Allocating Nitrogen Discharge Allowances in the Lake Rotorua Catchment: DRAFT PAPER TO REGIONAL COUNCIL

Purpose

To identify the position that Regional Council will use when determining Nitrogen Discharge Allowances as part of the potential new rules for the Lake Rotorua catchment.

Summary

Staff's recommended approach for allocating Nitrogen Discharge Allowances under the current draft rule structure is provided in Table 1 below:

Rules category	Rule 11 status	2017 start point	2032 NDA
Greater than 40 ha	Benchmarked	Benchmark	Function of compliant[3] land use and nitrogen benchmark
	Not Benchmarked	Current[1]	Function of current[2] land use and a N discharge based on average sector benchmark data or other data for the 01-04 period
2-40 ha Consented	Benchmarked	Benchmark	Function of compliant[3] land use and nitrogen benchmark
	Not Benchmarked	Current[1]	Function of current[2] land use and a N discharge based on average sector benchmark data or other good for the 01-04 period
2-40 ha Permitted	Benchmarked	Undecided	N/A
	Not Benchmarked	Undecided	N/A
Less than 2 ha	Benchmarked	No limit	No limit
	Not Benchmarked	No limit	No limit

[1] Where current is defined as a 3 year period from 2010-2013

[2] Where current is defined using the 2011 aerial photography

[3] Generally "compliant" is the benchmarked land use however where the land use has changed without exceeding the properties benchmark e.g. some dairy conversions, this could also fit as compliant" provided the benchmark has not been exceeded.

Background

Staff are currently working with the Lake Rotorua Catchment Stakeholder Advisory Group (StAG) on new nitrogen rules for the Rotorua catchment. New rules are required to give effect to the Bay of Plenty Regional Policy Statement which requires that the total amount of nitrogen that enters Lake Rotorua shall not exceed 435 tonnes per annum.

A key piece of work by StAG and staff has been the proposed framework to deliver Lake Rotorua's sustainable nitrogen limit as an integrated programme of Nitrogen Discharge Allowances (NDAs), incentives and gorse conversion. In September 2013, the Strategy Policy and Planning Committee approved and endorsed this framework:

Rules Programme – 140 tonne reduction		
By 2015	Farm Nutrient Plans	Plans will be put in place for every farm, setting out a practical pathway of staged nitrogen reductions.
By 2017	Resource consents	Farms will be consented, with a Farm Nutrient Plan as a consent condition.
By 2032	Nitrogen Discharge Allowances	Average of 35 kgN/ha/yr for dairy and 13 kgN/ha/yr for drystock, with adjustments made for geophysical and farm system characteristics.
$5.5m available to support meeting the requirements of the rules and to engage with the incentives fund.		
Incentives Programme – 100 tonne reduction		
By 2022	Incentives fund	$40m "below the line" to remove 100 tonnes of nitrogen.
Gorse Programme – 30 tonne reduction		
By 2022	Gorse fund	Separate funding to remove 30 tonnes of nitrogen from gorse.

A draft rule structure has since been developed to deliver the Rules Programme in the framework:

1. A sector-based range approach to allocating Nitrogen Discharge Allowances, noting that staff are seeking feedback from the community on alternative allocation options.
2. A rule hierarchy that includes:
    a. a permitted activity class for properties smaller than 40 hectares with nitrogen loss less than 10 kgN/ha/yr
    b. a 20 year controlled activity consent for those showing managed reduction in a Farm Nutrient Plan
    c. an option for a five year restricted discretionary consent for those not demonstrating managed reduction.
3. Farm Nutrient Plans will be a condition of consent and will require standard minimum information.

4. All properties larger than 2 hectares will have information reporting requirements to ensure compliance with either permitted activity status or resource consent conditions; and Council will commit to monitoring permitted activities.

In June 2014, the Regional Direction and Delivery Committee approved this draft rule structure for consultation. The consultation period was 14 July through to 14 October 2014 (extended to 31 October) and staff will be reporting back to this Committee on outcomes of the consultation at a workshop on 7 November, 2014.

Council intends to notify a proposed plan change with rules to manage nitrogen loss in the Lake Rotorua catchment in March 2015. In the lead up to notification, direction from Council is required on certain aspects of the rules. This paper deals with the process to determine Nitrogen Discharge Allowances. Further direction will also be sought in December and early in 2015 on other aspects of the rules.

Allocation of Nitrogen Discharge Allowances

Policy WL 5B of the Regional Policy Statement requires contaminants within limits to be allocated amongst land use activities in the Rotorua Te Arawa lakes. Staff and StAG have spent a considerable amount of time over the last two years deliberating on the most appropriate way to do this for the Lake Rotorua catchment.

The allocation of specific Nitrogen Discharge Allowances to individual properties is a critical component of the agreed framework and the draft rules. A fact sheet on allocating nitrogen and potential approaches was prepared for the consultation process and provides a good overview of where we are currently at – see Appendix 1.

At this stage, the preferred approach to allocating nitrogen is a sector based approach with ranges around a fixed average:

Sector and definition	N loss range kgN/ha/yr	Average reduction from current N losses
 Dairy: includes the effective pasture area in the milking platform, fodder and effluent but excludes run-off (e.g. dairy support) and forest.	30-40	30%
 Drystock: includes the effective pasture area in sheep, beef, deer, alpacas, horticulture, cropping and dairy support but excludes forest.	10-20	20%
 Forest: includes native bush as well as forestry.	3	Nil

Decisions will need to be made on the preferred approach to allocation prior to notification in March. A stakeholder workshop on the issue has been scheduled for 11 December and will consider views expressed by the community through consultation, as well as existing and

new impact assessment information. Following this workshop, direction will be sought from Council early in 2015.

In the meantime however, confirmation is sought on the position that will be used when determining the Nitrogen Discharge Allowances:

1. Clarifying the starting point for getting down to the allocated NDA
2. Determining the land use of a property when allocating a sector based NDA
3. Determining whether allocation is based on effective area or total area

Landowners are asking for this level of NDA policy detail in order to help them understand what the rules might mean for them. The incentives programme will be operative shortly and nitrogen purchase decisions will also need to be informed by this detail.

Clarifying starting points

NDAs that are allocated to individual properties will need to be achieved by 2032. It is expected that resource consents will be required from 2017, supported by a Farm Nutrient Plan that shows the "current" nitrogen discharge associated with the property and a pathway of managed reduction down to the NDA. This "current" discharge is essentially the starting point for the property.

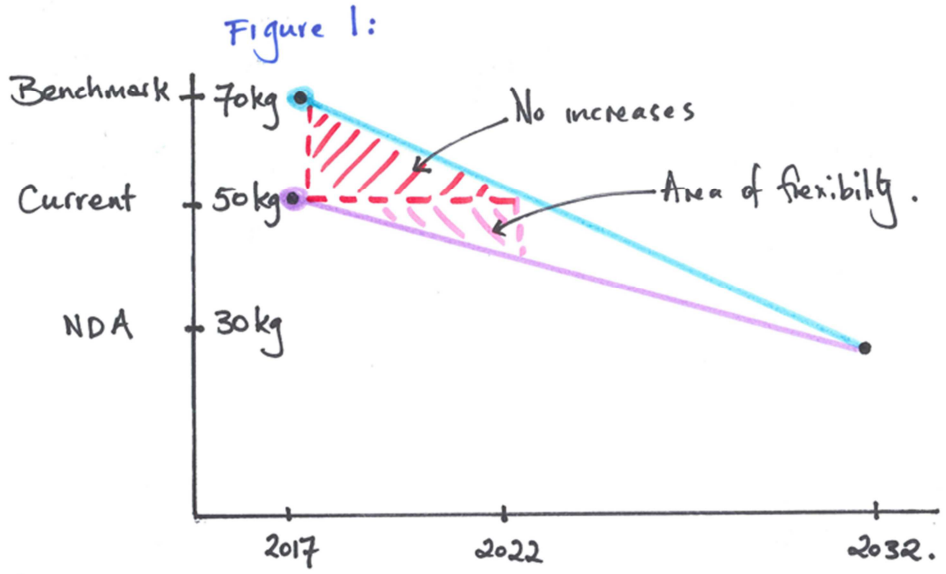
There is an assumption that "current" would be defined as the discharge associated with the property at the time of consent (ie 2017). However, there are several issues around using "current" that indicate it may not necessarily be appropriate.

Issue 1: current discharges may be lower than the benchmark that has been issued to the property.

For example, a landowner may have already invested in mitigations and reduced the nitrogen loss on the farm. Using the benchmark, rather than the lower current loss as a starting point would mean that the landowner would have more flexibility in meeting the NDA.

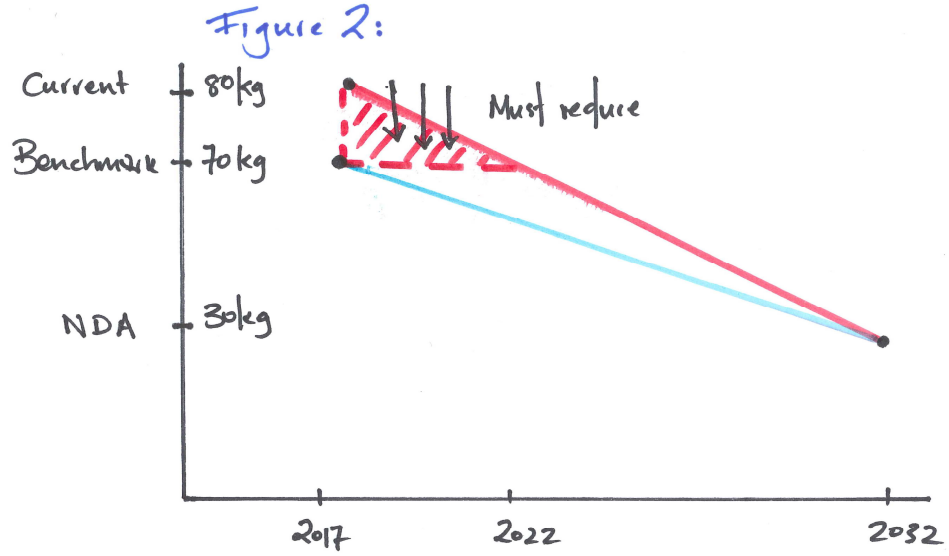
An example of this is shown in Figure 1 below where a property has a benchmark of 70kg N/ha, a current loss of 50kg N/ha and a Nitrogen Discharge Allowance of 30kg N/ha. If the starting point is the benchmark (70kg) the early actions of that landowner is recognised and no further action is required for several years. However, if the starting point is current loss (50kg) early mitigation is not recognised and therefore that landowner must show managed reductions right from day one.

Ultimately, the landowner is required to reach the Nitrogen Discharge Allowance by 2032. There is a risk in this scenario that the landowner could intensify for a period of time so a caveat is required that current discharges cannot be exceeded.



Issue 2: Current discharges may be higher than the benchmark that has been issued for the property.

Figure 2 shows a scenario where current loss is 80kg N/ha but the benchmark is 70kg N/ha. Under this the landowner is not complying with Rule 11. Using current nitrogen loss (80kg) as the starting point would allow the non-compliance to continue for several years which is not appropriate. Rather, the starting point should be set as the benchmark (70kg) and a plan should be in place to reduce nitrogen to compliant levels.



Given the above issues, where a benchmark exists staff consider it is the most appropriate starting point for the property.

Where a benchmark has not been set for a property (most properties less than 40ha), a proxy start point is required. Benchmarking was based on 2001-04 activities so it is virtually impossible to back-calculate nitrogen loss associated with the land over 10 years ago with any certainty.

In some cases, the property's nitrogen loss will have increased since 2001-04, particularly where dairy support grazing has increased. Consistent with national trends, there is anecdotal evidence of a large increase in dairy support grazing within the Lake Rotorua catchment, much of it on smaller blocks that have never been benchmarked. It is not clear if such landowners were aware that such intensification was in breach of Rule 11. However, there is no practical, comprehensive and robust means of proving this on an individual property basis

The most pragmatic approach is to allocate the start point as "current" where current is defined as a 3 year period from 2010-2013.

Recommendation: That the starting point for getting down to the Nitrogen Discharge Allowance will be the property benchmark. Where no benchmark exists the starting point will be nitrogen loss associated with 2010-2013 activities.

Determining land use for allocation

At this stage, the draft NDAs proposed are sector based. This means allocation is critically dependant on understanding the relevant land use on each property – the dairy grazing platform of a farm will get a dairy sector allocation, the sheep grazing platform of a farm will get a drystock allocation.

Rule 11 has already capped nitrogen discharges in the Rotorua catchment at 2001-04 levels, and placed constraints on land use activities. It is therefore appropriate to make sure that any land use referenced in allocation is consistent with this current regulatory framework.

The simplest approach is to confirm 2001-04 as the land use reference point for allocation. That is, the land use from which the Rule 11 benchmarks were derived will be the land use used to determine the allocation of NDAs. Although not all pastoral properties were benchmarked, all dairy land within the surface catchment has been benchmarked. Aerial photography from the 2001-04 period can therefore be used to determine drystock and forested land uses, subject to some additional work to clarify dairy versus drystock land use in the additional groundwater catchment area.

Another approach would be to use current land use as the reference point. Substantive changes in land use since 2001-04 are limited to:

- Two conversions from drystock to dairy within their respective Rule 11 benchmarks
- Three conversions from dairy to drystock for a range of reasons
- Where landowners have retired pasture into trees, which may have been accompanied by intensification of their remaining effective pastoral area.

Where land use has changed since 2001-04, the reference point matters. Appendix 2 provides some graphical scenarios of how the NDA allocation process is likely to work under

the new rules. Example 3 shows a scenario where a farmer has retired some of their effective area and intensified the remaining area. The benchmark hasn't changed, but the land use has gone from 75% drystock to 50% drystock. Using 2001-04 land use for NDA allocation would be more advantageous than current land use.

Alternatively, Example 4 shows a scenario where a farmer has increased their effective area by removing trees, and has lowered their intensity across the whole area. Again, the benchmark hasn't changed but the land use has gone from 75% drystock to 100% drystock. Using current land use would be more advantageous to the landowner than 2001-04 land use under this scenario.

A reasonable way forward is to determine the appropriate land use for allocation through the farm nutrient plan process, using the most favourable of either 2001-04 or current (2013) land use.

This is unlikely to have an impact on our ability to meet our nitrogen reduction targets given the small scale of changes that have occurred under the Rule 11 constraints. However, it will make a significant difference for those landowners who have made changes to the way they manage their farms.

Under this approach it would be important to specify that no land use change outside of the Rule 11 constraints would be recognised. If land has been intensified without authority, only the authorised land use would be recognised.

Where a benchmark has not been issued, a proxy land use reference point will also need to be determined. In this situation it is recommended that the land use to be used for determining the NDA be "current" land use where current is defined using the 2011 aerial photography.

Where benchmarked discharge loss is also required to determine the Nitrogen Discharge Allowance (e.g. for determining the appropriate Nitrogen Discharge Allowance within a sector range), it will be assumed that the benchmark for the property is the benchmarked average for that sector unless data can be provided from the 2001-04 period.

Recommendation: That the land use referred to in allocating Nitrogen Discharge Allowances is the compliant land use associated with the property where a benchmark exists. Where no benchmark exists, land use will be determined through 2011 aerial photos and the assumed benchmark will be the benchmarked average for that sector unless data can be provided from the 2001-04 period.

Determining whether allocation is based on effective area or total area

Stakeholders have asked for clarification on how Nitrogen Discharge Allowances would be allocated for properties. Modelling has relied on the effective land use being the basis for the Nitrogen Discharge Allowance (e.g. milking platform or runoff block), rather than property type (e.g. dairy farm). This means that a property's Nitrogen Discharge Allowance would be the sum of all relevant land use parcels that occur on that property.

The concept of "effective area" and how it could apply through the allocation process is relatively complex. The 100ha square farm scenarios help explain how it might work in practice (see Appendix 2).

Questions have been raised about whether the Nitrogen Discharge Allowance should actually be allocated on the total area, rather than the sum of all effective areas of the farm. It has been suggested that this could be a simpler process that determining all the different effective areas on a farm and allocating different NDAs to each area.

However, allocation on total area would be problematic for a number of reasons. In Example 1 of Appendix 2, allocating a “dairy” allowance across the total farm rather than the effective dairy platform would give a Nitrogen Discharge Allowance of 35kg N/ha – higher than the actual benchmark associated with the property, and higher than the 21.5kg N/ha Allowance provided using effective area.

In example 2 of Appendix 2, allocating a “drystock” allowance across the total area would give a Nitrogen Discharge Allowance of 13kg N/ha rather than the Allowance of 10.5kg N/ha provided using effective area.

Across the catchment, most Nitrogen Discharge Allowances would be higher if allocated using total area rather than effective area, which will undermine our ability to achieve the 435t limit if allocation.

Further, benchmarking has already been based on effective area and it makes sense to keep the two processes consistent.

Recommendation: That Nitrogen Discharge Allowances will be based on effective area not total area.