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Report To: Lake Rotorua Stakeholder Advisory Group

Meeting Date: 28 April 2015

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Rule framework and content

Executive Summary

This report presents information and current thinking on three areas of the rules framework for feedback from the Lake Rotorua Stakeholder Advisory Group. The three areas are the start point and NDAs for non-benchmarked properties, the approach to how the science review is included within the plan change, and the approach to defining low intensity land use.

Feedback is also sought on the draft terms of reference for how science reviews should occur.

Feedback from StAG on the current Council staff position is useful to test the thinking and to ensure the rule framework is robust.

1 Recommendations

That the Lake Rotorua Stakeholder Advisory Group:

- 1 Receives the report, *Rule framework and content*.**
- 2 Provides feedback on:**
 - i. Start point and NDAs for non-benchmarked land (section 3.1)**
 - ii. Science review method approach (section 4.1)**
 - iii. Low intensity land use definition (section 5.1)**
- 3 Provides feedback on the Science Review terms of reference (section 4.2) and note timing for reviews (section 4.3).**

2 Introduction

The process of developing the rules framework means that there is a need to confirm the detail around specific matters that have been discussed over time by the Lake Rotorua Stakeholder Advisory Group (StAG).

This report addresses three of these elements:

1. Start point and Nitrogen Discharge Allowances for non-benchmarked land
2. Science review wording
3. Intensive land use definition.

These elements are discussed below in terms of available and practical options, and the preferred position of Council staff at this point.

3 **Start point and Nitrogen Discharge Allowances for non-benchmarked land**

The Rule 11 benchmarking exercise undertaken using the 2001-04 property information effectively created a baseline for nutrient exports from most pastoral and forestry land within the catchment. The nitrogen loss information generated from benchmarking is the basis for deriving the nitrogen pastoral reduction targets needed to achieve a sustainable outcome for Lake Rotorua by 2032.

Benchmarked properties

Leaving aside Overseer version changes at this point, the choice of a start point to begin individual property nitrogen reductions is logically the benchmark information for those properties covered by the 2001-04 exercise. The 2001-04 benchmark for a property does not change. The current preferred NDA allocation scheme uses a formula based on the individual property benchmarks. However, where a property land use change since 2001-04 has been authorised by consent or was a permitted activity, the newer lawful land use shall be used in derivation of the property's NDA.

Non-Benchmarked properties

Where properties were not benchmarked there are a range of options available to derive a start point. These include:

- Current state (the current landuse)
- Current (date range of last three years)
- A date range aligned to available aerial photography
- 2001-04 reference.

Of these, the reference to the 2001-04 period provides a level of fairness that other options (such as using current practice or a more recent date range) do not. The RPS's Policy WL 5B allocation principle (a) "Fairness/Equity" is relevant here and this has been reinforced by comments made through the StAG process.

It is acknowledged that this approach does not take into account whether, since 2001-04:

- investment has occurred in infrastructure or farm system change
- gorse has been converted to pasture
- forestry has been removed.

Reference does however also need to be made to Rule 11 that restricted any increase in nutrient loss.

There is also an inherent limitation for non-benchmarked properties that the 2001-04 situation will in some instances now only be able to be approximated (for example, using aerial photos and data sets to look at land cover and generic land use).

For properties that weren't benchmarked, or that didn't provide benchmarking information, a "Derived Benchmark" will be calculated. This will involve looking at the current landuse,

assessing that this has not changed significantly from 2001-04, and then the sector average will be applied to it.

Property owners have been required since October 2005 to submit information (Rule 11 Tables 39 and 40, Regional Water and Land Plan) to enable Council to calculate a 2001-04 benchmark. It is reasonable to end the ability to obtain a 2001-04 benchmark upon the new rules becoming operative.

Assessment of evidence to assist in calculating benchmarks

To support the approach of calculating benchmarks, there does need to be a mechanism to enable a more refined picture of the land use that was occurring in the critical 2001-04 timeframe. For this reason there will be an ability to assess “evidence of substantial change” where a property can be demonstrated as having a higher or lower nutrient profile for 2001-04 when compared to the relevant land use sector average.

Acceptable information sources include written evidence (eg accounts, farm returns, diaries, rule 11 surveys) and aerial photos. Higher nutrient profiles may or may not result from establishing a higher intensity farming history. Lower may result from assessment of aerial photos of land cover (for example, forestry removal) without sufficient evidence demonstrating that nitrogen losses have not increased as a result.

NDA

Until the Lake Rotorua Nutrient Rules are operative, a *provisional NDA* can be supplied through the Advice and Support service. The provisional NDA will be based benchmarks or, where these aren’t available, they will be based on land use derived from 2002/2003 aerial photography and sector benchmark average i.e: 24.6 kgN/ha/yr for drystock land use and 72.0 kgN/ha/yr for dairy land use (Overseer 6.1.3 figures).

2032 NDAs will be derived from the actual or derived benchmark being run through the allocation methodology formula.

3.1 Summary of position

The following table summarises the start points and 2032 NDA positions that will be supported by the rules framework.

| Rules category | Rule 11 status | 2017 Nitrogen start point | 2032 NDA |
|--------------------|------------------------------|---|---|
| Greater than 40 ha | Benchmarked | Actual Benchmark | Actual Benchmark and landuse applied to allocation methodology |
| | Not Benchmarked | Derived Benchmark Function of 2002-03 ¹ landuse and 2001-04 sector average unless evidence of substantial change | Derived Benchmark and landuse applied to allocation methodology |
| 10-40 ha Consented | Benchmarked | Actual Benchmark | Actual Benchmark and landuse applied to allocation methodology |
| | Not Benchmarked ² | Derived Benchmark Function of 2002-03 landuse and 2001-04 sector average unless evidence of substantial change | Derived Benchmark and landuse applied to allocation methodology |

| | | 2022 Nitrogen start point ³ | 2032 NDA |
|--|-----------------|--|---|
| 10-40 ha 2017 Permitted 2022 Consented | Benchmarked | Actual Benchmark | Actual Benchmark and landuse applied to allocation methodology |
| | Not Benchmarked | Derived Benchmark Function of 2002-03 landuse and 2001-04 sector average unless evidence of substantial change | Derived Benchmark and landuse applied to allocation methodology |

Notes:

1. 2002-03 landuse from available historical aerial photography series
2. This category is included for completeness and to recognise any specific circumstances that might require a NDA to be derived (for example incentives scheme applicants).
3. Following consultation it is being proposed that 10-40 hectare properties are brought into the consenting regime in 2022 (see Regional Council, Regional Direction and Delivery Committee Report 9 December 2014).

4 Science review wording

The need to keep the science that underpins the regulatory framework under review has been a consistent theme from StAG and the community. The impacts of the rules are significant and therefore it is appropriate that the Regional Council has a commitment to this. This commitment is referenced in the multi-party Oturoa Agreement. While this is a non-statutory document it contains obligations for all parties and it has been subsequently referenced in the operative Regional Policy Statement (Policy WL 6B - Managing the reduction of nutrient losses).

Council also has the obligations within the Resource Management Act to carry out 5 yearly reviews of policy statements and plans. Under section 35 of the Act, Council needs to carry out necessary research, monitor the state of the environment and assess the effectiveness of policy statements and plans. There is also the requirement to undertake a full review of the RPS and plans after 10 years.

StAG discussed the need for and scope of a science review on 15 July 2014. The minutes of this meeting record a list of matters that could be addressed in such a review. It was also suggested that the parameters for such a review should be set out as a RMA "method" that is incorporated alongside the new nitrogen rules in the regional plan.

BOPRC has received expert planning advice that the science review method should be an enabling method rather than a prescriptive "terms of reference" which could unnecessarily limit the scope needed. The suggested wording was:

"To give effect to Lake Rotorua Plan provisions, the Regional Council will:

- (a) Regularly review the science that determined the limits set in this rule and respond to recommendations made through the review process"

The intention of this would be that science reviews are programmed in as part of Council's regular business. It is expected that the reviews would follow a rigorous scope that would cover all relevant matters.

4.1 Options

From the above discussion there are a number of options to address the need and timing for science reviews:

1. Rely on RMA section 35 five -year and ten-year requirements

2. Include a simple method within the plan change
3. Include a more extensive method within the plan change
4. Include specific terms of reference for reviews within the plan change.

The current position is **option 3**. Options 1 and 2 do not adequately recognise the importance of this issue even though technically they would have the same impact. Option 4 is seen as too prescriptive and of having an unnecessary level of detail. However as noted below there is benefit in progressing the terms of reference now.

4.2 Draft Science Terms of Reference

In order to budget and schedule a reasonably substantial science review, it is still appropriate to draft the Terms of Reference in parallel with a relatively brief, enabling RMA method for use in the plan change. As anticipated by the Oturoa Agreement it is important that StAG has input into the terms of reference. The StAG July 2014 record of stakeholder advice on the science review has been adapted into the following draft terms of reference.

Regional Council will review the science that determined the limits set in the RPS and the Regional Water and Land Plan for Lake Rotorua and its catchment. Reviews will occur on a five yearly basis and will be published. They will include:

- a) *review of trends in N, P, Chla, algal blooms, clarity, TLI for inflows, in-lake and outflow where relevant*
- b) *review of progress towards catchment N target (for example, 70% of catchment target by 2022)*
- c) *review of 435 tN/yr and P (external and internal, nominally 37 tP/yr) targets and any other N and P load combinations to meet the TLI of 4.2 i.e. lake model reruns. This may necessitate:*
 - (i) *review and rerun of the lake model (or successor model), including its ability to replicate recent years data*
 - (ii) *review and rerun of ROTAN (or successor model), including N loss rates, groundwater trends and attenuation rates, including Overseer or similar estimates*
 - (iii) *assessing the efficacy and risks of alum dosing and assessment of land-based phosphorus mitigation*
- d) *review of relevant New Zealand and international lake remediation science*
- e) *recommendations*

StAG's view of the above is needed. From this basis advice can be sought from the science community and Water Technical Advisory Group to refine the scope further. It can then be reported back to StAG.

4.3 Timeframes for reviews

The expectation is that the science reviews will occur on a five year cycle. This is a reasonable expectation given the ongoing research that continues to deliver new information for consideration.

As noted in the Oturoa Agreement the RMA requirement applies to the RPS which contains the key target derived from lake science and modelling – the 435 tN sustainable lake load. The RPS became operative on 1 October 2014. The five year review will be due on 1 October 2019 this will be a policy review.

The Integrated Framework references the need for a science review in 2017. All aspects of the science package (as per the draft terms of reference) would be considered at that time. This timing would then see the science review being available to support the required policy review.

5 Low Intensity land use definition

The definition of low intensity land use will come into play in relation to the thresholds for permitted activities. The definition is important to provide clarity for the large number of properties that will not require consent – or where owners want to manage their land within the permitted activity threshold.

Three approaches to define intensity of land use as follows:

Option 1: Define the excluded land use. This would be a process of defining farming activities that would be excluded from the permitted activity rule. This rule would say that low intensity land use excludes the defined land uses.

Using this approach, examples of exclusions:

Commercial vegetable growing means using an area of land greater than 2 ha for producing vegetable crops for human consumption. It includes the whole annual rotational cycle, being the period of time that is required for the full sequence of crops, including any pasture phase in the rotation. Fruit crops, vegetables that are perennial, dry field peas or beans are not included.

Intensive sheep and beef farming refers to properties greater than x ha engaged in the farming of sheep and cattle, where any of the land grazed is irrigated.

Option 2: Link the Permitted activity conditions to farm practices that tend to give higher nitrogen loss rates. This approach would link land uses to nitrogen discharges.

Using this approach, examples of exclusions:

- a) the use of off-property sourced supplementary feeds to increase the carrying capacity of the land between March and August inclusive
- b) the application of more than 50 kg/N/ha/yr and more than 25kg/N/ha in a single application
- c) carrying more than 30% of the total number of pasture eating stock at any one time as horses, cattle or other large pasture eating animal (greater than 150 kgs)

Option 3: Use of stock intensity tables. Stock intensity tables were used as part of the consultation on the draft. Stock intensity tables would need to be complied with on any given day or records must be kept as proof of land use. Stock intensity table would provide a reference from stock units to stock types.

Alternatively, the permitted rule could simply refer to allowed stocking rates per hectare with the stocking rate table being an advisory guide but not actually part of the rule. To clarify, there are two sub-options to consider:

- **Option 3a:** Incorporate a stocking rate table in the permitted activity rule
- **Option 3b:** Require that the permitted “land use contains no more than XX stock units per hectare over the effective farmed area”, supported by a standard definition and an advice note referring to a stocking rate table giving examples.

Both Options 3a and 3b do not cover potentially intensive cropping activities, and therefore would need to be supported by Option 1 exclusions.

Summary of options

In reviewing the options the following were relevant factors:

- Use of N leaching rates in a permitted activity may be difficult to align with Overseer changes.
- Option 2 has an increased level of complexity
- Options 1 and 3 have been supported through Environment Court processes

Consideration has been given to the definitions being used in Selwyn Waihora sub-regional plan (Variation 1 to the Land and Water Regional Plan), HBRC's Change 6 (Tukituki) and Waikato Regional Council's Lake Taupō.

5.1 Current position

The current draft position is a mix of options 1 and 3a i.e. stock intensity tables and some specified land uses that are not stock related. It is currently framed as follows:

Nitrogen loss from low intensity land use on properties less than 10 ha

Conditions:

- (a) The effective farm area is less than 10 hectares
- (b) The land use contains no more than the stocking rates listed in Schedule XX over the effective farmed area at any point in time between 1 February and 31 August and none of the following activities are undertaken on the effective land area:
 - (i) Commercial cropping including forage crops, fodder crops and maize
 - (ii) Dairy farming (including dairy support)
 - (iii) Commercial horticulture including nurseries, viticulture, orchards, vineyards and perennial vegetables

A maximum stocking rate table will support this rule as Schedule XX – see Appendix 2.

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Appendix 1: Oturoa Agreement references to Science Review The Oturoa Agreement

The Oturoa Agreement states in Clause 18 that:

...The parties recognise that these RMA review requirements mean there will be an ongoing opportunity to review targets, such as the sustainable load of 435 tN, that related to Lake Rotorua's water quality. Should the advice of the Technical Advisory Group suggest that the sustainable nitrogen load be adjusted, then a review of the target will be undertaken.

The Parties recognise the importance of scientific rigour in the review process and as such, agree to the Collective nominating a recognised water quality and nutrient management scientist to participate in the Technical Advisory Groups, subject to the group's Terms of Reference.

It is agreed that the StAG and TAG will provide advice to BOPRC on the development of the Terms of Reference for the reviews of the Regional Water and Land Plan in respect of Lake Rotorua.

The Oturoa Agreement also states in respect of phosphorus that:

The Parties recognise the role of phosphorus reduction has in improving the lake's Trophic Level Index (TLI). It is agreed that every effort will be made to continue to encourage and support both on and off-farm phosphorus reduction initiatives. Scientific advice from the Land and Water Technical Advisory Groups, and other sources, will continue to be used by all Parties.

Appendix 2: Indicative Maximum Stocking Rates Table

| Stock class | Animal/ha | Ha/animal |
|------------------------------|-----------|-----------|
| Pony | 1.9 | 0.53 |
| Pony brood mare w/ foal | 1.4 | 0.71 |
| Small hack | 1.4 | 0.71 |
| Small hack broodmare w/ foal | 1.1 | 0.91 |
| Large hack | 0.9 | 1.11 |
| Thoroughbred | 0.9 | 1.11 |
| Large hack broodmare w/ foal | 0.8 | 1.25 |
| | | |
| Dairy bull | 1.2 | 0.83 |
| Dairy cow | 0.7 | 1.43 |
| Dairy heifer < 2 years age | 1.6 | 0.63 |
| Dairy heifer calf | 1.8 | 0.56 |
| | | |
| Beef bull | 1.2 | 0.83 |
| Beef cow | 1 | 1.00 |
| Steer/bull <2 years age | 1.5 | 0.67 |
| Heifer < 2 years age | 1.6 | 0.63 |
| Steer calf < 1 year | 2.2 | 0.45 |
| Heifer calf < 1 year | 2.2 | 0.45 |
| | | |
| Ram | 12.7 | 0.08 |
| Adult ewe | 10.4 | 0.10 |
| Sheep <2 years of age | 14.3 | 0.07 |
| Sheep <1 years of age | 19.1 | 0.05 |
| | | |
| Bucks & does < 1 year | 22.9 | 0.04 |
| Angora does | 10.4 | 0.10 |
| Feral does | 12.7 | 0.08 |
| Feral bucks & wethers | 22.9 | 0.04 |
| | | |
| Stag | 4.9 | 0.20 |
| Breeding hind | 6.3 | 0.16 |
| Hind < 2 year | 8.8 | 0.11 |
| Hind fawn <1 year | 28.8 | 0.03 |
| Stag < 2 year | 4.1 | 0.24 |
| Stag fawn < 1 year | 22.9 | 0.04 |
| | | |
| Alpaca | 14.3 | 0.07 |
| Llama | 7.1 | 0.14 |