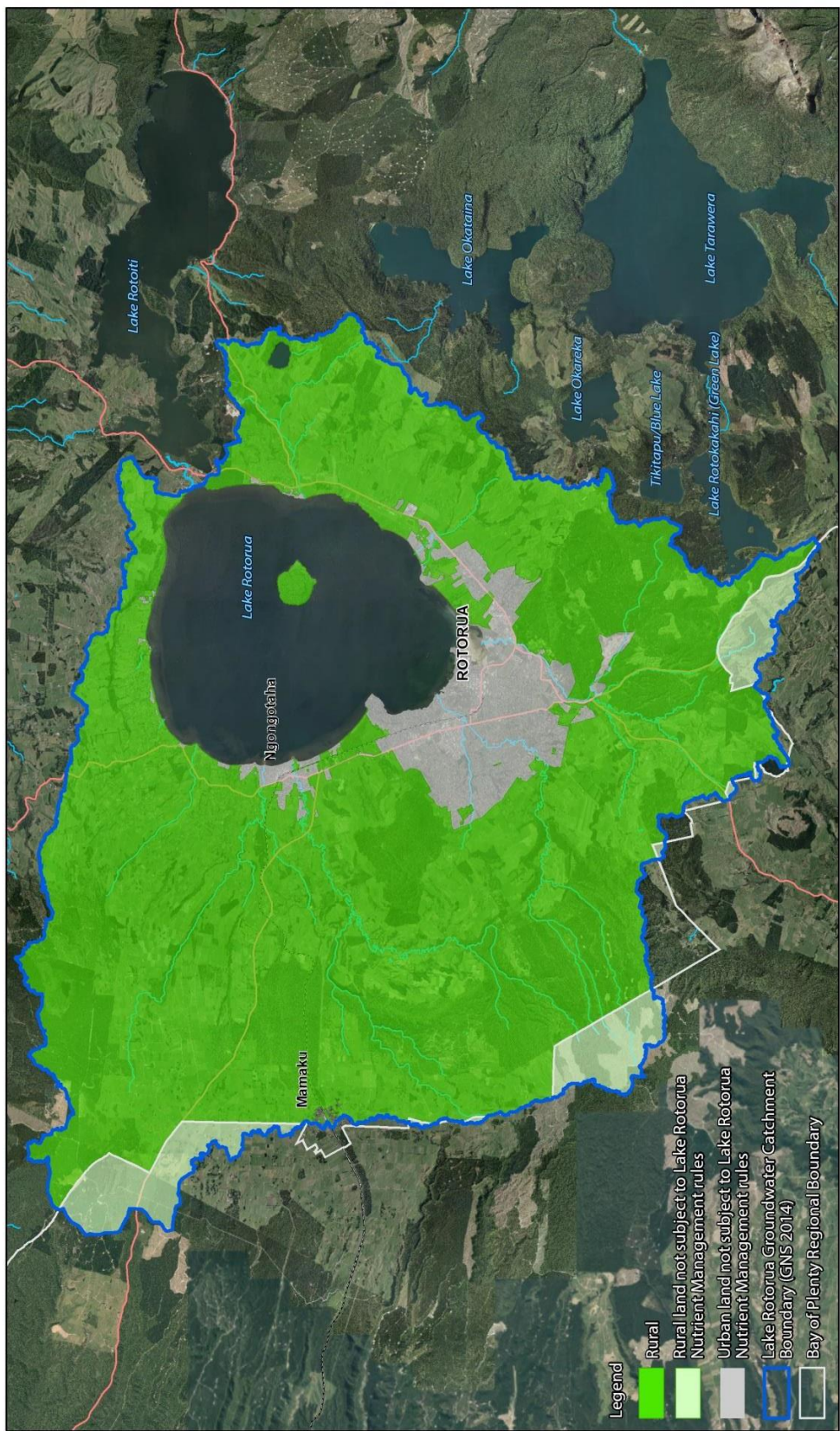
Allocation of nitrogen losses is based on benchmark information applied to the 2014 GNS groundwater boundary area and expressed as OVERSEER<sup>®</sup> 6.2.0 values. Table LR 2 contains the basis for the modelled 2015 sector contributions to achieve the sustainable lake load.

**Table LR 2: 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

*Table note: Values are OVERSEER<sup>®</sup> 6.2.0 numbers.*

<sup>1</sup> 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.

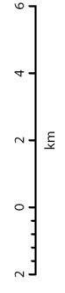


Plan Change 10 - Lake Rotorua Nutrient Management Boundaries



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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 Natural Resources 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 Natural Resources Plan RL O1 (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.

## Policies

Policies LR P1 to LR P19 apply to the management of nutrient loss in the Lake Rotorua groundwater catchment.

**LR P1** Reduce nitrogen losses from farming activity to Lake Rotorua to assist to achieve the 2032 435 tonne sustainable annual nitrogen load for Lake Rotorua as required by Policy WL 3B(c) of the Regional Policy Statement while providing for an adaptive management approach.

**LR P2** Manage diffuse and point sources of phosphorus loss through:

- (a) regional plan discharge rules;
- (b) non-regulatory programmes;
- (c) the implementation of good management practices particularly within critical source areas, as part of an approved Nutrient Management Plan prepared for individual properties/farming enterprises.

### *Adaptive management*

**LR P3** Recognise the balance between certainty, the use of best science and good environmental data and the need for modelling 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<sup>®</sup>, except for initial allocation purposes where OVERSEER<sup>®</sup> 6.2.0 is used; and
- (d) the pastoral sector reductions set out in Table LR 1.

**LR P4** Implement adaptive management in the management of nutrients within the Lake Rotorua groundwater catchment through:

- (a) science reviews set out in Method LR M2, including review of the total catchment nutrient loads and subsequent consideration by Council of recommendations;
- (b) review of progress on achievement of Integrated Framework actions towards meeting the 435 tonne sustainable annual nitrogen load for Lake Rotorua by 2032;
- (c) regular reviews of the Regional Policy Statement and Regional Natural Resources Plan policies, rules and methods under the Resource Management Act 1991;
- (d) five-year individual on-farm Nutrient Management Plan review timeframes; and
- (e) the use of OVERSEER<sup>®</sup> reference files and proportional requirements to reduce the variability for individual property nitrogen loss limits, and monitoring the performance of that methodology.

*Nitrogen allocation*

- LR P5** Assist to achieve the 435 tonne sustainable annual nitrogen load for Lake Rotorua by allocating nitrogen discharge allocations that align with the ranges for dairy and drystock activities within the Lake Rotorua groundwater catchment (Table LR 3) and to recognise standardised OVERSEER® loss rates for plantation forestry, bush/scrub and house blocks.

**Table LR 3: 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

- LR P6** Determine individual Nitrogen Discharge Allocations for the purpose of achieving by 2032 the 435 tonne sustainable annual nitrogen load for Lake Rotorua in accordance with Schedule LR One for all properties/farming enterprises that are not provided for as permitted activities.

- LR P7** Manage the transfer of Nitrogen Discharge Allocations or Managed Reduction Offsets between properties/farming enterprises from 1 July 2022 in accordance with Schedule LR Seven to encourage efficient outcomes by way of resource consent.

*Managed reduction*

- LR P8** Require property/farming enterprise specific Nutrient Management Plans and require the implementation of mitigation actions including adopting good management practices to achieve and maintain Managed Reduction Targets and Nitrogen Discharge Allocations.

*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.

- LR P10** Manage farming activity within properties/farming enterprises that have an effective area exceeding 10 hectares where these have identified Nitrogen Discharge Allocations, Managed Reduction Targets and appropriate methods to achieve the staged reduction of nitrogen losses by 2032.

- LR P11** Provide for lifestyle farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment greater than 5 hectares in effective area and up to and including 10 hectares in effective area that exceed the stocking rates contained in Schedule LR Two where these have provided Council with a simplified Nutrient Management Plan and can demonstrate that their long term nitrogen loss will be no more than 80% of the drystock reference file average.

- LR P12** Provide for the conversion of Māori land held under Te Ture Whenua Māori Act from forestry and bush/scrub to low intensity farming activities collectively up to 800 hectares and individually to the drystock Lower Nitrogen Discharge Allocation range boundary contained in Schedule LR One where these have provided Nutrient Management Plans and can demonstrate that the land has had reduced development opportunities in the past and the land is suitable for drystock farming, while also ensuring that any adverse effects on water quality in Lake Rotorua are appropriately mitigated.

- LR P12A** Allocate 5tN/y to Settlement land to enable its conversion from plantation forestry and bush/scrub to other activities for use in accordance with an approved Nutrient Management Plan to provide for the owners' social, economic and cultural wellbeing while maintaining and safeguarding the land's mauri.

- LR P13** Avoid the establishment or continued operation of farming activities within properties/farming 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.

### *Use of OVERSEER®*

- LR P14** Use OVERSEER® version 6.2.0 for initial allocation purposes and subsequent versions to determine nitrogen losses from land.
- LR P15** Consider the use of alternative nutrient budgeting models to determine nitrogen losses if OVERSEER® is not suitable for modelling a farming activity. Consideration of whether alternative nutrient budgeting models 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 process for estimating leaching rates;
  - (c) The potential of suitably qualified and experienced persons to develop nutrient budgeting files;
  - (d) The application of the alternative budgeting model to the location, including climatic or physical conditions; and
  - (e) The effect on the allocation methodology meeting the 435tN load.

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

### *Assessment of Consent Applications*

- LR P16** Grant controlled activity and restricted discretionary 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 achieving the property/farming enterprise's 2032 Nitrogen Discharge Allocation.
- LR P17** Only approve applications for non-complying activities where the application demonstrates that any adverse effects including the additional cumulative effect will not be contrary to the Lake Rotorua water quality objectives and policies being met.

### *Implementation matters*

- LR P18** Acknowledge the 435 tonne sustainable annual nitrogen load for Lake Rotorua set in Policy WL 3B of the Regional Policy Statement provides for nitrogen losses from both rural and urban land located within the Lake Rotorua groundwater catchment.
- LR P19** Account for the increased demand on infrastructure resulting from land use change, including from rural to urban use, through Method LR M5(g).

## **Methods**

- LR M1** Regional Council will supply information to Rotorua District Council 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;
  - (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 and;
  - (c) identifies the minimum nitrogen losses required to be allocated to each new lot in accordance with Method LR M5(g) with this providing for:
    - Losses 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 Natural Resources Plan for Lake Rotorua on a five yearly basis commencing from 2017. These reviews will include:
- (a) Review of trends in Lake water quality attributes including nitrogen, phosphorus, Chlorophyll a, algal blooms, clarity, trophic level index<sup>2</sup> 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) catchment load of 37 tP/yr<sup>3</sup>, 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<sup>®</sup> or similar estimates;
    - (iii) review of the assumptions behind and inputs into the lake model, ROTAN, catchment nitrogen and phosphorus loads (including attenuation), and any other model, limit or target relied upon.
    - (iv) an assessment of the efficacy and risks of alum dosing and an assessment of land-based phosphorus loss mitigation;
    - (v) scenario runs of the Lake model, ROTAN or OVERSEER<sup>®</sup> for sensitivity analysis;
  - (d) Review of relevant New Zealand and international lake water quality remediation science;
  - (e) Recommendations to Council to consider whether any action is appropriate;
  - (f) Any science review and recommendations completed under Method LR M2 will be peer reviewed by a suitable qualified independent expert.
- LR M3** Regional Council will respond to the recommendations that result from Policy LR P4 reviews and 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.
- LR M4** Regional Council will monitor permitted activities and any developing technologies to ensure that any related risks of nutrient loss to the catchment are understood to inform future plan changes and a review of permitted activity thresholds if required.
- 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;
  - (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 Allocation 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 practices and/or land use change that reduces nitrogen and phosphorus loss in the catchment;
  - (e) encourage and support good management practices to be implemented on rural properties/farming enterprises to reduce nitrogen and phosphorus loss in the catchment;
  - (f) work with land owners, the community and industry experts to facilitate local community efforts to improve the water quality of Lake Rotorua;
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<sup>2</sup> Trophic Level Index is defined in the Operative Regional Natural Resources Plan.

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

- (g) implement an accounting methodology for the shift in nitrogen losses resulting from land use change, including from rural to urban uses. The presence of an accounting methodology does not pre-determine any current or future consent process (including any consent conditions). The accounting methodology should recognise:
- 2001-04 is the baseline for accounting purposes;
  - Land use change (including subdivision) must not increase the total nitrogen load to Lake Rotorua and requires sufficient nitrogen allocation (i.e. Nitrogen Discharge Allocation, offset, to meet OSET requirements, or where Settlement Land is converted to urban use, available nitrogen as demonstrated by the nitrogen accounting system);
  - Offsets within the groundwater catchment;
- (h) collate and publish material about land based actions and research that manage and reduce phosphorus losses from the Lake Rotorua groundwater catchment;
- (i) prioritise efforts on stream catchments which contribute to the phosphorus load to Lake Rotorua. In particular Council will support the development of catchment strategies and implementation plans in partnership with landowners and industry experts to identify critical source areas and management approaches reduce phosphorus losses.
- (j) monitor the performance of the reference file methodology in relation to OVERSEER® version change and application at the individual block and property/farming enterprise level; and
- (k) establish a register of emerging issues, potential additions to, and changes to recommended application practice for, the OVERSEER® model, and provide regular updates to the managers of the model.

**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**

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.



## 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 from land where it could enter Lake Rotorua.

#### 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 was 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 Natural Resources 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.
5. Templates for consent applications and information reporting requirements will be provided electronically and in hard copy.
6. Until 1 January 2025, additional consent requirements under the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 may apply to changes of land use in the Lake Rotorua Groundwater Catchment over and above those required under the Lake Rotorua Nutrient Management rules.

#### 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.

**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 Discharge Allocations or Managed Reduction Offsets either to or from the property/farming enterprise prior to 2022.

**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 effective area**

Farming activities on properties/farming enterprises 5 hectares or less in effective 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 Discharge Allocations or Managed Reduction Offsets either to or from the property/farming enterprise prior to 2022.

**Advice Note:**

- 1 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 5 hectares in 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 the nitrogen loss from land resulting from an increase in effective area or nitrogen inputs from 29 February 2016; and
- (d) There is no transfer of Nitrogen Discharge Allocations or Managed Reduction Offsets either to or from the property/farming enterprise prior to 2022.

**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 Rule LR R8 unless permitted by Rule LRR7.

**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; 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 Discharge Allocations or Managed Reduction Offsets either to or from the property/farming enterprise prior to 2022.

**Advice Notes:**

- 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 Rules RL R1 (Rule 11) – RL R7 (Rule 11F). Properties within the catchment that were not managed by Rules RL R1 (Rule 11) – RL R7 (Rule 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 RL R1 (Rule 11) to RL R7 (Rule 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 RL R1 (Rule 11) – RL R7 (Rule 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 RL R1 (Rule 11) – RL R7 (Rule 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; 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 Discharge Allocations or Managed Reduction Offsets either to or from the property/farming enterprise prior to 2022.

**Advice Notes:**

- 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 if properties/farming enterprises in the Lake Rotorua groundwater catchment not previously managed by Rules RL R1 (Rule 11) – RL R7 (Rule 11F) do not meet the permitted 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 RL R1 (Rule 11) – RL R7 (Rule 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, is a permitted activity from 1 July 2017, where the nitrogen loss from:

- the effective area is less than 57% 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);
- 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.

Subject to the following conditions:

- (a) Landowners must submit an OVERSEER<sup>®</sup> file 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 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:

Either

- 1 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 effective area of the property/farming enterprise and areas of land use (including fodder cropping, cultivated area and land clearance) remain the same or less than that recorded within the OVERSEER<sup>®</sup> file from (a);

Or

- 2 Provide a new OVERSEER<sup>®</sup> file, prepared by a suitably qualified and experienced person, demonstrating that the property/farming enterprise's nitrogen loss from the effective area meets the requirements described in (a).

- (b) There is no transfer of Nitrogen Discharge Allocations or Managed Reduction Offsets either to or from the property/farming enterprise prior to 2022;
- (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.

#### LR R8

**Controlled – The use of land for farming activities on properties/farming enterprises less than 40 hectares in effective area, or not previously managed by Rules RL R1 (Rule 11) to RL R7 (Rule 11F), or where neither 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 Rules RL R1 (Rule 11) – RL R7 (Rule 11F) as shown in Schedule LR Four; or
- The activity does not comply with permitted activity conditions for the use of land for farming activities;

is a controlled activity subject to the following conditions:

- (a) A 2032 Nitrogen Discharge Allocation and relevant Managed Reduction Targets have been determined for the land in accordance with Schedule
- (b) + LR One and Policy LR P6; and
- (c) A Nutrient Management Plan has been prepared for the property/farming enterprise, and certified by a suitably qualified and experienced person that the Nutrient 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 and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P6.
- (ii) Setting of the appropriate frequency for the submission of an OVERSEER<sup>®</sup> file, prepared by a suitably qualified and experienced person, demonstrating implementation of the Nutrient Management Plan.
- (iii) The requirement for contractual written agreement with the land owner of any leased land agreeing to proposed nitrogen loss mitigations to be undertaken on that land.
- (iv) The form of information and documentation to support the OVERSEER<sup>®</sup> file including data inputs and protocols.

- (v) Circumstances that may require a review of a Nitrogen Discharge Allocation, Nutrient Management Plan or consent conditions including a change to property size, the sale or disposal of land, permanent removal of Nitrogen Discharge Allocation from the catchment, changes in lease arrangements, significant farm system changes and subdivision, or changes to the Regional Policy Statement or Regional Natural Resources Plan resulting from Methods LR M2 and LR M3.
- (vi) Implementation of the Nutrient Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allocation.
- (vii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nutrient Management Plan.
- (viii) The duration of the consent to reflect the nature, scale and robustness of any on-farm mitigation options proposed and Policy LR P16.

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 95A(9) of the Act.

**LR R8A      Controlled – The use of land for lifestyle farming activities on properties/farming enterprises greater than 5 hectares in effective area and up to and including 10 hectares in effective area**

The use of land for lifestyle farming activities on properties/farming enterprises in the Lake Rotorua groundwater catchment where the property/farming enterprise is greater than 5 hectares in effective area and up to and including 10 hectares in effective area is a controlled activity subject to the following conditions:

- (a) 2032 nitrogen loss targets have been determined for the land equivalent to 80% of the drystock reference file referred to in Table LR 5 for the effective area (excluding areas of grazed trees); and
- (b) A Simplified Nutrient Management Plan has been prepared for the lifestyle farming activity and has been certified by the Regional Council and that shows reductions (if required) in nitrogen loss over time to meet the 2032 nitrogen targets.

**Bay of Plenty Regional Council reserves control over the following:**

- (i) The approval of the nitrogen loss reduction requirements targets set in relation to the lifestyle farming activity.
- (ii) The relevant matters in Schedule LR Six as elements of a Simplified Nutrient Management Plan for the property/farming enterprise.
- (iii) Setting of the appropriate frequency for the submission of information demonstrating implementation of the Simplified Nutrient Management Plan.
- (iv) Circumstances that may require a review of nitrogen loss reduction requirements, the Simplified Nutrient Management Plan or consent conditions including a change to property size, the sale or disposal of land or changes to the Regional Policy Statement or Regional Natural Resources Plan resulting from Methods LR M2 and LR M3.
- (v) Implementation of the Simplified Nutrient Management Plan, including the mitigations and methodology to be used to meet the nitrogen loss reduction requirements.
- (vi) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Simplified Nutrient Management Plan.
- (vii) The duration of the consent to reflect the nature, scale and robustness of any on-farm mitigation options proposed and Policy LR P16.

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 95A(9) of the Act.

**Advice Note:**

1. Templates for Simplified Nutrient Management Plans and descriptions of stocking rates to meet 80% of the Drystock reference file are available from the Bay of Plenty Regional Council.

**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 Allocation and relevant Managed Reduction Targets have been determined for the land in accordance with Schedule LR One and Policy LR P6; and
- (b) A Nutrient Management Plan has been prepared for the property/farming enterprise, certified by a suitably qualified and experienced person that the Nutrient 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 and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P6.
- (ii) Setting of the appropriate frequency for the submission of an OVERSEER<sup>®</sup> file prepared by a suitably qualified and experienced person, demonstrating implementation of the Nutrient Management Plan.
- (iii) The requirement for contractual written agreement with the land owner of any leased land agreeing to proposed nitrogen loss mitigations to be undertaken on that land.
- (iv) The form of information and documentation to support the OVERSEER<sup>®</sup> file, including data inputs and protocols.
- (v) Circumstances that may require a review of a Nitrogen Discharge Allocation, Nutrient Management Plan or consent conditions including a change to property size, the sale or disposal of land, permanent removal of Nitrogen Discharge Allocation from the catchment, changes in lease arrangements, significant farm system changes and subdivision, or changes to the Regional Policy Statement or Regional Natural Resources Plan resulting from Methods LR M2 and LR M3.
- (vi) Implementation of the Nutrient Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allocation.
- (vii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nutrient Management Plan.
- (viii) The duration of the consent to reflect the nature, scale and robustness of any on-farm mitigation options proposed and Policy LR P16.

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 95A(9) of the Act.

**LR R10 Controlled – From 1 July 2022, the transfer of Nitrogen Discharge Allocations or Managed Reduction Offsets between properties/farming enterprises**

The transfer of Nitrogen Discharge Allocations 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 Discharge Allocation or Managed Reduction Offsets complies with Schedule LR Seven;
- (b) A new 2032 Nitrogen Discharge Allocation and new Managed Reduction Targets have been determined for both the source and destination land in accordance with Schedule LR One and Policy LR P6; and
- (c) A Nutrient Management Plan has been prepared for both the source and destination land, and certified by a suitably qualified and experienced person that each Nutrient Management Plan has been prepared in accordance with Schedule LR Six, except where the source land is in plantation forestry in which case no source land Nutrient Management Plan is required.

**Bay of Plenty Regional Council reserves control over the following:**

- (i) The approval of the 2032 Nitrogen Discharge Allocation and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P6.
- (ii) Setting of the appropriate frequency for the submission of an OVERSEER<sup>®</sup> file or alternative nutrient budgeting file, prepared by a suitably qualified and experienced person, demonstrating implementation of the Nutrient Management Plan.
- (iii) The requirement for contractual written agreement with the land owner of any leased land agreeing to proposed nitrogen loss mitigations to be undertaken on that land.
- (iv) The form of information and documentation to support the OVERSEER<sup>®</sup> file or alternative nutrient budgeting file, including data inputs and protocols.
- (iv) Circumstances that may require a review of a Nitrogen Discharge Allocation, Nutrient 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 Natural Resources Plan resulting from Methods LR M2 and LR M3.
- (v) Implementation of the Nutrient Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allocation.
- (vi) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nutrient Management Plan.
- (vii) The duration of the consent to reflect the nature, scale and robustness of any on-farm mitigation options proposed and Policy LR P16.

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 95A(9) of the Act.

**Advice Notes:**

- 1 Transfer does not include the permanent removal of Nitrogen Discharge Allocation from the catchment by any person or organisation for the removal from the system or for offsetting purposes.
- 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.

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 LR R3 to LR R7;

where OVERSEER<sup>®</sup> is not suitable for modelling the farming activity is a controlled activity subject to the following conditions:

- (a) A 2032 Nitrogen Discharge Allocation and relevant Managed Reduction Targets have been determined for the land in accordance with Schedule LR One and Policy LR P6;
- (b) A Nutrient Management Plan has been prepared for the property/farming enterprise, and certified by a suitably qualified and experienced person that the Nutrient Management Plan has been prepared in accordance with Schedule LR Six; and
- (c) An authorised alternative nutrient budgeting model is used.

**Bay of Plenty Regional Council reserves control over the following:**

- (i) The extent or proportion of nitrogen reductions required and estimates of nitrogen reductions likely to be achieved.
- (ii) The requirement for contractual written agreement with the land owner of any leased land agreeing to proposed nitrogen loss mitigations to be undertaken on that land.
- (iii) The specification of the 2032 Nitrogen Discharge Allocation and Managed Reduction Targets for the land subject to the application, set in accordance with Schedule LR One and Policy LR P6.
- (iv) Setting of the appropriate frequency for the submission of information prepared by a suitably qualified and experienced person, demonstrating implementation of the Nutrient Management Plan.
- (v) The form of information and documentation to support the alternative nutrient budgeting model.
- (vi) Circumstances that may require a review of a Nitrogen Discharge Allocation, Nutrient 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 Natural Resources Plan resulting from Methods LR M2 and LR M3.
- (vii) Implementation of the Nutrient Management Plan, including the mitigations and methodology to be used to meet the Managed Reduction Targets and Nitrogen Discharge Allocation.
- (viii) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with the Nutrient Management Plan.
- (ix) The duration of the consent to reflect the nature, scale and robustness of any on-farm mitigation options proposed and Policy LR P16.

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 95A(9) of the Act.

**LR R11A Restricted Discretionary – Land use change from plantation forestry or bush/scrub on land subject to the Te Ture Whenua Māori Act to low intensity farming**

The conversion of plantation forestry and/or bush/scrub on land subject to the Te Ture Whenua Māori Act to drystock within the Lake Rotorua groundwater catchment is a Restricted Discretionary activity subject to the following conditions:

- (a) A Nutrient Management Plan has been prepared for the land proposed to be converted, and certified by a suitably qualified and experienced person that the Nutrient Management Plan has been prepared in accordance with Schedule LR Six;
- (b) The proposed activity shall be low intensity farming (drystock);

- (c) If the area of land proposed to be converted is in production forestry, it shall be harvested or will be harvested within 5 years of resource consent being granted;
- (d) If the area of land proposed to be converted to drystock farming is in bush/scrub, this shall occur within 5 years of resource consent being granted;
- (e) No more than 800 hectares of effective area in total shall be converted to drystock farming under the provisions of this rule;
- (f) Suitable good management practices shall be identified and implemented that will reduce or avoid potential adverse effects of the drystock activity;
- (g) There is no transfer of nitrogen to or from the drystock farming enterprises created by the conversion prior to 2022.

**Bay of Plenty Regional Council's discretion will be restricted to:**

- (i) Information provided to demonstrate that the land has reduced development opportunities due to historical cultural and/or economic reasons.
- (ii) The suitability of the land for drystock farming and any methods proposed to mitigate any adverse effects on the water quality in Lake Rotorua.
- (iii) The expiry of the allocation, or portion of the allocation where this has not been utilised within a specified timeframe (within 5 years for bush and scrub or a specified timeframe after harvesting of production forestry).
- (iv) Setting of the appropriate frequency for the submission of an annual OVERSEER® file, prepared by a suitably qualified and experienced person, demonstrating implementation of the Nutrient Management Plan.
- (v) The form of information and documentation to support the OVERSEER® file including data inputs and protocols.
- (vi) Self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with a Nutrient Management Plan.
- (vii) The duration of the consent to reflect the nature, scale and robustness of any on-farm mitigation options proposed and Policy LR P16.

Advice Note:

- 1 Until 1 January 2025, the conversion of plantation forestry to pastoral land use is also subject to the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 and may need a discretionary activity consent under Regulation 17.

**LR R11B Controlled - Land use change from plantation forestry or bush/scrub on Settlement land in accordance with Policy LR P12A**

The conversion of plantation forestry and/or bush/scrub on Settlement land to other land uses within the Lake Rotorua groundwater catchment in accordance with Policy LR P12A is a Controlled Activity subject to the following conditions:

- (a) No more than a combined total of 5 tonnes of nitrogen per year (based on OVERSEER® Version 6.2.0) may be authorised under the provisions of this rule in addition to the relevant Nitrogen Discharge Allocations applying to forestry or bush/scrub respectively;
- (b) A 2032 Nitrogen Discharge Allocation has been determined for the land area subject to a change of use in accordance with Schedule LR One and Policy LR P6;
- (c) The land use change does not occur before 2032 unless:
  - Nitrogen has been made available by transfer equivalent to the amount sought for the land use change; or
  - The Regional Council has identified that sufficient nitrogen is available within the nitrogen accounting system to enable the land use change;
- (d) A Nutrient Management Plan has been prepared for the new land use, and certified by a suitably qualified and experienced person to have been prepared in accordance with Schedule LR Six; and
- (e) Suitable good management practices have been identified for implementation that will avoid

or reduce the potential adverse effects of the land use activity.

**Bay of Plenty Regional Council reserves control over the following:**

- (i) The approval of the 2032 Nitrogen Discharge Allocation for the land subject to the application, set in accordance with Schedule LR One and Policy LR P6.
- (ii) The suitability of the land for the purposes set out in Policy LR P12A and any methods proposed to avoid, remedy or mitigate any adverse effects on the water quality in Lake Rotorua.
- (iii) The portion of the Settlement land nitrogen allocation remaining to be allocated and any pre-2032 transfers of nitrogen allocation.
- (iv) Setting an appropriate frequency for the submission of either:
  - (a) an OVERSEER® file; or
  - (b) an alternative nutrient budgeting model, in accordance with Policy LR P15, when OVERSEER® is not suitable for modelling the land use activity;prepared by a suitably qualified and experienced person, demonstrating implementation of the Nutrient Management Plan.
- (v) The form of information and documentation to support either:
  - (a) an OVERSEER® file including data inputs and protocols; or
  - (b) an alternative nutrient budgeting model, including data inputs and protocols in accordance with Policy LR P15, when OVERSEER® is not suitable for modelling the land use activity.
- (vi) The adequacy of self-monitoring, record keeping, information provision and site access requirements to demonstrate on-going compliance with a Nutrient Management Plan.
- (vii) The duration of the consent to reflect the nature, scale and robustness of any land use mitigation options proposed and Policy LR P16.
- (viii) Circumstances that may require a review under Section 128 of a Nitrogen Discharge Allocation, Nutrient Management Plan or consent conditions including a change to activity 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 Natural Resources Plan resulting from Methods LR M2 and LR M3.
- (ix) Implementation of the Nutrient Management Plan, including the mitigations and methodology to be used to meet the Nitrogen Discharge Allocation.
- (x) The requirement for a contractual written agreement with the landowner of any leased land agreeing to proposed nitrogen loss mitigation to be undertaken on the land.

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 95A(9) of the RMA.

**Advice Note:**

- 1 The Regional Council will consider sufficient nitrogen to be available to enable the land use change under condition (c) of this rule only where, and to the extent that, it has implemented reductions in the amount of nitrogen allocated to existing land uses by way of new consents granted after [DATE PC10 becomes operative] or Nitrogen Discharge Allocation has been surrendered and available nitrogen is demonstrated by the nitrogen accounting system.

**LR R11C Controlled – Review of resource consents**

Lake Rotorua nutrient management resource consents issued before *[date PPC10 becomes*



**operative]** may be reviewed under sections 128 and 129 of the RMA to ensure Nitrogen Discharge Allocations that apply at 1 July 2032 give effect to Table LR 6A.

**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, controlled or restricted discretionary 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, controlled activity or restricted discretionary 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:

- (a) the land use associated with the discharge is authorised under Rules LR R1 to LR R11B;  
and
- (b) the discharge is not a discretionary activity under Resource Management (National Environmental Standards for Freshwater) Regulations 2020.

## Definitions

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

**Alternative nutrient budgeting file:** The output of an authorised alternative nutrient budget model for modelling land uses for which a consent is held under LR R11.

**Block:** An area of land within a property/farming enterprise that has common physical and management attributes. OVERSEER<sup>®</sup> 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 cultivation of forage crops, fodder crops or maize for the intent of sale or movement offsite for profit. This does not include alternative pasture species.

**Commercial dairying:** A dairy farming system characterised by high inputs of capital, labour and technology relative to land area and supported by milking shed infrastructure.

**Commercial horticulture:** The cultivation of land for the production of vegetable or fruit crops on greater than 1000sqm effective area or the production of perennial woody fruit or nut crops on greater than 3000sqm (uncultivated) for the intent of profit. Commercial Horticulture does not include any areas of plantings that form an integral part of a household or community garden.

**Community garden:** An area of plantings used with the intent of directly supplying a community with food or other materials. Monetary gain from any sales of food or materials is incidental and is not the main intent of the activity.

**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: Ddairy 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, short rotation carbon 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, short rotation carbon cropping, horticulture, effluent disposal and includes areas of grazed trees.

**Farming activity:** Dairy, dairy support and drystock activities, cropping, short rotation carbon cropping and horticulture, but not including plantation forestry or bush/scrub.

**Good management practices (GMP):** GMP refers to the evolving suite of practicable measures or methods that could be put in place at a land user, sector, community or industry level to assist in achieving community agreed outcomes (in this case for water quality).

**Grazed trees:** Areas of trees, scrub or wetlands that were grazed by stock during the 2001-04 benchmarking period. These areas typically have low nitrogen discharges.

**Horticulture:** Includes a property/farming enterprise's effective area used for nurseries, orchards, vineyards or growing vegetables for human consumption.

**House block:** The block that includes a house, sheds, septic tank system and the area around a house not grazed by stock including household gardens and driveways.

**Household garden:** An area containing a high diversity of plants including vegetables, fruits, plantation crops, spices, herbs, ornamental and medicinal plants used by the occupants of a household for recreation, or

to obtain food or materials. Household gardens are located within close proximity to the household or within walking distance. Monetary gain from any sales of food or materials is incidental and is not the main intent of the activity.

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

**Lifestyle farming activities:** Farming activity over an entire property/farming enterprise which is characterised by the following: property's primary purpose being as a residence; the income from the land not representing a significant proportion of the income for a household or owner; the farming intensity being generally low with low labour inputs; no commercial cropping, dairying or horticulture; the District Plan zoning reflecting rural lifestyle land use.

**Low intensity farming:** Farming activities that generate less than 57% of the nitrogen loss rate generated by the drystock reference file as prescribed in Schedule LR Five.

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

**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.

**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 the maximum amounts of nitrogen loss 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.

**Nitrogen:** Refers to elemental nitrogen as measured as Nitrogen Discharge Allocations (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  $\text{NO}_3^-$ .

**Nitrogen Discharge Allocation:** 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.

**Nutrient Management Plan:** A plan prepared for a property or farming enterprise that identifies sources of nutrients associated with land uses and that records mitigation actions to reduce nitrogen losses to meet Managed Reduction Targets and the Nitrogen Discharge Allocation and to manage phosphorus loss. The requirements of a Nutrient Management Plan are specified in Schedule LR Six.

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

**OVERSEER<sup>®</sup> file:** An OVERSEER<sup>®</sup> file represents the record of farm system data which is used to execute the OVERSEER<sup>®</sup> Nutrient Budgets model for a single analysis of the farm and its management system. This provides an estimate of the total nitrogen balance for a particular property/farming enterprise using OVERSEER<sup>®</sup>, taking into account nitrogen inputs and outputs.

**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.

**Phosphorus:** refers to elemental phosphorus in dissolved, particulate and organic forms.

**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 which are not grazed by stock.

**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<sup>®</sup> 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<sup>®</sup> version updates.

**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.

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

**Settlement land:** Rural land within the Lake Rotorua Groundwater Catchment returned in accordance with the Ngāti Rangiwewehi Claims Settlement Act 2014 or identified as CNI Forests Lands in the Central North Island Forests Land Collective Settlement Act 2008 on or before 31 December 2019.

**Short rotation carbon cropping:** The planting, maintenance and/or harvesting of tree species for purposes other than the production of timber, timber products, pulp and paper and which are not grazed by farmed livestock.

**Significant farm system change:** A change in farm 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.

**Simplified Nutrient Management Plan:** A plan prepared for a lifestyle farming activity that identifies a planned approach to meet any required nitrogen loss reductions and to manage nutrient losses. The Simplified Nutrient Management Plan will only contain key elements of the matters specified in Schedule LR Six and will focus on stocking rates, fertiliser and feed imports.

**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.

**Suitably qualified and experienced person:** A person who:

- implements OVERSEER<sup>®</sup> 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 Allocations

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

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

### A. Start Points and Nitrogen Discharge Allocations

The Start Points from which the 2032 Nitrogen Discharge Allocations are calculated are set out in Table LR 4 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 the lower range boundary of the 2001-04 Benchmark Nitrogen Discharge Allocation as set out in Table LR 5, 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.

**Table LR 4: Start Points and Nitrogen Discharge Allocations**

Rules category	Rule 11 status	Nitrogen management Start Point	2032 Nitrogen Discharge Allocation
<b>40 ha or greater</b>	Benchmarked	Actual Benchmark (From Benchmarked land use and effective area).	Actual Benchmark and land use applied to allocation methodology.
	Not Benchmarked	Derived Benchmark (Function of 2001-04 sector benchmark lower range boundary, and 2002-03 land use and effective area) <b>unless evidence of significant farm system change.</b>	Derived Benchmark and land use applied to allocation methodology.
<b>Between 10-40 ha Consented</b>	Benchmarked	Actual Benchmark (From Benchmarked land use and effective area).	Actual Benchmark and land use applied to allocation methodology.
	Not Benchmarked	Derived Benchmark. (Function of 2001-04 sector Benchmark lower range boundary and 2002-03 land use and effective area <b>unless evidence of significant farm system change.</b> )	Derived Benchmark and land use applied to allocation methodology.



Rules category	Rule 11 status	Nitrogen management Start Point	2032 Nitrogen Discharge Allocation
<b>Less than 40 ha 2017 Permitted 2022 Consented</b>	Benchmarked	Actual Benchmark. (From Benchmarked land use and effective area).	Actual Benchmark and land use applied to allocation methodology.
	Not Benchmarked	Derived Benchmark.  (Function of 2001-04 sector benchmark lower range boundary, and 2002-03 land use and effective area <b><i>unless evidence of significant farm system change.</i></b> )	Derived Benchmark and land use applied to allocation methodology.
<b>For properties/farming enterprises within the Lake Rotorua groundwater catchment that were not previously managed under Rules RL R1 (Rule 11) to RL R7 (Rule 11F) (LR R8)</b>	Not Benchmarked	Derived Benchmark (This will be created through the application of OVERSEER® to the actual land use and effective area in place during the 36 month period ending on 01 January 2016.)	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 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 4.
- (b) Apply the standard sector % reduction (from Table LR 5) for all blocks except:
  - (i) Those blocks where the benchmark is already below the relevant Nitrogen Discharge Allocation sector range; or
  - (ii) Those blocks where applying the standard sector % reduction would cause the Nitrogen Discharge Allocation to fall below the relevant Nitrogen Discharge Allocation sector range, where in both cases the Nitrogen Discharge Allocation shall be set at the bottom value of the relevant Nitrogen Discharge Allocation 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.
- (c) Following the application of the standard sector % reduction (from Table LR 5), any block that is above the relevant Nitrogen Discharge Allocation sector range is assigned the upper value of that range.

A property's Nitrogen Discharge Allocation 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.

The combination of parameters and figures in Table LR 5 below supports the allocation methodology that achieves the required reductions and sector contributions within the Integrated Framework:

**Table LR 5: Allocation parameters and figures**

	Dairy	Drystock
<b>Standard sector % reduction</b>	31.3%	20.0%
<b>Nitrogen Discharge Allocation average</b>	64.5	25.6
<b>Lower Nitrogen Discharge Allocation range boundary</b>	54.6	18.0
<b>Upper Nitrogen Discharge Allocation range boundary</b>	72.8	54.6
<b>Sector contribution from Integrated Framework</b>	35.3%	17.2%

Table notes: a) the Nitrogen Discharge Allocation 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. The non-benchmarked blocks receive the lower range boundary NDA of 18.0kgN/ha/yr for drystock and 54.6 kgN/ha/yr for dairy.

b) the 2032 Nitrogen Discharge Allocations are subsequently adjusted using Table LR 6A.

**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 Allocation. They are calculated as a percentage of the total reduction required (as shown in Table LR 6) and will be expressed as percentages in relation to the relevant reference files (see Schedule LR Five).

**Table LR 6: 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
<b>1 July 2022</b>	44	31.4%	31.4%
<b>1 July 2027</b>	48	34.3%	65.7%
<b>1 July 2032</b>	48	34.3%	100.0%
	<b>140</b>	<b>100.0%</b>	

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

If there is a need to recalculate a Nitrogen Discharge Allocation due to a transfer of Nitrogen Discharge Allocation the Managed Reduction Targets will be recalculated to maintain the same proportional rate of reduction.

#### D. 2032 Nitrogen Discharge Allocation Adjustment

- The 2032 Nitrogen Discharge Allocations (NDA) for the Dairy and Drystock sectors are adjusted to deliver the outcomes specified in Table LR 6A.
- A standard reduction of 0.98% of the NDA across the Dairy and Drystock sectors is applied except that the lower range boundaries are maintained at their original positions.
- All existing Lake Rotorua nutrient management resource consents will have their conditions reviewed to reflect Table LR 6A.
- The Managed Reduction Targets for the period up to 1 July 2032 (from Table LR 6) remain the same in relation to the adjustment, i.e. the readjustment is only required from 1 July 2032.

**Table LR 6A: Adjusting allocation parameters and figures**

	Dairy	Drystock
<b>Further sector % reduction from NDA</b>	0.98%	0.98%
<b>Lower Nitrogen Discharge Allocation range boundary</b>	54.6	18.0
<b>Upper Nitrogen Discharge Allocation range boundary</b>	72.08	54.06
<b>Resulting kgN (OVERSEER® 6.2.0)</b>	2800kg	2200kg

#### E. Amendment of Nitrogen Discharge Allocation

- The Nitrogen Allocations to the following blocks are amended as follows:

**Table LR 6B: Nitrogen Allocation to Settlement land (in OVERSEER® 6.2.0)**

Description	Original allocation	Reallocation	Adjusted allocation
Section 3-5 SO 388233, held in record of title 507546 (within the Lake Rotorua Rural area)	6,770 kg	85.5% of 5tN	11,045 kgN
SA68A/368 (within the Lake Rotorua Rural area)	1,679 kg	14.5% of 5tN	2,404 kgN

*Table notes: a) The reallocated nitrogen remains in the Regional Council's nitrogen accounting system unused until drawn on for a particular consented activity. At the time a particular draw down occurs, an adjustment will be made to account for any changes in OVERSEER® versions. Allocations to tourism, housing and similar activities will be adjusted in accordance with the House reference file system. Rural activities such as horticulture and market gardening will be adjusted in accordance with the Drystock reference file system.*

*b) The allocations can be used for any land use complying with Policy LR P12A and will be expressed using the appropriate reference file for the use.*

#### F. Additional matters

- Exceptional circumstances may exist that imply a need to assess amendments to the Nitrogen Discharge Allocation 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, bush/scrub and house blocks will be given a Nitrogen Discharge Allocation that equates the OVERSEER® discharge rate for these land uses within the Lake Rotorua groundwater catchment.

- Non-Benchmarked grazed trees will be allocated the Benchmarked grazed trees average discharge rate.
- Property/farming enterprises can apply to Council for a review of benchmarks including derived benchmarks.

#### **G. Amendment of Nitrogen Discharge Allocation**

- Any amendment to Nitrogen Discharge Allocation that occurs due to subdivision, changes to property boundaries, addition of house blocks, contractual permanent removal of Nitrogen Discharge Allocation 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, in accordance with Methods LR M1(c) and LR M5(g), to provide for potential losses from sewage disposal, residential activity losses from the land, and losses from any area available for farming activity.
- The creation of new properties may lead to the requirement for resource consent.
- The complete or partial transfer of the Nitrogen Discharge Allocation for a property may result in that property losing the ability to be subdivided in the future, unless the nitrogen deficit is addressed.

#### **H. Non-Standard Circumstances**

- If new farming activities are being established as a result of transferring Nitrogen Discharge Allocation to areas of plantation forestry or bush/scrub conversion, Nitrogen Discharge Allocations will be calculated and authorised by Council on the basis of the additional discharge over and above the pre-conversion land use discharge rate. Tables LR 4 and LR 6 do not apply.
- Where OVERSEER® is not suitable for modelling the farming activity, an authorised alternative nutrient budgeting model that meets Policy LR P15 will be used to establish a Nitrogen Discharge Allocation and Managed Reduction Targets. In determining the extent or proportion of nitrogen reductions required for a property/farming enterprise Council will adopt an approach that achieves an equivalent proportional reduction in nitrogen loss against comparable land uses or sector.

## Schedule LR Two – Stockingrates

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 LR R4 and LR R7 and the definition of low intensity farming activity.

Stock class	Total animals by stock class allowed per hectare	Total hectares required per animal in each stock class
<b>Horses</b>		
Pony	2.1	0.48
Small horse (including w/foal)	1.6	0.64
Large horse (including w/foal)	1.0	0.96
<b>Dairy</b>		
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
<b>Drystock</b>		
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
<b>Sheep</b>		
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
<b>Goats</b>		
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
<b>Deer</b>		
Stag	4.9	0.21
Breeding hind	5.0	0.20

<b>Stock class</b>	<b>Total animals by stock class allowed per hectare</b>	<b>Total hectares required per animal in each stock class</b>
Hind 1-2 year	9.9	0.10
Stag 1-2 years age	13.2	0.08
Fawn (weaned)	15.2	0.07
<b>Other</b>		
Alpaca	15.4	0.06
Llama	7.7	0.13

For animal species not listed in Schedule LR Two (such as outdoor pigs) or for animal breeds significantly outside standard animal performance definitions\*, 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 dry matter intake of approximately 550 kg.

\* For the purposes of Schedule LR Two, the relevant standard animal performance definitions are listed in Table 1, Section 7.1 of *Methodology for creation of Nitrogen Discharge Allocation reference files and stocking rate table Version 2* (Perrin Ag Consultants Ltd, February 2016).

**Advice Notes:**

- The term *Feral goats* is the OVERSEER<sup>®</sup> definition and applies only to goats within a farming operation.
- If you are not sure how to assess Revised Stock Units or how to find the animal performance definitions, you should contact a land management officer at Bay of Plenty Regional Council.

## **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. Information shall be provided in a Excel spreadsheet and shall include the following details:

- (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);

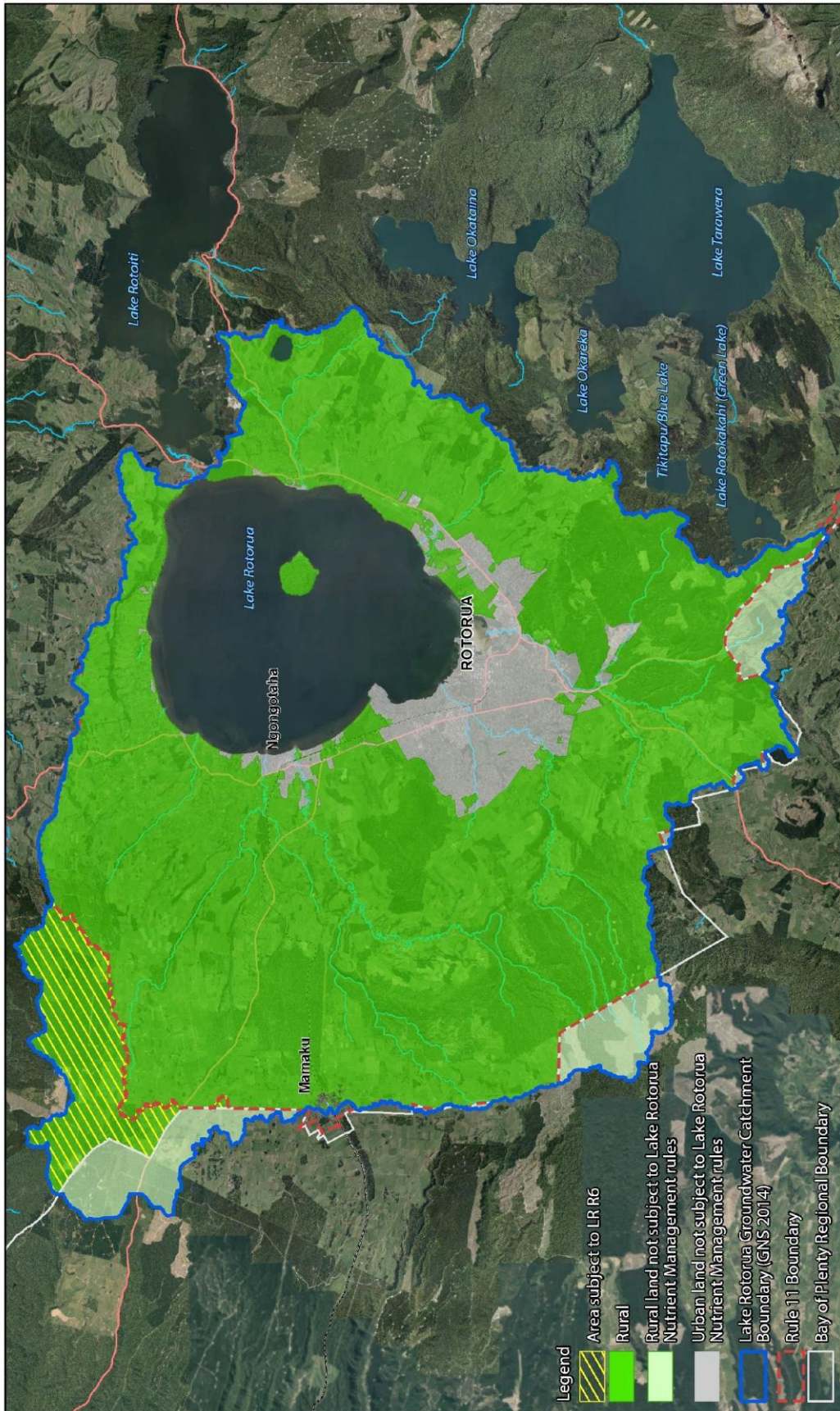
And where applicable:

- (d) Stocking rate within the effective area (numbers, classes and ages) including a breakdown by month;
- (e) Type, quantity and timing of effluent and fertiliser applications within the effective area;
- (f) Type, area and planting dates for crops (i.e. exported or on farm use) within the effective area;
- (g) Type, quantity and source of supplementary feed within the effective area.

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.



# Schedule LR Four – Land Area subject to LR R6 and LR R8



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## Schedule LR Five – Use of OVERSEER® and Reference Files

### Introduction

The OVERSEER® nutrient budgeting 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) and so takes advantage of the best available science;
- Adjusts a property's Start Point, Managed Reduction Targets and 2032 Nitrogen Discharge Allocation in a way that enables a fair comparison with the property/farming enterprise's current nitrogen leaching rate, including when a new Nutrient Management Plan is generated every five years;
- Maintains reasonable Nitrogen Discharge Allocation relativity between properties/farming enterprises i.e. maintains the overall integrity of the nitrogen loss allocation method in Schedule LR One;
- Is understandable to landowners and managers;
- Enables effective compliance and reporting.

### 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 discharge 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 Nitrogen loss, the same percentage change is applied to real blocks with the same land use i.e. real block nitrogen discharge 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:

#### Step 1: Create OVERSEER® reference files

OVERSEER® "reference files" have been established for a hypothetical dairy farm ("dairy farm reference file") 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 and output from further revision of NDA reference files, December 2016* prepared by Perrin Ag Consultants Ltd. In summary, each pastoral reference file is based on:

- A simplified and hypothetical 100 ha farm.
- The same structure as typical benchmarking files, inputs the represent average benchmarked inputs, and predicted nitrogen losses in line with average discharges for the sector from the benchmarking period.

In addition to the two pastoral reference files, it is also necessary to define a reference file 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 bush/scrub, and house blocks. Together, these land uses constitute the major land uses underpinning the Nitrogen Discharge Allocation method.

The reference file parameters for plantation forestry, bush/scrub and house blocks are described in Table LR 7 below:

**Table LR 7: Reference file inputs for plantation forestry, bush/scrub and house blocks**

Reference file land use	Input Parameters	Nitrogen loss in OVERSEER® version 6.2.0
Plantation forestry	1000 hectare 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 hectare 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	<p>2.1ha property comprising two blocks A and B.</p> <p>Block A: 2.0 hectare house block with 1755mm annual rainfall and 45 km from coast, 10 standard houses on conventional septic tanks: 30 people, 5% cultivated garden area.</p> <p>Block B: 0.1 hectare trees and scrub block, 1800 mm annual rainfall and 45 km from coast, and native bush type.</p> <p>The Nitrogen 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.</p>	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 Allocation 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 Allocation 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 Nutrient 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* prepared by Perrin Ag Consultants Ltd.
- 5 The target Nitrogen loss rates (Start Point, Managed Reduction Targets for 2022 and 2027, and 2032 Nitrogen Discharge Allocation are then expressed as a percentage of the relevant reference file Nitrogen loss rate.
- 6 The relevant land uses and areas, and Nitrogen Discharge Allocation and Managed Reduction Targets as percentages of reference files will be included within consent conditions.

**B. Using reference files with subsequent OVERSEER<sup>®</sup> versions and maintaining the methodology**

- 7 The objective of the reference files is to closely track the average benchmarked loss for each sector in each version and the reference files will be maintained to achieve this. The reference files for the major land uses are rerun upon each new OVERSEER<sup>®</sup> version release, using the file input parameters provided in *Methodology for and output from further revision of NDA reference files, December 2016* prepared by Perrin Ag Consultants Ltd 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 Where an OVERSEER<sup>®</sup> version change causes any reference file to malfunction, produce scientifically implausible nitrogen loss results, or includes a known error the reference file methodology will be amended on the basis of the following principles and considerations:
- (a) Any changes to the reference files shall be the minimum required to maintain their integrity and functionality;
  - (b) The amended methodology will be consistent with technical information published by OVERSEER<sup>®</sup> Ltd;
  - (c) The reference file shall be structured to ensure consistency with current OVERSEER<sup>®</sup> data entry practice for the Lake Rotorua groundwater catchment;
  - (d) The reference file behavior should not be inconsistent with current Lake Rotorua groundwater catchment farm files;
  - (e) Any amendments will be independently certified by agricultural advisors with experience of the Lake Rotorua groundwater catchment and will align with changes to published OVERSEER<sup>®</sup> userguides;
  - (f) The amended methodology and independent certification will be published and made available by the Regional Council.

**C. Use of updated reference files**

- 9 A property's nitrogen targets are reassessed by applying the property's relevant reference file 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 Nutrient Management Plan at the standard five-year interval;
  - (b) When the Nutrient Management Plan needs to be updated to reflect actual or proposed changes in the property's nitrogen management, including any transfer of Nitrogen Discharge Allocation or Managed Reduction Offset;
  - (c) Upon request for a reassessment.

**OVERSEER<sup>®</sup> descriptions used to define sectors**

OVERSEER<sup>®</sup> descriptions relate to definitions in the following ways<sup>4</sup>:

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

*Dairy areas* are OVERSEER<sup>®</sup> pastoral blocks or fodder blocks that are primarily used for dairy.

*Bush/Scrub areas* are OVERSEER<sup>®</sup> native blocks.

*Plantation Forestry areas* are OVERSEER<sup>®</sup> forestry blocks.

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<sup>4</sup> OVERSEER<sup>®</sup> Technical Manual: Technical Manual for the description of the OVERSEER<sup>®</sup> Nutrient Budgets engine, April 2015.

## Schedule LR Six –Nutrient Management Plan requirements

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

A Nutrient Management Plan shall be prepared in accordance with A to D below by a suitably qualified and experienced person.

The Nutrient Management Plan shall take into account sources of nitrogen and phosphorus associated with the farming activity and identify relevant nitrogen and phosphorus 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<sup>®</sup> 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.

The plan requirements will apply to:

- A A Nutrient Management Plan prepared for an individual property or farm enterprise; or**
- B A Nutrient Management Plan prepared for an individual property which is part of a farming enterprise or a collective of pastoral properties.**
- C Nutrient 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.**
- D Nutrient Management Plans prepared for an individual property or a farming enterprise that are not derived from an industry environment management programme.**

Nutrient 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 Allocation allocated to the property/farming enterprise that must be achieved by 2032.
- 4 Any nitrogen benchmark under Rule 11 of the Regional Natural Resources Plan.
- 5 A description of how each of the following management objectives, where relevant, will be met.
  - (a) *Nitrogen management:* To manage nitrogen losses to achieve the Nitrogen Discharge Allowance allocated to the property/farming enterprise by 2032. The Nutrient Management Plan must include:
    - (i) A nutrient budgeting file 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<sup>®</sup> (or other model) input parameters, that demonstrates managed reduction to achieve the next Managed Reduction Target in accordance with Schedule LR One and LR P6. Identified actions shall include good management practices (including those assumed by the model being used) where available.

- (iii) Subject to 7, a description of any mitigations or farming system components that are not included in OVERSEER® or proxies used to represent those mitigations or farming system components within OVERSEER®.
  - (iv) 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 Schedule LR One and LR P6.
  - (v) The specific data and records that will be kept to measure compliance with specific targets and mitigation actions defined in 5(a)ii.
  - (vi) 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 good management practices to minimise the risks from critical source areas and other areas which may contribute to phosphorus losses.
- (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 or permitted activity standards of the regional plan every day of the year.
- (d) *Gorse management*: To manage gorse to minimise the risk of nitrogen losses.
- (e) *Water irrigation management*: To operate water irrigation systems in a way that minimises the risk of 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 Nutrient budgeting files must be prepared using the OVERSEER® Nutrient Budget model or an alternative nutrient budgeting model authorised by the Regional Council in accordance with Policy LR P14 and LR P15. 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.
- 7 Any mitigations or farming system components to be used within a Nutrient Management Plan, that OVERSEER® is not suitable for modelling, or proxies or methods used to represent those mitigations or farming system components for modelling, must be pre-authorised by the Regional Council. The Regional Council may seek expert verification of the supporting material, including evidence demonstrating managed reduction, implementation practices and ongoing monitoring, provided as part of the authorisation process. Authorisations will be based on the Regional Council's assessment of evidence provided in support of the proposal and may be limited by location, duration and method of application.
- 8 Nutrient 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 Nutrient Management Plans must meet the intent of the original Nutrient Management Plan and include an updated nutrient budgeting file.

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

## **Schedule LR Seven – Transfer of Nitrogen Discharge Allocation or Managed Reduction Offset**

### **Transfer of Nitrogen Discharge Allocation**

The transfer of Nitrogen Discharge Allocation between properties/farming enterprises can enable a destination property/farming enterprise to increase its Nitrogen Discharge Allocation:

- Any proposed increase in nitrogen loss (consequently triggering the need for a new Nitrogen Discharge Allocation) associated with land must be offset by a corresponding and equivalent decrease in nitrogen loss (also triggering the need for a new Nitrogen Discharge Allocation on one or more other properties/farming enterprises in the Lake Rotorua groundwater catchment.
- Any Nitrogen Discharge Allocation that is transferred between properties/farming enterprises (for example by sale or lease) must be authorised by the Regional Council to confirm the new source (transferor) Nitrogen Discharge Allocation and new destination (transferee) Nitrogen Discharge Allocation.
- Evidence will be required of the legal basis (i.e. a legally binding agreement between parties) for how the Nitrogen Discharge Allocation transfer is secured.
- New Nutrient Management Plans will be required to recognise the new Nitrogen Discharge Allocation and any new Managed Reduction Targets for the source and destination land, except where the source land is in plantation forestry in which case no source land Nutrient Management Plan is required.
- These rules do not regulate the acquisition of Nitrogen Discharge Allocations by any person or organisation for the removal from the system or for offsetting purposes, 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 Nutrient Management Plans.
- Evidence will be required of the legal basis for how the Managed Reduction Offsets are secured for the relevant timeframe.
- New Nutrient 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 Allocations 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.