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Proposed Waikato Regional Plan Change 2: Taupō Overseer Version detailed technical explanation of changes

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Introduction

WRC is undertaking a plan change to the Taupō provisions (Chapter 3.10) to enable updated versions of the Overseer model to be used. The change needs to be made as quickly as possible in order that existing consents and nitrogen trading contracts, which rely on the version specified in the rules (version 5.4.3), can be changed before the version expires in December 2020. A full review of Chapter 3.10 will occur at a later date.

To facilitate a timely plan change, the intention is to only change those elements of Chapter 3.10 necessary to allow updated versions of Overseer to be used. This report is a staff report that describes in detail the changes that need to be made. The report will support development of the Section 32 report for the plan change.

Overview of the process for changing from Overseer Version 5.4.3 to updated versions

The plan change needs to provide for a process by which farmers can change from use of Overseer version 5.4.3 to later versions. Following is a broad description of how staff envisage the change to occur. The change is initially to OverseerFM (the most recent version) but must also allow changes to future updated versions.

1) Where Overseer version 5.4.3 is expressly referred to in Chapter 3.10, it needs to be replaced with "the most recent version of the Overseer model".
2) Because the latest version of Overseer (Overseer FM) cannot accurately and meaningfully model original farm benchmark data, farms and farming operations need to be described in a way that can be modelled by OverseerFM. Chapter 3.10 should be changed to allow this. Briefly, the process would be as follows:
    a) A consent and file review is completed for each property to ensure that information is correct for each benchmarked property.
    b) In consultation with the farmer, an Overseer scenario is drafted for the property, based on the current farm land use, but with adjusted farm inputs so that the scenario uses all of the farm's available Nitrogen Discharge Allowance (NDA) as modelled by Overseer version 5.4.3 (noting that some farms at times are operating well` under their NDA limit). The process should ensure that the new scenario represents a farm system that leaches no more than allowed by the farm's NDA as modelled by Overseer version 5.4.3.
    c) The resulting Overseer scenario (specifically the farm system data as it relates to the corresponding land blocks) becomes the new Overseer reference dataset for the farm, which needs to be described in a way that allows accurate modelling by the most recent version of Overseer FM. This is called the farm's *Overseer Reference Dataset*.
    d) The farmer subscribes to Overseer FM using the new Overseer Reference Dataset. The dataset is given a unique reference data identifier, and becomes the reference dataset against which all future farm management changes are compared. The new "benchmark" is now no longer a specified nitrogen leaching number (the NDA), but the Overseer Reference Dataset.
    e) A Nitrogen Management Plan (NMP) for the farm is developed based on the new Overseer Reference Dataset and the consent is changed to refer to the use of the most recent version of Overseer. The consent will state that land use on the property must be such that when it is modelled with the most recent version of Overseer, it does not result in greater modelled nitrogen leaching than when the farm's Overseer Reference Dataset (referenced by the unique reference data identifier as described in d) above) is modelled with the same version of Overseer.
    f) A farmer may then continue to update their NMP and undertake nitrogen trading and leasing using this new method – by always comparing the modelled nitrogen losses of the planned farming activities with that of the Overseer Reference Dataset
3) Changes to Chapter 3.10 are needed to allow nitrogen trading using Overseer FM. A more complete discussion of trading after the move to Overseer FM is described below in the

discussion of rule 3.10.5.7. Briefly, the trading process would be:

a) An agreement is made by the buying and selling parties to trade a quantity of nitrogen per year (eg x tonnes), where the amount (x) is determined using the most recent version of Overseer.
b) The trade is secured by a change to the land use consent for both the property where nitrogen is to be increased, and the property where nitrogen is to be reduced.
c) The amended consent will show how the Overseer Reference Dataset for each property is changed to reflect the sale and purchase. A new Overseer scenario is developed for each property, using the same (most recent) version of Overseer, which describes the intended farm system and land use as it will be after the trade, such that when the scenario is modelled by Overseer, nitrogen leaching is decreased by x tonnes on the selling property and increased by x tonnes on the buying property. The resulting new Overseer Reference Dataset for each trading property becomes the new reference dataset (with a new unique reference data identifier) against which all future farm management changes are compared.

4) Changes are needed to rules that allow buying or selling of parts of properties, so that Overseer FM can be used.

Introductory sections of Chapter 3.10

Some minimal changes to the introductory sections of Chapter 3.10 would mean that these sections are more consistent with the changes made by Plan Change 2. Some minor wording changes are recommended to the section "Background and Explanation".

A new paragraph is recommended to be added just before Section 3.10.1 Issues as follows:

Plan Change 2 – Overseer™ Version
In December 2020, the version of the Overseer™ farm management model initially required to be used in the Chapter 3.10 rules expires. Waikato Regional Plan Change 2: Lake Taupō catchment Overseer™ was promulgated to address this matter. The plan change amended provisions to allow the use of updated Overseer™ versions and to require existing consents under these rules to be reviewed pursuant to Section 128 of the RMA so that they are changed to use updated Overseer™ versions.

Policy 3: Cap nitrogen outputs from land in the catchment

The current policy is as follows:

Avoid catchment-wide increases of nitrogen leaching from land by placing limits on the annual average amount of nitrogen leached by:

a) Enabling low nitrogen leaching activities, within specified nitrogen limits.
b) Managing other nitrogen leaching activities using the OVERSEER™ model to determine nitrogen discharge allowances for each individual property, based on the single best year (year with the highest leaching value) of nitrogen leached between July 2001 and June 2005, and on an ongoing basis, manage the annual average of nitrogen leached through Nitrogen Management Plans.
c) All consents granted which determine a Nitrogen Discharge Allowance for an individual property, shall:
    i) have a common expiry date of 31 July 2036; and
    ii) the consents shall provide for opportunities to review and amend the consent conditions under Section 128 of the Act, including the Nitrogen Discharge Allowance, within 12 months of new or amended rules regulating the discharge or leaching of nitrogen from land use activities in the Taupō catchment becoming operative in terms of Clause 20(1) of the First Schedule to the RMA.

Discussion of Policy 3

Policy 3b is the key policy that requires capping of nitrogen leaching in the catchment. The policy to cap nitrogen leaching therefore needs to be retained. The key question about this policy is about whether it needs to be changed to reflect the new provisions allowing use of the latest version of Overseer (currently Overseer FM). It should first be noted in relation to this question, that the policy refers generally to use of the Overseer model, and does not stipulate any particular version of the model.

As stated above, it is envisaged that to facilitate the change from Overseer version 5.4.3 to Overseer FM, all properties will need to be described, based on their current land use, so that they can be modelled by OverseerFM. The assumption is made that, because of the Chapter 3.10 rules, existing consented land use is not leaching more than during initial benchmarking. This is because all changes in consented land use since the benchmark period needed to be authorised through a Nitrogen Management Plan (NMP) process based on modelling via Overseer version 5.4.3. If the change was found not to increase leaching, then it was allowed.

The intent of Policy 3(b) was to cap farm nitrogen by using Overseer modelling to ensure that nitrogen leaching does not increase above the level benchmarked for the 2001-2005 period. This would still be the intention, after properties start using more recent versions of Overseer. The process of changing from version 5.4.3 to OverseerFM is intended to ensure that land use continues to be managed in a way that does not leach more than during the original benchmark period. For this reason, it is recommended that Policy 3(b) be left unchanged this time around. However the following addition to the Explanation and Principal Reasons for Policy 3 is recommended: *Waikato Regional Plan Change 2: Lake Taupō OverseerTM made changes to the provisions in 2020, while seeking to maintain the original direction in Policy 3b).*

Addition of new policy to support reviews of consents and change to most recent Overseer versions

This plan change is to ensure new Overseer versions are able to be used before version 5.4.3 expires. Changes are recommended to Rule 3.10.5.3 so that new farming land use consents use the most recent version. Council staff consider that also, all existing farming consents need to be changed to use the most recent versions of Overseer.

Currently each farmer's benchmark is a set Nitrogen Discharge Allowance which was calculated by Overseer Version 5.4.3. Once version 5.4.3 expires, the benchmark will no longer be meaningful. It therefore needs to be changed to a benchmark based on the most recent Overseer version. However Overseer FM (the current version) is regularly updated so the same input data will at times generate different nitrogen leaching numbers. For this reason, it would no longer be possible for farms to have a set NDA. Instead, each farm will have an Overseer Reference Dataset describing the farm activities, that have equivalent modelled nitrogen leaching to the farm's initial NDA, as modelled through version 5.4.3. When the farm has moved to OverseerFM, it would need to be managed so that when the farm operation is modelled with the most recent version of Overseer, it does not result in greater modelled nitrogen leaching than when the farm's Overseer Reference Dataset is modelled with the same version of Overseer.

It is recommended that a new Policy be added which states that existing consents under Rule 3.10.5.3 are to be reviewed, the properties are to be described in a way that can be modelled in OverseerFM, and consents changed to refer to the most recent version of Overseer. The following is recommended:

Policy 3A Review of consents and change to use the most recent** OVERSEER™ **version

Notwithstanding Policy 3(c)(ii) Waikato Regional Council will review consents granted under Rule 3.10.5.3, 3.10.5.4, 3.10.5.5, 3.10.5.6, 3.10.5.7, 3.10.5.8 and 3.10.5.9, to enable changes to those consents so that they refer to the most recent versions of the OVERSEER™ Model and so that:

a) An Overseer Reference Dataset is developed for each property, that describes existing farm operations as they would be if all the current Nitrogen Discharge Allowance as modelled by OVERSEER™ version 5.4.3 is being used.

b) The Overseer Reference Dataset is modelled by the most recent version of OVERSEER™ to establish a new Nitrogen Management Plan for the property.

c) The property is managed thereafter in accordance with the new Nitrogen Management Plan or any authorised future changes to it. Any future changes to property management and the Nitrogen Management Plan, shall be such that, when modelled with the most recent version of OVERSEER™, do not result in greater modelled nitrogen leaching than when the farm's Overseer Reference Dataset is modelled with the same version of OVERSEER™.

d) *WRC access to the property's published OVERSEER™ analysis is enabled.*

The following Explanation and Principal Reason for the new policy is recommended:

***Policy 3A: Review of consents and change to use the most recent Overseer version**. Overseer version 5.4.3 originally used by these Taupo provisions expires in December 2020. All existing consents granted under these provisions rely on a Nitrogen Discharge Allowance modeled by version 5.4.3. Policy 3A is added to ensure these consents can reviewed to enable the use of updated Overseer versions and to outline the process for changing from version 5.4.3 to updated versions.*

Policy 8: Determining Applications under Rule 3.10.5.9

The policy is as follows:

When considering applications for resource consent under Rule 3.10.5.9 (Non-complying Activity Rule – Land uses and associated discharges of nitrogen to land that do not Comply with Rules 3.10.5.1 – 3.10.5.8) the consent authority shall have regard to:

a) *The need to generally avoid any long term increase in the volume of nitrogen entering the Lake over and above that which was occurring during the July 2001 to June 2005 benchmark period .*

Discussion of Policy 8

As discussed above in relation to Policy 3, to change to updated Overseer versions, Overseer Reference Datasets are to be developed for each consented property in a way that represents the current property's NDA. This process will ensure that the property continues to be managed in a way that is consistent with the property's initial benchmarking. In this sense, Policy 8a will still be relevant. It is therefore recommended that no change is made to the policy at this stage.

3.10.5 Implementation methods - Land Use and Discharge Controls

The following paragraph is part of the preamble to the farming rules in section 3.10.5.

Farming Activities

Farming activities existing as at the date of notification 9of this Plan (9 July 2005) are allowed but require a resource consent under 3.10.5.3 controlled activity rule. A process called benchmarking is required under this rule, which determines nitrogen discharge allowances for farming activities through the application of a nutrient budgeting model called OVERSEER™. Farm information used to determine the nitrogen allowance will be sourced from the period of July 2001 to June 2005. This will determine the annual nitrogen allowance that property must adhere to. In recognition that farmers and Waikato Regional

Council will need time to collate and analyse this information, consents are not expected to be granted for approximately two years after the rules are proposed. Thus, the rule states that it does not come into effect until 1 July 2007. The rule also states that ongoing nitrogen leaching management shall be undertaken through Nitrogen Management Plans.

The Waikato Regional Plan is currently being reviewed and it is intended that the review will result in a simplified and streamlined document which will not contain such explanations as in the above paragraph. Eventually therefore, the paragraph will probably be deleted. In the meantime however, the paragraph needs to be updated to reflect the Plan Change 2 amendments to the rules. The following change is recommended.

Farming Activities

Farming activities existing as at the original date of notification of this Plan (9 July 2005) ~~are~~ were allowed but require a resource consent under 3.10.5.3 controlled activity rule. A process called benchmarking ~~is~~ was required under this rule, which ~~determines~~ determined nitrogen discharge allowances for farming activities through the application of a nutrient budgeting model called OVERSEER™. ~~Farm~~ During initial benchmarking, farm information ~~used to determine the nitrogen allowance will be sourced~~ from the period of July 2001 to June 2005 was used to~~. This will~~ determine the annual nitrogen allowance ~~that~~ to which the property must adhere ~~to~~. The Chapter 3.10 provisions were subsequently amended in 2020 to allow the use of updated OVERSEER™ versions. As a result of the amendment, each property's Nitrogen Discharge Allowance is to be changed to an equivalent dataset of OVERSEER™ inputs, called an Overseer Reference Dataset, that can be modelled by the most recent versions of OVERSEER™ as described in Policy 3A. Consents will be reviewed to refer to updated OVERSEER™ versions. ~~In recognition that farmers and Waikato Regional Council will need time to collate and analyse this information, consents are not expected to be granted for approximately two years after the rules are proposed. Thus, the rule states that it does not come into effect until 1 July 2007.~~ The rule also states that ongoing nitrogen leaching management shall be undertaken through Nitrogen Management Plans.

Permitted Activity Rule 3.10.5.1 – Low Nitrogen Leaching Farming Activities

The current rule is as follows:

The use of land in the Lake Taupō catchment that may result in nitrogen leaching from the land and entering water:

1. *for farming activities which were existing as at the date of notification of this Rule (9 July 2005); and*
   - *i) the land has not been subject to a consent pursuant to Rule 3.10.5.3, 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9; or*
   - *ii) where the land has been subject to a consent pursuant to Rule 3.10.5.3, 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9 and the land has a Nitrogen Discharge Allowance sufficient to allow for at least 8 kilograms of nitrogen per hectare per year for farming plus 3.5 kilograms of nitrogen per year for any advanced wastewater system in accordance with Rule 3.10.6.3 or 10 kilograms of nitrogen per year for any conventional wastewater system in accordance with Rule 3.10.6.4; or*
2. *for land which was not used for farming activities at the date of notification of this Rule, and where any nitrogen increase has been authorised by a resource consent granted under Rule 3.10.5.7 or 3.10.5.8 and the land has a Nitrogen Discharge Allowance sufficient to allow for at least 8 kilograms of nitrogen per hectare per year for farming plus 3.5 kilograms of nitrogen per year for any advanced wastewater system in accordance with Rule 3.10.6.3 or 10 kilograms of nitrogen per year for any conventional wastewater system in accordance with Rule 3.10.6.4.*

is a permitted activity if the following conditions are met:

Advisory Note:

- *This Rule in part provides for land that has either been leaching high nitrogen levels or has resource consent to do so, to convert to low leaching land use activities (e.g. lifestyle blocks, forestry, etc.). [this is repeated below and should be deleted]*

a) *Where the land is not used to graze stock, no more than 75 kilograms of nitrogen per hectare per year shall be applied to the land. Where the land is used to graze stock, the maximum number of animals shall be equivalent to any one row of Table 3.10.5.1 below:*

Table 3.10.5.1 – Stock Limits

Animal Type	*Maximum number of animals permitted per hectare*	*Maximum number of animals permitted per 10 hectares*
Dairy cow	*0.55*	*5.5*
Beef cattle	*0.8*	*8*
Calf	*3.3*	*33*
Horse	*0.8*	*8*
Sheep	*7.7*	*77*
Deer	*3.3*	*33*
Goat	*10*	*100*
Alpaca or Llama	*3.3*	*33*
Pig (free range)	*2.5*	*25*

b) *Progeny of animals grazed under condition a) (such as lambs and calves) are permitted provided that no additional feed is brought on to the property except feed that is supplied as per standard industry practice to meet animal welfare requirements during the period of weaning and stocking rates return to the stock limits outlined in condition a) between 1 April and 31 July each year.*

c) *Non-grazing domestic animals including cats, dogs, chickens and ducks that are kept for domestic purposes are permitted and are not to be taken into account for the purposes of this rule.*

and provided also that:

Where a land use is authorized as a permitted activity by this Rule, the subject land shall not be used to offset any nitrogen leaching increase elsewhere in the catchment.

Advisory Notes:

- *This Rule in part provides for land that has either been leaching high nitrogen levels or has resource consent to do so, to convert to low leaching land use activities (e.g. lifestyle blocks, forestry, etc.).*
- *The area of land used to calculate animal density excludes any area of land used for buildings, lawns or gardens.*
- *Wastewater systems must be authorised by the wastewater rules in section 3.10.6.*
- *The application of 75 kilograms of nitrogen per hectare per year in a non-grazing situation, or grazing at the limits in Table 3.10.5.1 is equivalent to 8 kilograms per hectare per year nitrogen leaching rate.*

Discussion of Rule 3.10.5.1

This is a permitted activity rule for properties that do not require a consent under the Taupō land use rules. It also provides for changes from consented status to permitted status (such as if a farm is selling nitrogen or subdividing the property). In such cases, if the land owner wants to become permitted under the rule, the land must have a NDA of at least 8 kgN/ha/yr available for farming purposes, plus 10 kgN/yr for a conventional wastewater system or 3.5 kgN/yr for an advanced system. The property must then be managed so that farming activities do not cause leaching of more than 8 kgN/ha/yr. To make it easier to assess compliance with this rule, a table is provided with maximum animal numbers allowed, for different types of animals, that were assumed to be equivalent to 8 kgN/ha/yr. Note that this table has been strongly criticised by small block holders who consider the numbers do not equate to leaching of 8 kgN/ha/yr. This is also borne out by recent modelling of the Table's animal numbers in Overseer version 5.4.3.

The original section 32 report (page 112-113) states that 8 kgN/ha/yr was considered a reasonable permitted activity limit because it would allow sufficient animal numbers to manage grass growth while being at the lower end of existing farm leaching, and less than occurs on commercial farming properties. The limit was expected to permit land use on most existing rural residential lifestyle blocks. The land uses were expected to be of a scale that is non-commercial, and unlikely to contribute significantly to the land owner's total income.

The main issue with Rule 3.10.5.1 is that it states farming land use permitted by this rule, has a nitrogen leaching rate of 8 kgN/ha/yr. Overseer FM will generally model farm nitrogen leaching higher than version 5.4.3, for the same farm inputs. Therefore while 8 beef cattle per 10 hectares may have equated to leaching of 8 kgN/ha/yr using version 5.4.3 (as stated in Table 10.3.5.1), Overseer FM may model the leaching rate at say 12 kgN/ha/yr (the actual number would depend on factors such as climate and soil characteristics). In effect therefore 8 kgN/ha/yr as modelled by Overseer FM would not be sufficient nitrogen to allow for the animal numbers currently allowed by Table 10.3.5.1.

There has been a lot of focus recently on how Overseer should be used in regulation. Two important reports in this respect are:

- *Using Overseer in Water Management Planning: Guideline 1 – Overseer*, Enfocus 2018.
- *Overseer and regulatory oversight: Models, uncertainty and cleaning up our waterways*, Parliamentary Commissioner for the Environment, December 2018

These reports support using Overseer in a 'relative way' rather than an 'absolute way'. The PCE report quotes the Enfocus report as follows: "Overseer in a regulatory context is probably best regarded as a tool for assessing the relative change in nitrogen leaching between different points of time, rather than a model that attempts to estimate nitrogen leaching in absolute terms"[1]. Current thinking is that a rule in a regional plan should not state a requirement that nitrogen leaching (actual leaching as opposed to modelled leaching) shall not exceed *x* kgN/ha/yr, or that it is permitted to farm such that leaching does not exceed *x* kgN/ha/yr. There is no clear reason however why farming should not be permitted if the modelled leaching rate is below a certain level, particularly if a single Overseer version is used. The problem in this case is that under OverseerFM versions will change regularly so that x kgN/ha/yr may represent different animal numbers for different versions of the model.

For this reason, an alternative was considered based on stock units. The rule could state that farming is permitted if the stocking rate does not exceed say 7 stock units per hectare. A table of animal limits based on 7 stock units could be provided. However, this introduces complexities for farmers who are consented, but wish to subdivide some land off where land use would be permitted, or farmers who are permitted but wish to buy nitrogen and gain a land use consent to farm. This is because seven stock units do not equate to a defined modelled leaching rate.

[1] *Overseer and regulatory oversight: Models, uncertainty and cleaning up our waterways*, Parliamentary Commissioner for the Environment, December 2018, p63

WRC staff have modelled nitrogen leaching for 70 stock units per 10 hectares and, for example, 12 dairy cows on 10 ha are equivalent to 70 stock units and have modelled leaching of 144 kgN/yr, while 27 deer on 10 ha are also equivalent to 70 stock units, but have modelled leaching of 95 kgN/yr.

Example 1: Where a farmer wishes to subdivide and destock to permitted activity levels based on 7 stock units per hectare, he/she would need a consent under rule 3.10.5.6. The farmer would need to decide what kind of animals would likely be on the farm as a permitted activity (which would actually be an unknown if the subdivided land is to be sold), then determine how many stock of that type would equate to 7 stock units per hectare, then model that in the latest version of Overseer to identify the equivalent nitrogen leaching. The farmer can then determine how much nitrogen needs to be allocated to that land to allow the land use to become permitted.

Example 2: Where a land owner wishes to buy nitrogen and increase stocking rate on the property so that it becomes a consented activity rather than a permitted activity, he/she would need a consent under rule 3.10.5.8. The consent would give the land owner a NDA based on the most recent version of Overseer. If the permitted activity rule is based on stock units, this would first need to be converted to an NDA based on the most recent version of Overseer. Effectively the land owner could choose any animal type to determine the NDA, because all animal types would be permitted by the rule providing 7 stock units per hectare is not exceeded. So the land owner may trial different animal types at 7 stock units per hectare to find the one that when modelled by the most recent version of Overseer, provides the highest NDA. The NDA can then be added to through the consent process based on a purchase of additional nitrogen.

Examples 1 and 2 above show that a permitted activity rule based on stock units is somewhat complex when a land owner wants to change from permitted land use to consented land use, or vice versa. So neither of the available options (a permitted activity rule based on a set Overseer leaching rate that will represent different animal numbers as the model gets updated, or a permitted activity rule based on stock units) are without their difficulties. It is recommended that the option that is most straight forward to implement is adopted. The option is described as follows:

1. Permitted Activity Rule 3.10.5.1 maintains a table of allowable stock numbers per hectare. It is recommended that the existing table be updated so that it is still roughly equivalent to 8 kgN/ha/yr based on version 5.4.3, so that permitted status does not change significantly through this plan change. However it is acknowledged that the existing table has some serious flaws in that some stock limits actually do not equate to 8 kgN/ha/yr if modelled by version 5.4.3. It is therefore recommended that the table is changed so that it is based on OverseerFM modelling (which should provide more accurate modelling than version 5.4.3) but such that allowable animal numbers don't change significantly. To undertake this process, staff updated the table so that the allowable animal numbers when modelled by version 5.4.3 do actually result in modelled nitrogen leaching of 8 kgN/ha/yr. These new numbers were then modelled in OverseerFM. The average modelled leaching from OverseerFM was found to be approximately 12 kgN/ha/yr. OverseerFM was then used to define the stocking rates that were actually modelled to leach 12 kgN/ha/yr. This was done because OverseerFM is considered a more accurate model than v5.4.3 (for example v5.4.3 models leaching from Alpaca or Llama much higher than does OverseerFM, and models deer leaching less than does OverseerFM). The approach therefore is to ensure the new permitted animal numbers are set using the most recent Overseer version, so that relativity between allowable animal numbers is based on up-to-date science. This updated table can now be used as a simple way for land owners to determine how many stock, of the most common types, can be kept on their property as a permitted activity.
2. If farmers wish to move from permitted status to consented status, or vice versa, the permitted activity rule should state that for this change to occur, 12 kgN/ha/yr is to be adopted as nitrogen leaching rate for permitted farming activities. This is not to say that that is the amount of leaching that would be occurring, or that this is the amount of

modelled leaching if the permitted farm activities are modelled through the most recent version of Overseer. It is to be used as a proxy for the amount of leaching under permitted activity rule 3.10.5.1 for the purposes of applications under rules 3.10.5.6, 3.10.5.7 and 3.10.5.8.

The above seems to be the most practical and implementable option. It is noted that the most recent Environment Court guidance on Overseer and nitrogen allocation methods is in relation to Proposed Plan Change 10: Lake Rotorua Nutrient Management (Decision No [2019] NZEnvC 136). The decision noted the difficulties in regulatory approaches to nitrogen management and concluded that compliance mechanisms need to be "certain, reasonable, practical and legally enforceable".

It is considered that the option discussed in bullets 1 and 2 above best satisfies these criteria. For most land owners, the table of allowable animal numbers per hectare provides certainty in terms of what they can do as permitted activity. The uncertainty relates to the actual amount of modelled nitrogen leaching a permitted land use would be equivalent to, under different Overseer versions. As stated above, the uncertainty only applies when a land owner wishes to move from controlled activity status (that is consented status) to permitted activity, or from a lower leaching status (such as forestry permitted under Rule 3.10.5.2, or low leaching animal grazing under Rule 3.10.5.1) to a higher leaching status that is consented. The important point here is that under these circumstances, the land owner needs to gain a consent under rule 3.10.5.8. The proposed rule 3.10.5.1 states that in such cases, 12 kgN/ha/yr is to be used as a proxy for the modelled leaching for permitted animal numbers. This provides certainty for the consent process and is considered to be reasonable, practical and legally enforceable.

It is important that these changes do not cause the Lake Taupō catchment's nitrogen cap to be exceeded. In some cases, the suggested changes to Table 3.10.5.1 allow increased animal numbers. This is because the original table set allowable animal numbers that in some cases are now modelled to be leaching well under 8 kgN/ha/yr using Overseer version 5.4.3. So, although the new table allows increased animal numbers, the numbers should be more consistent with previous nitrogen modelling for the lake catchment (that assumed the permitted animal numbers were equivalent to 8 kgN/ha/yr under version 5.4.3), on which policy decisions have been based. Also, when land previously changed from consented farming to permitted land use (such as when land has been subdivided for lifestyle blocks), farmers were required to show that 8 kgN/ha/yr was left with the land, yet the permitted animal numbers often leached less than this. Increasing allowable animal numbers so that they are more consistent with 8 kgN/ha/yr as modelled by Overseer 5.4.3 therefore should still maintain the catchment nitrogen cap. Note too that the numbers in Table 3.10.5.1 are maximums and many land owners (such as lifestyle block owners) graze less animals. On average therefore it is highly probable that permitted properties, if actually modelled by Version 5.4.3, would be found to have modelled leaching rates well under 8 kgN/ha/yr. This would likely continue to be the case.

During pre-notification consultation, a request was made to define 'calf' in the table. To help interpretation of the table, it is agreed that a calf should be an animal up to 12 months of age.

Note that use of the term Nitrogen Discharge Allowance is to be retained in this rule. However the definition is proposed to be changed to: *Nitrogen Discharge Allowance means the modelled nitrogen leaching when the property's Overseer Reference Dataset is modelled by the most recent version of Overseer.*

The rule provides for land that has been subject to consent, to become permitted providing sufficient nitrogen is allocated to the land for permitted activity animal numbers and wastewater discharges (clause 1(ii)). It also provides for land that was not used for farming activities (that is, it was undeveloped or forested) to become permitted under the rule, if any nitrogen increases have been authorised by consent (clause 2.). In such cases, consents for the land would be surrendered. To ensure sufficient nitrogen for the permitted uses is left with the land, the

following condition is added to the rule: *For the purpose of 1(ii) and 2 above, whether or not there is sufficient nitrogen allowance for permitted activity animal numbers and wastewater, will be determined through the process for surrendering the consent.*

Based on this discussion, the following changes are recommended to Rule 3.10.5.1:

The use of land in the Lake Taupō catchment that may result in nitrogen leaching from the land and entering water:

1. *for farming activities which were existing as at the date of notification of this Rule (9 July 2005); and*
   - *i) the land has not been subject to a consent pursuant to Rule 3.10.5.3, 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9; or*
   - *ii) where the land has been subject to a consent pursuant to Rule 3.10.5.3, 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9 and the land has a Nitrogen Discharge Allowance, defined as the modelled nitrogen leaching when the property's Overseer Reference Dataset is modelled by the most recent version of Overseer, sufficient to allow for at least ~~8~~12 kilograms of nitrogen per hectare per year for farming plus 3.5 kilograms of nitrogen per year for any advanced wastewater system in accordance with Rule 3.10.6.3 or 10 kilograms of nitrogen per year for any conventional wastewater system in accordance with Rule 3.10.6.4; or*
2. *for land which was not used for farming activities at the date of notification of this Rule, and where any nitrogen increase has been authorised by a resource consent granted under Rule 3.10.5.7 or 3.10.5.8 and the land has a Nitrogen Discharge Allowance sufficient to allow for at least ~~8~~12 kilograms of nitrogen per hectare per year for farming plus 3.5 kilograms of nitrogen per year for any advanced wastewater system in accordance with Rule 3.10.6.3 or 10 kilograms of nitrogen per year for any conventional wastewater system in accordance with Rule 3.10.6.4.*

*is a **permitted activity** if the following conditions are met:*

~~Advisory Note:~~

- ***~~This Rule in part provides for land that has either been leaching high nitrogen levels or has resource consent to do so, to convert to low leaching land use activities (e.g. lifestyle blocks, forestry, etc.).~~***

a) Where the land is not used to graze stock, no more than 75 kilograms of nitrogen per hectare per year shall be applied to the land. Where the land is used to graze stock, the maximum number of animals shall be equivalent to any one row of Table 3.10.5.1 below:

Table 3.10.5.1 – Stock Limits

Animal Type	*Maximum number of animals permitted per hectare*	*Maximum number of animals permitted per 10 hectares*
Dairy cow	~~0.55~~ 0.9	~~5.5~~ 9
Beef cattle	~~0.8~~ 1.2	~~8~~ 12
Calf (up to age 12 months)	~~3.3~~ 1.8	~~33~~ 18
Horse	~~0.8~~ 1.1	~~8~~ 11
Sheep	~~7.7~~ 10.2	~~77~~ 102
Deer	~~3.3~~ 4.1	~~33~~ 41
Goat	~~10~~ 9.8	~~100~~ 98
Alpaca or Llama	~~3.3~~ 11	~~33~~ 110
Pig (free range)	2.5	25

b) *Progeny of animals grazed under condition a) (such as lambs and calves) are permitted provided that no additional feed is brought on to the property except feed that is supplied as per standard industry practice to meet animal welfare requirements during the period of weaning and stocking rates return to the stock limits outlined in condition a) between 1 April and 31 July each year.*

c) *Non-grazing domestic animals including cats, dogs, chickens and ducks that are kept for domestic purposes are permitted and are not to be taken into account for the purposes of this rule.*

d) *For the purpose of 1(ii) and 2 above, whether or not there is sufficient nitrogen allowance for permitted activity animal numbers and wastewater, will be determined through the process for surrendering the consent.*

and provided also that:
Where a land use is authorized as a permitted activity by this Rule, the subject land shall not be used to offset any nitrogen leaching increase elsewhere in the catchment.

The following table recommends changes to the rule's advisory notes:

Existing Provisions	Recommended changes
This Rule in part provides for land that has either been leaching high nitrogen levels or has resource consent to do so, to convert to low leaching land use activities (e.g. lifestyle blocks, forestry, etc.).	This note is repeated twice in the rule. Retain this note but delete the earlier identical note.
The area of land used to calculate animal density excludes any area of land used for buildings, lawns or gardens.	Retain
Wastewater systems must be authorised by the wastewater rules in section 3.10.6.	Retain
The application of 75 kilograms of nitrogen per hectare per year in a non-grazing situation, or grazing at the limits in Table 3.10.5.1 is equivalent to 8 kilograms per hectare per year nitrogen leaching rate.	Delete this note. The 75 kilograms application rate can be retained as a provision in the rule, but it could not be considered to be equivalent to 8 kgN/ha/yr under later Overseer versions.

Permitted Activity Rule 3.10.5.2 – Nitrogen Leaching Non-Farming Activities

This rule permits certain non-farming activities including planted production forestry. The rule does not rely on Overseer modelling so does not have to be changed at this stage.

Controlled Activity Rule 3.10.5.3 – Nitrogen Leaching Farming Activities

The current rule is as follows:

> *The use of land in the Lake Taupō catchment for any farming activity existing as at the date of notification of this Rule (9 July 2005) that does not meet the conditions for permitted activities under Rule 3.10.5.1 and which may result in nitrogen leaching from the land and entering water is* ***a permitted activity until 1 July 2007, after which it will be a controlled activity,*** *subject to the following conditions, standards and terms*

Standards, terms and conditions to be met by applicants to enable them to seek consent under this Rule:

Benchmarking in order to determine Nitrogen Discharge Allowance

a) Benchmark data for a minimum of 12 consecutive months during the period July 2001 to June 2005 shall be submitted to Waikato Regional Council as part of any application for consent under this Rule. The benchmark data shall comprise the parameters and information contained in Table 3.10.5.3. The amount of nitrogen leached from farming activities shall be calculated by Waikato Regional Council's Benchmarking Contractors using the OVERSEER™ Model Version 5.4.3 and the benchmark data. The nitrogen leached shall include any nitrogen arising from the application of farm animal effluent, pig farm effluent, feed pad effluent, stand-off pad effluent, and fertiliser onto land (those activities require authorisation under rules 3.5.5.1 to 3.5.5.5 and rule 3.9.4.11 outside of the Taupō catchment). The amount of nitrogen leached in the single best year (being the 12 consecutive months with the highest leaching value) over the July 2001 to June 2005 period shall be the Nitrogen Discharge Allowance for the land to which the controlled activity consent applies.

Waikato Regional Council reserves control over the following matters:

i) The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land to which the controlled activity consent applies as determined under standard and term a);

ii) The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices represented by the benchmarking data referred to in standard and term a) are altered. The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMP. The NMP shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance. The NMP shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered;

iii) The self monitoring, record keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan;

iv) The circumstances and timeframes under which the resource consent conditions may be reviewed, provided that any review of a consent condition specifying the Nitrogen Discharge Allowance shall only occur when regional plan have been made operative which specify a new target for the amount of nitrogen entering Lake Taupō and which requires that target to be achieved by the reduction of the Nitrogen Discharge Allowance specified in any resource consent;

v) The duration of the resource consent;

vi) The circumstances under which resource consents granted under this Rule can be surrendered either in whole or part pursuant to s138 of the RMA.

Notification:

Notice of controlled activity applications received in accordance with this Rule does not need to be served if there are no leasehold interests applying to the land to which the application relates.

Table 3.10.5.3 – Guidance for Nitrogen Discharge Allowance

Information to be provided to enable benchmarking to occur
Identification of the land area (farm) to which the consent application relates.
A map or aerial photograph showing the different blocks within the farm.
Annual stocking rate (numbers, types and classes) including a breakdown by stock class for each month.
A description of the farm management practices used on each block including (where applicable): *(a) ground cover – pasture, crops, non-grazed areas (including forestry, riparian and tree areas)* *(b) stock management – lambing/calving/fawning dates and percentages, any purchases and sales and associated dates, types and age of stock* *(c) fertiliser management practices - types, quantities, rates of application and details of varying procedures for different blocks* *(d) winter management of cattle grazed off – including the use of feed pads, grazing off or standoff pads* *(e) crop management practices – area cultivated, method of cultivation, crop types, rotations, timing of sowing and harvesting, resulting use of crop, where and when it is fed out on farm or when it is exported and where to* *(f) supplementary feed brought onto the farm - feed type, annual tonnage, dry matter content, feed quality, nitrogen content* *(g) use of nitrification inhibitors and any other verifiable nitrogen leaching inhibitors* ***Advisory Note:** Where any of the matters (a) to (g) have not been implemented on a particular block then that should be stated.*
Copies of any available annual accounts to verify the above information. *Copies of any available invoices or receipts for purchases of stock, fertiliser, supplements imported or exported*
Farm animal effluent, pig farm effluent, feed pad and stand-off pad effluent management including; *(a) area of land used for irrigation* *(b) annual nitrogen loading rate and nitrogen load rate per application* *(c) instantaneous application rate*
Clean water irrigation in terms of areas, rates and systems

Advisory Notes:

Notification

If there are leasehold interests applying to the land to which an application relates, then the tests for service in the RMA 1991 apply.

Nitrogen Discharge Allowance

- *Nitrogen Discharge Allowance means the maximum amount of nitrogen allowed to leach from land, as determined in accordance with Rule 3.10.5.3, Rule 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9. A Nitrogen Discharge Allowance will be specified as a condition of any consent granted under this rule and will be described as the kilograms of nitrogen per hectare per year and the total kilograms (or tonnage) of nitrogen per year permitted to be leached from the land to which the consent relates, each year.*

Benchmark data

- *Benchmark data means the parameters and information for farming activities during the benchmarking period under Rule 3.10.5.3 a) listed in Table 3.10.5.3. In the absence of benchmark information being provided the WRC will use appropriate default numbers for any necessary inputs to the OVERSEER™ model (such default numbers will generally be around 75% of normal catchment average values for*

those inputs).

OVERSEER™ Model

- *The OVERSEER™ Model is a nutrient management computer model produced by AgResearch, FertResearch and the Ministry of Agriculture and Forestry, which provides estimates of the annual fate of nitrogen, phosphorus, potassium and other nutrients in kilograms per hectare per year.*

Nitrogen Management Plan

- *The benchmark data for the selected best year comprises the initial Nitrogen Management Plan. A separate Nitrogen Management Plan is not required unless the benchmarked farming practices are to be altered. In that case a separate Nitrogen Management Plan must be prepared showing that the proposed farming activities will comply with the farm's benchmarked Nitrogen Discharge Allowance, by using the Version 5.4.3 of the OVERSEER™ Model and relevant parameters listed in Table 3.10.5.3. A farm's Nitrogen Management Plan thereafter remains valid until such time as the consent holder again proposes a change to farming practices, such that the new farming practices are no longer consistent with the existing Nitrogen Management Plan. At that point a revised Nitrogen Management Plan is required, using Version 5.4.3 of the OVERSEER™ Model, to again demonstrate that the changed farming practices will not result in the breach of the Nitrogen Discharge Allowance for the farm.*

Duration

- *Policy 3 (c) provides guidance regarding the duration of the resource consent.*

Monitoring and Compliance

- *Farm management practices will be monitored to ensure that the Nitrogen Discharge Allowance for the land to which the controlled activity consent applies, has not been exceeded.*

Offsetting Nitrogen

- *Once a Nitrogen Discharge Allowance has been determined for the land to which the consent applies, any further increase in nitrogen leaching must be offset by a corresponding and equivalent decrease in nitrogen on one or more other properties in the Lake Taupō catchment. The increase shall be secured by way of a change to the Nitrogen Discharge Allowance.*
- *If the Nitrogen Discharge Allowance for the land to which the consent applies is to be changed, either through the sale or purchase of a nitrogen discharge entitlement, or through the sale or purchase of part of a farm, the consent holder will first need to either apply for a change to the consented Nitrogen Discharge Allowance pursuant to s127 of the RMA or seek a new consent under Rules 3.10.5.6 or 3.10.5.7.*

Discussion of changes needed to Rule 3.10.5.3

Farms that don't meet the provisions of Permitted Activity Rule 3.10.5.1 require consent under Controlled Activity Rule 3.10.5.3. All commercial farm operations in Taupō have a land use consent under this rule.

The first sentence of the rule states that land use subject to the rule "is permitted until 1 July 2007, after which it will be a controlled activity, subject to the following conditions, standards and terms:" Reference to the land use being permitted until 1 July 2007 can be deleted. It is recommended that the sentence be changed as follows:

The use of land in the Lake Taupō catchment for any farming activity existing as at the date of notification of this Rule (9 July 2005) that does not meet the conditions for permitted activities under Rule 3.10.5.1 and which may result in nitrogen leaching

from the land and entering water is ***~~a permitted activity until 1 July 2007, after which it will be~~ a controlled activity,*** *subject to the following conditions, standards and terms*

Rule 3.10.5.3 has one "standard and term", and that describes the information that was to have been provided to ensure the initial benchmarking (determination of the farm NDA) could be undertaken. Much of this standard and term will be obsolete after Overseer version 5.4.3 expires. It will be very difficult to establish a benchmark using OverseerFM that would be equivalent or comparable to the benchmark processes undertaken on other farms using version 5.4.3. Most farms that would have wanted to be benchmarked under Taupo rules would have done so already. Given the length of time since the original benchmark period (July 2001 to June 2005) it is likely to be very difficult for a land owner to prove what land use was operating at that time. However, there is a possibility that there remains land parcels that have not been benchmarked, which land owners would like to have benchmarked, and where they could provide the information to show what land use was occurring during the initial benchmark period. For these reasons, it is recommended that the 3.10.5.3 benchmark standard and term be deleted, but that, to allow the possibility of benchmarking, a matter for control is added to the rule which states:

For any property not previously benchmarked for nitrogen leaching, the information requirements that would allow the property to be benchmarked at a nitrogen leaching rate that is equivalent to that which was occurring during the single best year (being the 12 consecutive months with the highest leaching value) over the period July 2001 to June 2005.

It is recommended that four standard and terms be added to make it clear that the latest version of Overseer is to be used in any new consents and that all farms have, and comply with, a Nitrogen Management Plan. The fourth addition is important because under OverseerFM, WRC can only see a property's Overseer information if access is given by the land owner. WRC staff need to have such access in order to monitor farm activities against the farm Overseer Reference Datasets. WRC staff have always had access to property Overseer files and this should remain into the future. As well as providing more certainty about new consents under this rule, these additions would provide guidance when existing consents are reviewed. The additional standard and terms are:

a) *The property shall have an Overseer Reference Dataset*
b) *The property shall have a Nitrogen Management Plan that demonstrates how the property is to be managed, such that when it is modelled with the most recent version of Overseer, does not result in greater modelled nitrogen leaching than when the property's Overseer Reference Dataset is modelled with the same version of Overseer*
c) *The property shall be managed in accordance with its Nitrogen Management Plan.*
d) *Full electronic access to the property's Overseer Reference Dataset and Overseer analysis that supports the current Nitrogen Management Plan, shall be provided to Waikato Regional Council on request.*

Note that these changes to Rule 3.10.5.3 effectively update the rule so that the latest Overseer version can be used. The changes also reflect the original content of the Advisory Note which stated that "*The NMP shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance"*. The changes don't add any additional requirements to what currently occurs, apart from the need to use the most recent version of Overseer rather than version 5.4.3.

It is proposed that a definition be added to the Glossary for Overseer Reference Dataset as follows:

An Overseer Reference Dataset is:

i. *An OverseerFM input dataset that describes farm operations for a property based on its current land use, but using all the property's Nitrogen Discharge Allowance as modelled by Overseer version 5.4.3, established for the property when the change from version 5.4.3 to OverseerFM occurs; or*
ii. *An input dataset for the most recent version of Overseer, which describes anticipated farm operations for a property if the Overseer Reference Dataset is to be changed, or if an Overseer Reference Dataset is to be established for land where land use was previously a Permitted Activity, through a consent process under Rule 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9.*

Note that Rule 3.10.5.3 will need a wider review during the more comprehensive review of Chapter 3.10 which will follow this plan change. The chapter is currently less comprehensive in a number of ways to the equivalent proposed rule in Plan Change 1 (Healthy Rivers) and will also need a more comprehensive review in terms of the NPS and NES Freshwater Management.

The following table comments on the Matters of Control in Rule 3.10.5.3:

Existing matters of Control in Rule 3.10.5.3	**Comment**
i) The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land to which the controlled activity consent applies as determined under standard and term a)	A consent cannot have a specified NDA, given that the NDA will change each time Overseer is updated. The recommended changes above, to the standards and terms of the rule, which require each property to have an Overseer Reference Dataset, effectively replace the requirement for a consent to have a set NDA. It is recommended that this matter of Control be deleted.
ii) The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices represented by the benchmarking data referred to in standard and term a) are altered. The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMP. The NMP shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance. The NMP shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered	The new standard and terms described above for this rule make it clear that the Nitrogen Management Plan must describe how the property is to be managed so that modelled nitrogen leaching does not increase. This matter of Control can therefore be simplified as follows: *The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices ~~represented by the benchmarking data referred to in standard and term a)~~ are altered.~~The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMPs. The NMPs shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance.~~ The NMP shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered.*

Existing matters of Control in Rule 3.10.5.3	Comment
iii) The self monitoring, record keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan	Retain
iv) The circumstances and timeframes under which the resource consent conditions may be reviewed, provided that any review of a consent condition specifying the Nitrogen Discharge Allowance shall only occur when regional plan provisions have been made operative which specify a new target for the amount of nitrogen entering Lake Taupō and which requires that target to be achieved by the reduction of the Nitrogen Discharge Allowance specified in any resource consent	There should be a Matter of Control which provides for reviews of consents. However the current clause iv) is very restrictive and could prevent the consent reviews needed to update consents to use the most recent versions of Overseer. This plan change shows how the current review clauses were too restrictive to deal with the issue of Overseer version 5.4.3 becoming obsolete. Note that Policy 3c(ii), which provides for consent reviews, is far less restrictive than the review clauses added to the consents. It is therefore recommended that this clause be changed to: "*The circumstances and timeframes under which the resource consent conditions may be reviewed*".
The duration of the resource consent	Retain
The circumstances under which resource consents granted under this Rule can be surrendered either in whole or part pursuant to s138 of the RMA	Retain
	Add the following Matter of Control: *For any property not previously benchmarked for nitrogen leaching, the information requirements that would allow the property to be benchmarked at a nitrogen leaching rate that is equivalent to that which was occurring during the single best year (being the 12 consecutive months with the highest leaching value) over the period July 2001 to June 2005.*

The following table provides comment on other provisions of Rule 3.10.5.3.

Provision	Comment
Notification: Notice of controlled activity applications received in accordance with this Rule does not need to be served if there are no leasehold interests applying to the land to which the application relates	There are two notification notes for this rule with similar intent but different wording. Notification requirements should be part of the rule and not expressed as an Advisory Note. It is therefore appropriate that the second note on notification, which sits under the heading Advisory Note, is deleted. This first note however is not consistent with

Provision	Comment
	updates to the RMA. It is therefore recommended that it be changed to read: "*Applications under Rule 3.10.5.3 may be considered without public notification or limited notification unless special circumstances apply or there are leasehold interests in the land that is subject to the application".*
Table 3.10.5.3 (Information to be provided to enable benchmarking to occur)	This table states what information needed to be provided to WRC to enable the initial nitrogen benchmarking to occur. The table is therefore not longer needed and it is recommended that the table be deleted.
Advisory Notes: Notification If there are leasehold interests applying to the land to which an application relates, then the tests for service in the RMA 1991 apply.	Delete the Notification advisory note (See above)
Nitrogen Discharge Allowance • Nitrogen Discharge Allowance means the maximum amount of nitrogen allowed to leach from land, as determined in accordance with Rule 3.10.5.3, Rule 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9. A Nitrogen Discharge Allowance will be specified as a condition of any consent granted under this rule and will be described as the kilograms of nitrogen per hectare per year and the total kilograms (or tonnage) of nitrogen per year permitted to be leached from the land to which the consent relates, each year.	As discussed above, it is no longer appropriate to specify a fixed NDA in the consent. However the NDA concept is still needed, particularly for when a farm is to be subdivided, or an additional land area added, to facilitate nitrogen trading, and to assess whether a property could become a permitted activity under rule 3.10.5.1. It is recommended that this definition be changed to read: "*Nitrogen Discharge Allowance means the modelled nitrogen leaching when the property's Overseer Reference Dataset is modelled by the most recent version of the Overseer™ model".*
Benchmark data • Benchmark data means the parameters and information for farming activities during the benchmarking period under Rule 3.10.5.3 a) listed in Table 3.10.5.3. In the absence of benchmark information being provided the WRC will use appropriate default numbers for any necessary inputs to the OVERSEER™ model (such default numbers will generally be around 75% of normal catchment average values for those inputs).	This advisory note was needed to inform the original benchmark process. It is recommended that it be deleted as it no longer serves a purpose and the term "benchmark data" could be confused with the "Overseer Reference Dataset" which is (note that a new definition for Overseer Reference Dataset is proposed to be added to the regional plan Glossary).
OVERSEER™ Model • The OVERSEER™ Model is a nutrient management computer model produced by AgResearch, FertResearch and the	This is now out of date as the ownership structure is different, and will likely change in future. It does not seem to serve a useful purpose and is recommended to be deleted.

Provision	Comment
Ministry of Agriculture and Forestry, which provides estimates of the annual fate of nitrogen, phosphorus, potassium and other nutrients in kilograms per hectare per year.	
Nitrogen Management Plan • The benchmark data for the selected best year comprises the initial Nitrogen Management Plan. A separate Nitrogen Management Plan is not required unless the benchmarked farming practices are to be altered. In that case a separate Nitrogen Management Plan must be prepared showing that the proposed farming activities will comply with the farm's benchmarked Nitrogen Discharge Allowance, by using the Version 5.4.3 of the OVERSEER™ Model and relevant parameters listed in Table 3.10.5.3. A farm's Nitrogen Management Plan thereafter remains valid until such time as the consent holder again proposes a change to farming practices, such that the new farming practices are no longer consistent with the existing Nitrogen Management Plan. At that point a revised Nitrogen Management Plan is required, using Version 5.4.3 of the OVERSEER™ Model, to again demonstrate that the changed farming practices will not result in the breach of the Nitrogen Discharge Allowance for the farm.	It is important to describe what happens to the Nitrogen Management Plan when farm activities change. The following changes are recommended to change reference to the most recent version of Overseer. In reading this note, the new definition for Nitrogen Discharge Allowance (see above) needs to be kept in mind. *The Overseer Reference Dataset ~~benchmark data for the selected best year~~ comprises the ~~initial~~ new Nitrogen Management Plan following the process identified in Policy 3A. A ~~separate~~ revised Nitrogen Management Plan is not required unless the ~~benchmarked~~ farming practices described in the Overseer Reference Dataset are to be altered. In that case a ~~separate~~ new Nitrogen Management Plan must be prepared showing that the proposed farming activities will comply with the farm's ~~benchmarked~~ Nitrogen Discharge Allowance, by using the most recent version ~~Version 5.4.3~~ of the OVERSEER™ Model ~~and relevant parameters listed in Table 3.10.5.3~~. A farm's Nitrogen Management Plan thereafter remains valid until such time as the consent holder again proposes a change to farming practices, such that the new farming practices are no longer consistent with the existing Nitrogen Management Plan. At that point a revised Nitrogen Management Plan is required, using ~~Version 5.4.3~~ the most recent version of the OVERSEER™ Model, to again demonstrate that the changed farming practices will not result in the breach of the Nitrogen Discharge* Allowance for the farm.
Duration • Policy 3 (c) provides guidance regarding the duration of the resource consent.	Retain
Monitoring and Compliance • Farm management practices will be monitored to ensure that the Nitrogen Discharge Allowance for the land to which the controlled activity consent applies, has not been exceeded.	Retain

Provision	Comment
Offsetting Nitrogen • Once a Nitrogen Discharge Allowance has been determined for the land to which the consent applies, any further increase in nitrogen leaching must be offset by a corresponding and equivalent decrease in nitrogen on one or more other properties in the Lake Taupō catchment. The increase shall be secured by way of a change to the Nitrogen Discharge Allowance. • If the Nitrogen Discharge Allowance for the land to which the consent applies is to be changed, either through the sale or purchase of a nitrogen discharge entitlement, or through the sale or purchase of part of a farm, the consent holder will first need to either apply for a change to the consented Nitrogen Discharge Allowance pursuant to s127 of the RMA or seek a new consent under Rules 3.10.5.6 or 3.10.5.7.	It is useful to have an advisory note about offsetting nitrogen although it will need to be reworded given that the NDA is no longer a set number for the property. Also the concept of nitrogen trading will be different under Overseer FM, than under version 5.4.3 (See discussion of the difference with respect to Rule 3.10.5.7 below). It is recommended that the following wording be used: • *Once ~~a Nitrogen Discharge Allowance has been determined~~ the Overseer Reference Dataset is established for the land to which the consent applies, any further increase in nitrogen leaching must be offset by a corresponding and equivalent decrease in nitrogen on one or more other properties in the Lake Taupō catchment through a formal nitrogen trading process. The increase and corresponding decrease of nitrogen leaching shall be secured ~~by way of a change to the Nitrogen Discharge Allowance~~ by changing each trading property's Overseer Reference Dataset, so that the modelled leaching using the most recent Overseer model reflects the increase or decrease of nitrogen on each of the trading properties.* • *If the ~~Nitrogen Discharge Allowance for the land to which the consent applies~~ Overseer Reference Dataset for a property is to be changed, either through the sale or purchase of a nitrogen discharge entitlement, or through the sale or purchase of part of a farm, the consent holder will ~~first~~ need to either apply for a change to the ~~consented Nitrogen Discharge Allowance~~ conditions recording the Overseer Reference Dataset for the property pursuant to s127 of the RMA or seek a new consent under Rules 3.10.5.6 or 3.10.5.7.*

Controlled Activity Rule 3.10.5.4 – Development of Ngati Tuwharetoa Undeveloped and Forested Land

The current rule is as follows:

The use of land, in the Lake Taupō catchment which may result in nitrogen leaching from the land and entering water is a controlled activity subject to the following conditions, standards and terms:

a) All of the land subject to the application is Maori land within the meaning of Section 4 of the Te Ture Whenua Maori Act 1993;

b) This Rule shall only enable increases in nitrogen leaching in respect of that part of the land subject to the application which as at 9 July 2005 comprised unimproved land or non-nitrogen fixing plantation forest;

c) All or part of the land subject to the application is proposed to be developed in a manner that may result in an increase in nitrogen leaching from that land;

d) The total cumulative amount of additional nitrogen leached from all land authorised for development under this rule shall not exceed 11,000 kilograms per annum by 30 June 2017;

e) The average amount of nitrogen leaching from that part of the land subject to the application, once the proposed development is in place, shall not exceed 2 kilograms of nitrogen per hectare per year plus the relevant deemed nitrogen leaching rate defined in Rule 3.10.5.12 for unimproved land or non-nitrogen fixing plantation forest;

f) No resource consent or combination of resource consents under this Rule shall allow an increase in average nitrogen leaching in respect of any land that exceeds 2 kilograms of nitrogen per hectare per year;

g) The potential to increase the amount of nitrogen able to leach from the land subject to the application above the deemed nitrogen leaching rate shall not be transferable across land boundaries;

h) Where the nitrogen leaching authorised by this rule is for the discharge of domestic wastewater effluent (including grey water but not stormwater) from any new conventional wastewater systems onto or into land, standards, terms and conditions (a) to (n) of Rule 3.10.6.4 shall apply;

i) Where the nitrogen leaching authorised by this rule is for the discharge of domestic wastewater effluent (including grey water but not stormwater) from any new advanced wastewater systems onto or into land, standards, terms and conditions (a) to (o) of Rule 3.10.6.3 shall apply;

j) Conventional wastewater systems shall not be installed within the near shore zone;

and provided also that:

Where a land use is authorised as a controlled activity by this Rule, the subject land shall not be used to offset any nitrogen leaching increase elsewhere in the catchment.

Matters of Control

Waikato Regional Council reserves control over the following matters:

i) The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land subject to the application;

ii) The requirement to maintain a Nitrogen Management Plan for the land subject to the application;

iii) Version 5.4.3 of the OVERSEER™ model shall be used to demonstrate that any changes to the Nitrogen Management Plan, undertaken during the duration of any resource consent granted under this rule, will not lead to an exceedance of the Nitrogen Discharge Allowance for the land subject to the application;

iv) The self monitoring, record keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan;

v) *Restrictions on the use of wastewater systems and the monitoring, maintenance and reporting requirements for those systems;*

Advisory Notes:

- *Rule 3.10.5.4 is intended to provide for the development of Maori land that was undeveloped or forested land at the date of notification of Variation 5 – Lake Taupō Catchment (9 July 2005). However, for the avoidance of doubt, it is noted that Maori land that contains some developed land is not precluded from the rule provided the nitrogen leaching from the proposed development together with any nitrogen leaching from existing development does not exceed the upper limit on the average annual leaching of nitrogen set by conditions d) and e) of this rule.*
- *Refer to the Advice Notes under Rule 3.10.5.3 as they guidance they provide is relevant to consents issued under this Rule*

Discussion of Rule 3.10.5.4

Rule 3.10.5.4 provides for the development of Maori land that was undeveloped or forested land at the date of notification of Variation 5. The rule allows owners of Maori land to apply for a small amount of additional nitrogen so that some development can occur.

Clause d) reads: "The total cumulative amount of additional nitrogen leached from all land authorised for development under this rule shall not exceed 11,000 kilograms per annum by 30 June 2017". The addition of 11 tonnes of nitrogen allocation for Tūwharetoa undeveloped and forestry land was calculated as follows. During the Environment Court process, Tūwharetoa requested an additional 2 kgN/yr. to be used to develop the area of their undeveloped and forestry land that would be suitable for development. At the time, it was calculated that Tūwharetoa owned 86,340 ha of undeveloped and forestry land, of which about 16% (13,814 ha) was considered suitable for development. If 13,814 ha was given an additional 2 kgN/ha, there would be an additional 27,629 kg of nitrogen. Tūwharetoa considered that they may develop the land over a 25 year period. During the 10 year life of the plan, this would represent just over 11 tonnes of additional nitrogen. This was the figure eventually agreed to.

The rule requires the use of Overseer version 5.4.3 to allocate the nitrogen and to ensure the total of 11,000 kilograms is not exceeded. Applicants can continue to apply for the allocation while version 5.4.3 is operational, but the rule cannot be used after the version expires in December 2020. There is a technical difficulty with the 2017 date, which could be interpreted as meaning that the rule could not be used after that date. However, it would seem reasonable to allow allocations up to the 11,000 kilogram total all the same.

Once the move to Overseer FM occurs, the 11,000 kilogram total becomes problematic. Because OverseerFM will be updated quite often, and because updated versions will model inputs differently, it would not be possible to add up different allocations from different versions of Overseer. Total amounts only make sense if the individual allocations are modelled by a single version of Overseer.

The other difficulty is that, as described above, the regional plan allocation of 11,000 kilograms was an allocation for a 10 year period. It is accepted that Tuwharetoa initially asked for 27,629 kilograms over 25 years. Therefore, when Rule 3.10.5.4 is reviewed, there is likely to be discussion about how much additional nitrogen should be allocated under this rule.

There are therefore some difficult matters to resolve in the review of this rule. Reviewing the rule would likely raise issues about nitrogen allocations. Staff recommend that this matter be addressed during the larger second stage of the review of Chapter 3.10, and not be part of the more targeted plan change to allow later versions of Overseer to be used in farming consents. Meanwhile applications can be made for the current 11,000 kg while version 5.4.3 can still be used. After version 5.4.3 has expired, it may be possible for some additional allocations to be made through consents pursuant to Non-complying Activity Rule 3.10.5.9.

To make it clear that the rule cannot be used after version 5.4.3 expires, the following note is to be added to the rule: *Once Overseer Version 5.4.3 expires, this rule can no longer be used because the additional nitrogen allowance provided for in this rule only has relevance in terms of Version 5.4.3. The rule will be reviewed in full during the Healthy Environments regional plan review.*

Controlled Activity Rule 3.10.5.5 – Development of Non-Ngati Tuwharetoa Forestry and Undeveloped Land

The current rule is as follows:

The use of land in the Lake Taupō catchment which may result in nitrogen leaching from the land and entering water is a controlled activity subject to the following conditions, standards and terms:

a) As at 9 July 2005 the land comprised unimproved land or non-nitrogen fixing plantation forest;

b) The land does not comprise Crown owned land or land that is explicitly covered by Rule 3.10.5.4(a);

c) All or part of the land subject to the application is proposed to be developed in a manner that may result in an increase in nitrogen leaching from that land;

d) The total cumulative amount of additional nitrogen leached from all land authorised for development under this rule shall not exceed 3,100 kilograms per annum by 30 June 2017;

e) The average amount of nitrogen leaching from the land subject to the application, once the proposed development is in place, shall not exceed 2 kilograms of nitrogen per hectare per year plus the relevant deemed nitrogen leaching rate defined in Rule 3.10.5.12 for unimproved land or non-nitrogen fixing plantation forest;

f) No resource consent or combination of resource consents under this Rule shall allow an increase in average nitrogen leaching in respect of any land that exceeds 2 kilograms of nitrogen per hectare per year;

g) The potential to increase the amount of nitrogen able to leach from the land subject to the application above the deemed nitrogen leaching rate shall not be transferable across land boundaries;

h) Where the nitrogen leaching authorised by this rule is for the discharge of domestic wastewater effluent (including grey water but not stormwater) from any new conventional wastewater systems onto or into land, standards, terms and conditions (a) to (n) of Rule 3.10.6.4 shall apply;

i) Where the nitrogen leaching authorised by this rule is for the discharge of domestic wastewater effluent (including grey water but not stormwater) from any new advanced wastewater systems onto or into land, standards, terms and conditions (a) to (o) of Rule 3.10.6.3 shall apply;

j) Conventional wastewater systems shall not be installed within the near shore zone;

and provided also that:

Where a land use is authorised as a controlled activity by this Rule, the subject land shall not be used to offset any nitrogen leaching increase elsewhere in the catchment.

Matters of Control

Waikato Regional Council reserves control over the following matters:

i) The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land subject to the application

ii) The requirement to maintain a Nitrogen Management Plan for the land subject to the application;

iii) *Version 5.4.3 of the OVERSEER™ model shall be used to demonstrate that any changes to the Nitrogen Management Plan, undertaken during the duration of any resource consent granted under this rule, will not lead to an exceedance of the Nitrogen Discharge Allowance for the land subject to the application;*
iv) *The self monitoring, record keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan;*
v) *Restrictions on the use of wastewater systems and the monitoring, maintenance and reporting requirements for those systems;*
vi) *The circumstances and timeframes under which the resource consent conditions may be reviewed;*
vii) *The duration of the resource consent; and*
viii) *The circumstances under which resource consents granted under this rule can be surrendered either in whole or part pursuant to s138 of the RMA.*

Notification:
Notice of controlled activity applications received in accordance with this rule does not need to be served.

Advisory Note
- *Refer to the Advice Notes under Rule 3.10.5.3 as they guidance they provide is relevant to consents issued under this Rul*e

Discussion of Rule 3.10.5.5
The issues with Rule 3.10.5.5 are the same as described above for Rule 3.10.5.4. It is recommended that this rule be reviewed during the second stage of the Chapter 3.11 review.

As for Rule 3.10.5.4, to make it clear that the rule cannot be used after version 5.4.3 expires, the following note is to be added to the rule: *Once Overseer Version 5.4.3 expires, this rule can no longer be used because the additional nitrogen allowance provided for in this rule only has relevance in terms of Version 5.4.3. The rule will be reviewed in full during the Healthy Environments regional plan review.*

Controlled Activity Rule 3.10.5.6 - Division of Nitrogen Discharge Allowance Upon Sale or Disposal of Land

The current rule is as follows:

The use of land in the Lake Taupō catchment for any farming activity authorised under Rule 3.10.5.3, Rule 3.10.5.8 or Rule 3.10.5.9 where the benchmarked Nitrogen Discharge Allowance is intended to be altered as a result of the sale or disposal of part of a farm is a controlled activity, subject to the following conditions, standards and terms:

Standards, terms and conditions to be met by applicants to enable them to seek consent under this Rule:

a) *The land sold or disposed of and the balance land on the original farm shall each be allocated a sufficient Nitrogen Discharge Allowance to allow for the intended use of that land; provided that the sum of each allocation shall not total more than the Nitrogen Discharge Allowance that pertained to the farm prior to the sale or disposal of land; and it shall not be less than that permitted under Rules 3.10.5.1 or 3.10.5.2.*
b) *The allocation of a Nitrogen Discharge Allowance under a) shall only be to land formerly included within the farm to which the authorised Nitrogen Discharge Allowance under Rule 3.10.5.3, 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9 applied.*

c) *Amended Nitrogen Management Plans shall be prepared for the land sold or disposed of and the balance land on the original farm to demonstrate that the nitrogen leached from the proposed farming activities complies with the altered Nitrogen Discharge Allowance for that land. The amended Nitrogen Management Plans shall include as a minimum the parameters and information contained in Table 3.10.5.3. Version 5.4.3 of the OVERSEER™ Model shall be used to calculate whether the nitrogen leached from the proposed farming activities under the amended Nitrogen Management Plans complies with the altered Nitrogen Discharge Allowances for the land. The amended Nitrogen Management Plans shall be submitted to Waikato Regional Council as part of any application for consent under this Rule.*

d) *Where the land disposed of involves more than one new property a) to c) of this Rule shall apply to each property.*

Matters of Control

Waikato Regional Council reserves control over the following matters:

i) *The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land to which the controlled activity consent applies;*

ii) *The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices represented in the NMPs referred to in standard and term c) are altered. The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMPs. The NMPs shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance. The NMPs shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered.*

iii) *The self-monitoring, record-keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan;*

iv) *The circumstances and time-frames under which the resource consent conditions may be reviewed, provided that any review of a consent condition specifying the Nitrogen Discharge Allowance shall only occur when regional plan provisions have been made operative which specify a new target for the amount of nitrogen entering Lake Taupō and which requires that target to be achieved by the reduction of the Nitrogen Discharge Allowance specified in any resource consent;*

v) *The duration of the resource consent;*

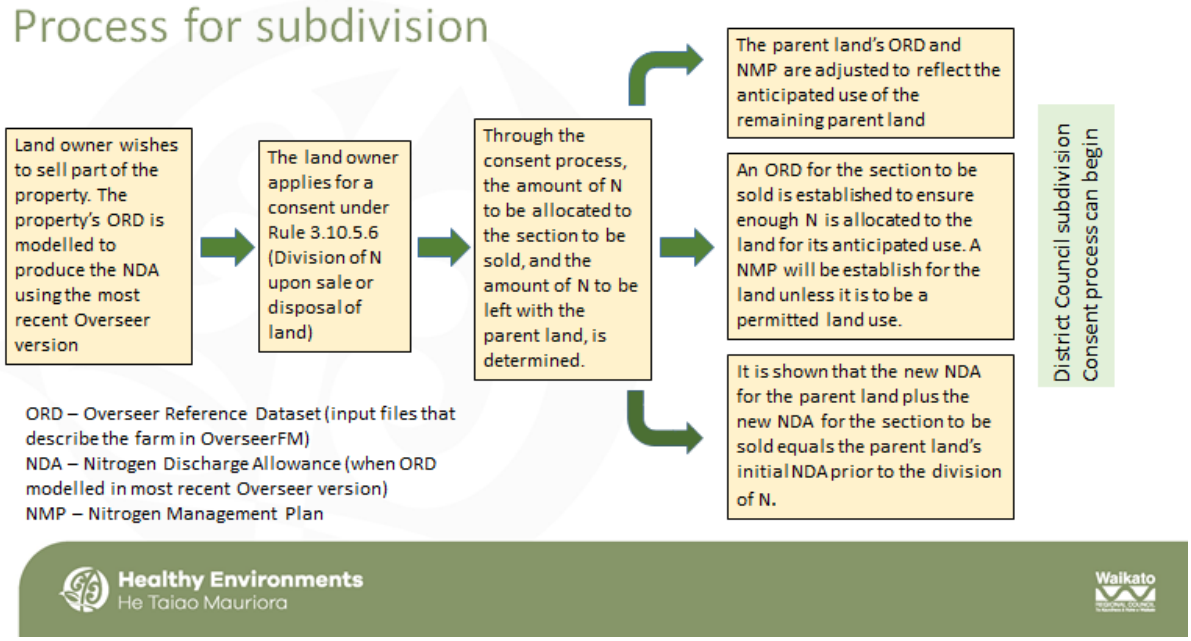
vi) *The circumstances under which resource consents granted under this Rule can be surrendered either in whole or part pursuant to s138 of the RMA.*

Notification:

Notice of controlled activity applications received in accordance with this rule does not need to be served.

Discussion of Rule 3.10.5.6

Rule 3.10.5.6 allows for a NDA to be divided when a part of a property is being sold. The process that is proposed to occur for allocating nitrogen to a part of a property that is to be subdivided off the parent block, is shown in the following diagram.



The following table comments on the rule's standards, terms and conditions

Clause	Comment
a) The land sold or disposed of and the balance land on the original farm shall each be allocated a sufficient Nitrogen Discharge Allowance to allow for the intended use of that land; provided that the sum of each allocation shall not total more than the Nitrogen Discharge Allowance that pertained to the farm prior to the sale or disposal of land; and it shall not be less than that permitted under Rules 3.10.5.1 or 3.10.5.2	This clause needs to be altered to ensure the most recent version of the Overseer Model is used, and to ensure the Overseer Reference Dataset for the land sold and the balance land is updated to equate to the new land nitrogen allowances. It is recommended that it is changed as follows: *A Nitrogen Discharge Allowance (NDA) shall be calculated for the property by modelling the Overseer Reference Dataset with the most recent version of Overseer. This NDA allowance shall be divided and allocated to the ~~The~~ land sold or disposed of and the balance land on the original farm so that sufficient nitrogen allowance is provided ~~shall each be allocated a sufficient Nitrogen Discharge Allowance to allow~~ for the intended use of that land. New Overseer Reference Datasets shall be established for the land sold or disposed of and the balance land on the original farm, so that when both are modelled through the most recent version of Overseer, the resulting nitrogen leaching is no greater in total than the initial NDA allowance calculated prior to sale or disposal.; ~~provided that the sum of each allocation shall not total more than the Nitrogen Discharge Allowance that pertained to the farm prior to the sale or disposal of land; and it shall not be less than that permitted~~ After the transaction, the*

Clause	Comment
	properties may become permitted activities subject to compliance with ~~under~~ Rules 3.10.5.1 or 3.10.5.2.
b) *The allocation of a Nitrogen Discharge Allowance under a) shall only be to land formerly included within the farm to which the authorised Nitrogen Discharge Allowance under Rule 3.10.5.3, 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9 applied.*	Retain
c) *Amended Nitrogen Management Plans shall be prepared for the land sold or disposed of and the balance land on the original farm to demonstrate that the nitrogen leached from the proposed farming activities complies with the altered Nitrogen Discharge Allowance for that land. The amended Nitrogen Management Plans shall include as a minimum the parameters and information contained in Table 3.10.5.3. Version 5.4.3 of the OVERSEER™ Model shall be used to calculate whether the nitrogen leached from the proposed farming activities under the amended Nitrogen Management Plans complies with the altered Nitrogen Discharge Allowances for the land. The amended Nitrogen Management Plans shall be submitted to Waikato Regional Council as part of any application for consent under this Rule*	The following changes are recommended*:* *Unless land use is to become permitted by Rules 3.10.5.1 or 3.10.5.2, amended ~~Amended~~ Nitrogen Management Plans shall be prepared for the land sold or disposed of and the balance land on the original farm. The Nitrogen Management Plans shall initially state the farm inputs in the Overseer Reference Datasets. Each property is managed thereafter, such that when it is modelled with the most recent version of Overseer, does not result in greater modelled nitrogen leaching than when the property's Overseer Reference Dataset is modelled with the same version of Overseer. ~~to demonstrate that the nitrogen leached from the proposed farming activities complies with the altered Nitrogen Discharge Allowance for that land. The amended Nitrogen Management Plans shall include as a minimum the parameters and information contained in Table 3.10.5.3. Version 5.4.3 of the OVERSEER™ Model shall be used to calculate whether the nitrogen leached from the proposed farming activities under the amended Nitrogen Management Plans complies with the altered Nitrogen Discharge Allowances for the land.~~ The amended Nitrogen Management Plans shall be submitted to Waikato Regional Council as part of any application for consent under this Rule.*
d) *Where the land disposed of involves more than one new property a) to c) of this Rule shall apply to each property*	Retain

The following table comments on the rule's Matters of Control

Matter of Control	Comment
i) The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total	A consent cannot have a specified NDA, given that the NDA will change each time Overseer is updated. Standard and term a) makes it

Matter of Control	Comment
kgN/year for the land to which the controlled activity consent applies	clear that each property needs to have an appropriate Overseer Reference Dataset, which replaces the need for a set NDA. It is recommended that this matter of Control be deleted.
ii) The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices represented in the NMPs referred to in standard and term c) are altered. The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMPs. The NMPs shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance. The NMPs shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered	The following change is recommended*:* *The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices ~~represented in the NMPs referred to in standard and term c)~~ are altered. ~~The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMPs. The NMPs shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance.~~ <u>The NMP will describe how the properties are to be managed after the farm activities are altered, such that when modelled with the most recent version of Overseer, does not result in greater nitrogen leaching than when the farms' Overseer Reference Datasets are modelled with the same version of Overseer.</u> The NMPs shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered.*
iii) The self-monitoring, record-keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan	Retain
iv) The circumstances and time-frames under which the resource consent conditions may be reviewed, provided that any review of a consent condition specifying the Nitrogen Discharge Allowance shall only occur when regional plan provisions have been made operative which specify a new target for the amount of nitrogen entering Lake Taupō and which requires that target to be achieved by the reduction of the Nitrogen Discharge Allowance specified in any resource consent	There should be a Matter of Control which provides for reviews of consents. However the current clause iv) is very restrictive and could prevent the consent reviews needed to update consents to use the most recent versions of Overseer. This plan change shows how the current review clauses were too restrictive to deal with the issue of Overseer version 5.4.3 becoming obsolete. Note that Policy 3c(ii), which provides for consent reviews, is far less restrictive than the review clauses added to the consents. It is therefore recommended that this clause be changed to: "*The circumstances and timeframes under*

Matter of Control	Comment
	which the resource consent conditions may be reviewed".
v) The duration of the resource consent	Retain
vi) The circumstances under which resource consents granted under this Rule can be surrendered either in whole or part pursuant to s138 of the RMA	Retain

Controlled Activity Rule 3.10.5.7 - Offsetting (Trading) a Nitrogen Discharge Allowance for high leaching land

The current rule is as follows:

The use of land in the Lake Taupō catchment for any farming activity authorised under Rule 3.10.5.3, Rule 3.10.5.6 or Rule 3.10.5.9 where the benchmarked Nitrogen Discharge Allowance is intended to be altered as a result of nitrogen trading or offsetting is a controlled activity, subject to the following conditions, standards and terms:

Advisory Note:

- *This Rule provides for trading of Nitrogen between existing high leaching farms. Nitrogen trading involving currently low nitrogen leaching land is provided for by Rule 3.10.5.8.*

Standards, terms and conditions to be met by applicants to enable them to seek consent under this Rule:

a) Any increase in the benchmarked Nitrogen Discharge Allowance must be offset by a corresponding and equivalent decrease in the benchmarked Nitrogen Discharge Allowance on one or more other properties in the Lake Taupō catchment.

b) Amended Nitrogen Management Plans shall be prepared for the land that is subject to both the increase and decrease of nitrogen leached. The amended Nitrogen Management Plans shall include as a minimum the parameters and information contained in Table 3.10.5.3. Version 5.4.3 of the OVERSEER™ Model shall be used to calculate whether the nitrogen leached from the proposed farming activities under the amended Nitrogen Management Plans complies with the altered Nitrogen Discharge Allowances for the land. The amended Nitrogen Management Plans shall be submitted to Waikato Regional Council as part of any application for consent under this Rule.

c) Where the nitrogen trading or offsetting involves more than one property a) and b) of this Rule shall apply to each property.

Matters of Control

Waikato Regional Council reserves control over the following matters:

i) The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land to which the controlled activity consent applies;

ii) The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices represented in the NMPs referred to in standard and term b) are altered. The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMPs. The NMPs shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked

Nitrogen Discharge Allowance. The NMP shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered;

iii) *The self-monitoring, record-keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan;*

iv) *The circumstances and time-frames under which the resource consent conditions may be reviewed, provided that any review of a consent condition specifying the Nitrogen Discharge Allowance shall only occur when regional plan provisions have been made operative which specify a new target for the amount of nitrogen entering Lake Taupō and which requires that target to be achieved by the reduction of the Nitrogen Discharge Allowance specified in any resource consent;*

v) *The duration of the resource consent;*

vi) *The circumstances under which resource consents granted under this Rule can be surrendered either in whole or part pursuant to s138 of the RMA.*

Notification:
Notice of controlled activity applications received in accordance with this rule does not need to be served.

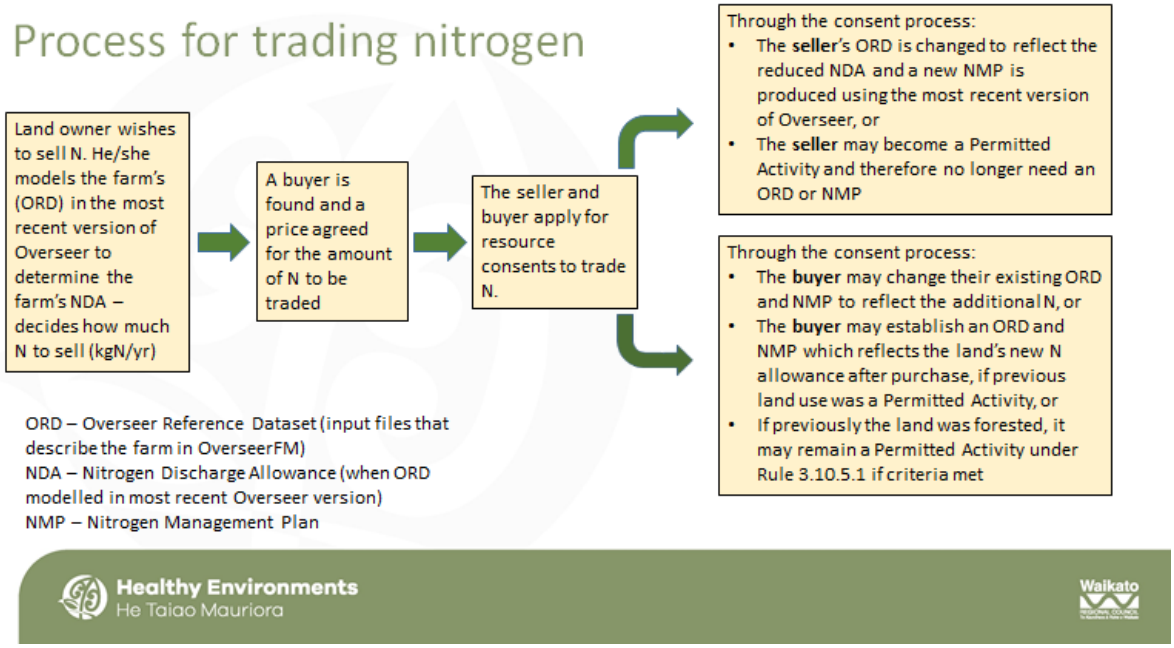
Trading under OverseerFM

This rule provides for trading (buying, selling and leasing) of nitrogen where farms involved are "existing high leaching farms".

Before discussing the detail of this rule, the overall concept of nitrogen trading using Overseer FM is discussed. Currently the Taupō rules rely on a single version of Overseer, and this allows a set NDA to be allocated to each farm. The NDA is the modelled leaching from version 5.4.3, when the farm's benchmark data is modelled. After the move to Overseer FM, the concept of an unchanging NDA is not possible because the model is upgraded quite often, and each upgraded version may result in an updated modelled nitrogen leaching rate for the same initial benchmark data. A farm cannot therefore be allocated a fixed NDA.

When nitrogen trading occurs via Overseer FM therefore, although the amount of traded nitrogen can relate to an amount of modelled nitrogen, the amount only makes sense if it references a particular Overseer FM version, and both farms are benchmarked in the same version of Overseer.

The trading process is represented in the following diagram:



A more detailed description of the trading process as follows:

1. Farmer A wishes to sell some nitrogen so first determines his/her NDA by modelling the property's Overseer Reference Dataset in the most recent version of Overseer. The amount to be sold is determined and a buyer found. The details of the sale/purchase are agreed.
2. Each Farmer's Overseer FM benchmark data then needs to be altered through a consent process, so that it reflects the modelled nitrogen leaching after the sale. So for example, Farmer A sells x tonnes of nitrogen as modelled by the most recent Overseer version. The farmer will then need to change the farm's Overseer Reference Dataset, so that when the new data is modelled by the most recent Overseer version, the modelled nitrogen leaching is x tonnes less than when the farm's original Overseer Reference Dataset is modelled. Farmer B then also develops a new Overseer Reference Dataset for the farm, which describes the farm system intended after the purchase of nitrogen. In Farmer B's case, the new farm Overseer Reference Dataset, when modelled by the most recent Overseer version, will result in modelled nitrogen leaching equivalent to when the farm's initial benchmark data is modelled through the current Overseer version, plus the additional purchased nitrogen.
3. Once the trade is completed, unless properties are to become permitted activities, each party will develop a new NMP for their respective farms. The NMPs will effectively be the same as the initial Overseer Reference Datasets.

The process is in fact not that different to what happens under Overseer version 5.4.3. Currently when a trade occurs, each farm's NDA is changed to reflect the trade (one NDA increases and the other decreases). Each farmer then needs to ensure that they farm within the limits of their updated NDA. This would mean ensuring changes to farm management occurs so that when the farm system is modelled through Overseer version 5.4.3, the modelled nitrogen leaching is no greater than the farm's new NDA. This new farm system is then reflected in an updated NMP.

The difference really is that farm inputs are the benchmark rather than the modelled leaching amount. If a farm is benchmarked to have 200 cows, even if later versions of Overseer model cows as leaching more than older versions, the farmer will still be able to have 200 cows because that is what the Overseer Reference Dataset allows. If a farmer purchased enough nitrogen to add an extra 100 cows to the property, the Overseer Reference Dataset would be changed to allow 300 cows on the property and that becomes the new 'allowance'. The only effect of different versions would be that land use change opportunities may vary because of different versions. So for example, a farmer with 300 cows may be able to convert that allowance to 20 hectares of a particular crop under one version of Overseer, but under another version may only be able to convert to 18 hectares of the crop.

During pre-notification consultation, questions were raised about how temporary leasing arrangements would operate once properties have Overseer Reference Datasets. The intention is that property owners wishing to enter a nitrogen leasing arrangement would first calculate a temporary Nitrogen Discharge Allowance by modelling each property's Overseer Reference Datasets in the most recent version of Overseer. An agreement to lease an amount of nitrogen would then be made. Through the consent process, temporary leasing Overseer Reference Datasets would be developed for each property subject to the lease. These temporary Datasets would describe the intended farm inputs for each property during the lease period. When the lease expires, the properties would revert to being managed in accordance with the original pre-lease Overseer Reference Datasets.

Discussion of Rule 3.10.5.7

Rule 3.10.5.7 states:

> *The use of land in the Lake Taupō catchment for any farming activity authorised under Rule 3.10.5.3, Rule 3.10.5.6 or Rule 3.10.5.9 where the benchmarked Nitrogen Discharge*

Allowance is intended to be altered as a result of nitrogen trading or offsetting is a controlled activity, subject to the following conditions, standards and terms.

This should be reworded as follows to reflect the fact that the Overseer Benchmark Dataset is proposed to be the way that nitrogen is accounted and allocated, rather than a set NDA.

The use of land in the Lake Taupō catchment for any farming activity authorised under Rule 3.10.5.3, Rule 3.10.5.6 or Rule 3.10.5.9 where the ~~benchmarked Nitrogen Discharge Allowance~~ Overseer Benchmark Dataset is intended to be altered as a result of nitrogen trading or offsetting is a controlled activity, subject to the following conditions, standards and terms.

The following table comments on the rule's Standards, terms and conditions:

Clause	Comment
a) *Any increase in the benchmarked Nitrogen Discharge Allowance must be offset by a corresponding and equivalent decrease in the benchmarked Nitrogen Discharge Allowance on one or more other properties in the Lake Taupō catchment.*	Some changes are needed to this clause. The definition of the NDA, as noted above, is important here. The NDA is defined as *modelled nitrogen leaching when the property's Overseer Reference Dataset is modelled by the latest version of Overseer*. To ensure that each trade is secured by a change to each property's benchmark data, it is recommended that the clause be amended as follows: *Any increase in the ~~benchmarked~~ Nitrogen Discharge Allowance must be offset by a corresponding and equivalent decrease in the ~~benchmarked~~ Nitrogen Discharge Allowance on one or more other properties in the Lake Taupō catchment. The proposed increase and decrease in nitrogen leaching must both be modelled using the most recent version of Overseer. The nitrogen leaching increase, and offsetting decrease, shall be secured by changes to each property's Overseer Reference Dataset so that the new reference datasets when modelled through the most recent version of the Overseer Model result in total nitrogen leaching no greater than the total modelled nitrogen leaching prior to the trade.*
b) *Amended Nitrogen Management Plans shall be prepared for the land that is subject to both the increase and decrease of nitrogen leached. The amended Nitrogen Management Plans shall include as a minimum the parameters and information contained in Table 3.10.5.3. Version 5.4.3 of the OVERSEER™ Model shall be used to calculate whether the nitrogen leached from the proposed farming activities under the amended Nitrogen Management Plans complies*	The following amendment to this clause is recommended: *Unless land use is to become permitted by Rules 3.10.5.1 or 3.10.5.2, amended ~~Amended~~ Nitrogen Management Plans shall be prepared for the land that is subject to both the increase and decrease of nitrogen leached. The amended Nitrogen Management Plans shall initially state the farm inputs in the Overseer Reference Datasets. Each property is managed*

Clause	Comment
with the altered Nitrogen Discharge Allowances for the land. The amended Nitrogen Management Plans shall be submitted to Waikato Regional Council as part of any application for consent under this Rule.	*thereafter, such that when it is modelled with the most recent version of Overseer, does not result in greater modelled nitrogen leaching than when the property's Overseer Reference Dataset is modelled with the same version of Overseer ~~include as a minimum the parameters and information contained in Table 3.10.5.3. Version 5.4.3 of the OVERSEER™ Model shall be used to calculate whether the nitrogen leached from the proposed farming activities under the amended Nitrogen Management Plans complies with the altered Nitrogen Discharge Allowances for the land.~~ The amended Nitrogen Management Plans shall be submitted to Waikato Regional Council as part of any application for consent under this Rule.*
c) Where the nitrogen trading or offsetting involves more than one property a) and b) of this Rule shall apply to each property.	Retain

The following table comments on the rule's Matters of Control

Matter of Control	Comment
i. *The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land to which the controlled activity consent applies*	A consent cannot have a specified NDA, given that the NDA will change each time Overseer is updated. Standard and term a) makes it clear that each property needs to have an appropriate Overseer Reference Dataset, which replaces the need for a set NDA. It is recommended that this matter of Control be deleted.
ii. *The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices represented in the NMPs referred to in standard and term b) are altered. The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMPs. The NMPs shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance. The NMP shall be provided to the Waikato Regional Council within 10 working days of the*	The following change is recommended: *The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices ~~represented by the benchmarking data referred to in standard and term a)~~ are altered.~~The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMPs. The NMPs shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance.~~ The NMP will demonstrate how the properties are to be managed after the farm activities are altered,*

Matter of Control	Comment
farm management practices being altered;	*such that when modelled with the most recent version of Overseer, does not result in greater nitrogen leaching than when the farms' Overseer Reference Datasets are modelled with the same version of Overseer.The NMPs shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered.*
iii. *The self-monitoring, record-keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan*	Retain
iv. The circumstances and time-frames under which the resource consent conditions may be reviewed, provided that any review of a consent condition specifying the Nitrogen Discharge Allowance shall only occur when regional plan provisions have been made operative which specify a new target for the amount of nitrogen entering Lake Taupō and which requires that target to be achieved by the reduction of the Nitrogen Discharge Allowance specified in any resource consent	There should be a Matter of Control which provides for reviews of consents. However the current clause iv) is very restrictive and could prevent the consent reviews needed to update consents to use the most recent versions of Overseer. This plan change shows how the current review clauses were too restrictive to deal with the issue of Overseer version 5.4.3 becoming obsolete. Note that Policy 3c(ii), which provides for consent reviews, is far less restrictive than the review clauses added to the consents. It is therefore recommended that this clause be changed to: "*The circumstances and timeframes under which the resource consent conditions may be reviewed*".
v. The duration of the resource consent	Retain
vi. The circumstances under which resource consents granted under this Rule can be surrendered either in whole or part pursuant to s138 of the RMA	Retain

Notification:
Notice of controlled activity applications received in accordance with this rule does not need to be served.

This advisory note can be retained.

The following additional advisory note is recommended to describe how leasing arrangements will occur:

Leasing of nitrogen:
When a land owner temporarily leases nitrogen to or from another land owner, a temporary 'Nitrogen leasing Overseer Reference Dataset' will be developed for each property subject to the

lease, which reflects the changed Nitrogen Discharge Allowances under the leasing arrangement. On expiry of the lease, both properties will revert to being managed in accordance with the pre-lease Overseer Reference Datasets.

Controlled Activity Rule 3.10.5.8 – Offsetting (Trading) a Nitrogen Discharge Allowance to Low Leaching Land

The current rule is as follows:

Any use of land in the Lake Taupō catchment that is classified Rural Environment in the Taupō District Plan and does not meet Rules 3.10.5.1, 3.10.5.2 and 3.10.5.3 and which will increase the leaching of nitrogen from that land, excluding leaching from wastewater systems, is a controlled activity subject to the following conditions, standards and terms:

Advisory Note:

- *This Rule provides for trading of Nitrogen involving currently low nitrogen leaching land. Nitrogen trading involving existing high leaching farms is provided for by Rule 3.10.5.7*

Standards, terms and conditions to be met by applicants to enable them to seek consent under this Rule:

Nitrogen Trading (Offsetting)

a) The proposed increase in nitrogen leaching shall be offset by a corresponding and equivalent decrease in nitrogen leaching on one or more other properties in the Lake Taupō catchment. The amount of nitrogen leaching increase shall determine the Nitrogen Discharge Allowance for the land.

b) Information shall be provided that shows that the corresponding and equivalent decrease in nitrogen leaching is to be secured by way of resource consent granted under this Rule or a s127 change to an existing resource consent.

Standards, terms and conditions to be met by the holders of consents granted under this Rule:

Nitrogen Management Plan

c) Except where the pre-existing activity continues to be permitted by Rule 3.10.5.1, and where the new nitrogen leaching land use authorised by this rule is farming, the application shall include a Nitrogen Management Plan which uses Version 5.4.3 of the OVERSEER™ model to demonstrate that the nitrogen leached from the proposed farming activities complies with the proposed Nitrogen Discharge Allowance for the land.

Matters of Control

Waikato Regional Council reserves control over the following matters:

i) The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land to which the controlled activity consent applies;

ii) The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices represented in the NMP referred to in standard and term c) are altered. The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMP. The NMP shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance. The NMP shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered;

iii) The self monitoring, record keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan;

iv) The circumstances and timeframes under which the resource consent conditions may be reviewed, provided that any review of a consent condition specifying the Nitrogen Discharge Allowance shall only occur when regional plan provisions have been made operative which specify a new target for the amount of nitrogen entering Lake Taupō and which requires that target to be achieved by the reduction of the Nitrogen Discharge Allowance specified in any resource consent;

v) The duration of the resource consent;

vi) The circumstances under which resource consents granted under this Rule can be surrendered either in whole or part pursuant to s138 of the RMA; and

Notification:

Notice of controlled activity applications received in accordance with this rule does not need to be served.

Advisory Notes:

Nitrogen Discharge Allowance

- *Nitrogen Discharge Allowance means the maximum amount of nitrogen allowed to leach from land, as determined in accordance with Rule 3.10.5.3, 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9. A Nitrogen Discharge Allowance will be specified as a condition of any consent granted under this rule and will be described as the kilograms of nitrogen per hectare per year and the total kilograms (or tonnage) of nitrogen per year permitted to be leached from the land to which the consent relates, each year.*

OVERSEER™ Model

- *The OVERSEER™ Model is a nutrient management computer model produced by AgResearch, FertResearch and the Ministry of Agriculture and Forestry, which provides estimates of the annual fate of nitrogen, phosphorus, potassium and other nutrients in kilograms per hectare per year.*

Offsetting Nitrogen

- *Once a Nitrogen Discharge Allowance has been determined for the land to which the consent applies, any further increase in nitrogen leaching must be offset by a corresponding and equivalent decrease in nitrogen on one or more other properties in the Lake Taupō catchment. The increase shall be secured by way of a change to the Nitrogen Discharge Allowance.*
- *If the Nitrogen Discharge Allowance for the land to which the consent applies is to be changed, either through the sale or purchase of a nitrogen discharge entitlement, or through the sale or purchase of part of a farm, the consent holder will first need to either apply for a change to the consented Nitrogen Discharge Allowance pursuant to s127 of the RMA or seek a new consent under Rules 3.10.5.6 or 3.10.5.7.*

Discussion of Rule 3.10.5.8

Rule 3.10.5.8 provides a process for low nitrogen leaching land to have an increased nitrogen allowance through a nitrogen trade or lease.

The initial statement in the rule reads: *Any use of land in the Lake Taupō catchment that is classified Rural Environment in the Taupō District Plan and does not meet Rules 3.10.5.1, 3.10.5.2 and 3.10.5.3 and which will increase the leaching of nitrogen from that land, excluding leaching from wastewater systems, is a controlled activity subject to the following conditions, standards and terms:*

This statement seem ambiguous in that it says land under this rule does not meet the low leaching permitted activities. It is assumed that the intention was that it covered land that was

permitted by permitted rules 3.10.5.1 and 3.10.5.2, but that the land would not be covered by these rules if nitrogen was bought for the land and land use then intensified. The rule would be clearer if worded as follows:

Any use of land in the Lake Taupō catchment that is classified Rural Environment in the Taupō District Plan and does not meet Rules ~~3.10.5.1, 3.10.5.2 and~~ 3.10.5.3 and which will increase the leaching of nitrogen from that land such that Rules 3.10.5.1 and 3.10.5.2 no longer apply, excluding leaching from wastewater systems, is a controlled activity subject to the following conditions, standards and terms:

The following table comments on the rule's standards, terms and conditions:

Standard, term or condition	Comment
Standards, terms and conditions to be met by applicants to enable them to seek consent under this Rule: ***Nitrogen Trading (Offsetting)*** *a) The proposed increase in nitrogen leaching shall be offset by a corresponding and equivalent decrease in nitrogen leaching on one or more other properties in the Lake Taupō catchment. The amount of nitrogen leaching increase shall determine the Nitrogen Discharge Allowance for the land.*	The following changes to this clause are recommended: *The proposed increase in nitrogen leaching shall be offset by a corresponding and equivalent decrease in nitrogen leaching on one or more other properties in the Lake Taupō catchment. The proposed increase and decrease in nitrogen leaching must both be modelled using the most recent version of Overseer. The nitrogen leaching increase, and offsetting decrease, shall be secured by changes to each property's Overseer Reference Dataset, or secured by the development of an Overseer Reference Dataset if the land use was previously permitted. The new reference datasets when modelled through the most recent version of the Overseer Model shall result in total nitrogen leaching no greater than the total modelled nitrogen leaching prior to the trade. ~~The amount of nitrogen leaching increase shall determine the Nitrogen Discharge Allowance for the land.~~*
b) Information shall be provided that shows that the corresponding and equivalent decrease in nitrogen leaching is to be secured by way of resource consent granted under this Rule or a s127 change to an existing resource consent.	This clause is ambiguous in that it states a consent can be gained under this rule to decrease nitrogen leaching. However the rule is expressly to authorise increases in nitrogen leaching. Although not an urgent change, there is probably no harm in fixing it now. The recommendation is that it is changed to read: *Information shall be provided that shows that the corresponding and equivalent decrease in nitrogen leaching is to be secured by way of resource consent granted under ~~this~~ Rule 3.10.5.7 or a ~~s127~~ change to an existing resource consent under section 127 of the RMA.*
Standards, terms and conditions to be met by the holders of consents granted under this Rule:	The following change is recommended to this clause:

Standard, term or condition	Comment
Nitrogen Management Plan *c) Except where the pre-existing activity continues to be permitted by Rule 3.10.5.1, and where the new nitrogen leaching land use authorised by this rule is farming, the application shall include a Nitrogen Management Plan which uses Version 5.4.3 of the OVERSEER™ model to demonstrate that the nitrogen leached from the proposed farming activities complies with the proposed Nitrogen Discharge Allowance for the land.*	*Except where the pre-existing activity continues to be permitted by Rule 3.10.5.1, and where the new nitrogen leaching land use authorised by this rule is farming, the application shall include a Nitrogen Management Plan ~~which uses Version 5.4.3 of the OVERSEER™ model to demonstrate that the nitrogen leached from the proposed farming activities complies with the proposed Nitrogen Discharge Allowance for the land.~~ which shall initially state the farm inputs in the Overseer Reference Dataset. The property is managed thereafter, such that when it is modelled with the most recent version of Overseer, does not result in greater modelled nitrogen leaching than when the property's Overseer Reference Dataset is modelled with the same version of Overseer.*

The following table comments on the rule's matters of control:

Matter of control	Comment
i) The specification of the Nitrogen Discharge Allowance in kgN/ha/year and total kgN/year for the land to which the controlled activity consent applies;	A consent cannot have a specified NDA, given that the NDA will change each time Overseer is updated. Standard and term a) makes it clear that each property needs to have an appropriate Overseer Reference Dataset, which replaces the need for a set NDA. It is recommended that this matter of Control be deleted.
ii) The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices represented in the NMP referred to in standard and term c) are altered. The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMP. The NMP shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance. The NMP shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered;	The following change is recommended: *The requirement for a Nitrogen Management Plan (NMP) for the land to which the controlled activity consent applies if the farm management practices ~~represented by the benchmarking data referred to in standard and term a)~~ are altered.~~The OVERSEER™ Model Version 5.4.3 shall be used to calculate the nitrogen leached from the land to which the controlled activity consent applies inclusive of the altered farm management practices and this shall form the basis of the NMPs. The NMPs shall demonstrate that the nitrogen leached from the proposed farming activities complies with the benchmarked Nitrogen Discharge Allowance.~~ The NMP will demonstrate how the property is to be managed after the farm activities are altered, such that when modelled with the most recent version of Overseer, does not result in greater nitrogen leaching than when the farm's Overseer Reference Dataset is*

Matter of control	Comment
	modelled with the same version of Overseer.The NMP shall be provided to the Waikato Regional Council within 10 working days of the farm management practices being altered.
iii) The self monitoring, record keeping, information provision and site access requirements for the holders of resource consents required to demonstrate ongoing compliance with the Nitrogen Management Plan;	Retain
iv) The circumstances and timeframes under which the resource consent conditions may be reviewed, provided that any review of a consent condition specifying the Nitrogen Discharge Allowance shall only occur when regional plan provisions have been made operative which specify a new target for the amount of nitrogen entering Lake Taupō and which requires that target to be achieved by the reduction of the Nitrogen Discharge Allowance specified in any resource consent;	There should be a Matter of Control which provides for reviews of consents. However the current clause iv) is very restrictive and could prevent the consent reviews needed to update consents to use the most recent versions of Overseer. This plan change shows how the current review clauses were too restrictive to deal with the issue of Overseer version 5.4.3 becoming obsolete. Note that Policy 3c(ii), which provides for consent reviews, is far less restrictive than the review clauses added to the consents. It is therefore recommended that this clause be changed to: "*The circumstances and timeframes under which the resource consent conditions may be reviewed*".
v) The duration of the resource consent;	Retain
vi) The circumstances under which resource consents granted under this Rule can be surrendered either in whole or part pursuant to s138 of the RMA; and	Retain

The following table comments on other matters in Rule 3.10.5.8:

Other matter	Comment
Notification: *Notice of controlled activity applications received in accordance with this rule does not need to be served.*	Retain
Advisory Notes: *Nitrogen Discharge Allowance* • *Nitrogen Discharge Allowance means the maximum amount of nitrogen allowed to leach from land, as determined in accordance with Rule 3.10.5.3, 3.10.5.6, 3.10.5.7, 3.10.5.8 or 3.10.5.9. A Nitrogen Discharge Allowance will be specified as a*	As discussed above, it is no longer appropriate to specify a fixed NDA in the consent. However the NDA concept is still needed, particularly for when a farm is to be subdivided, or an additional land area added, to facilitate nitrogen trading, and to assess whether a property could become a permitted activity under rule 3.10.5.1. It is

Other matter	Comment
condition of any consent granted under this rule and will be described as the kilograms of nitrogen per hectare per year and the total kilograms (or tonnage) of nitrogen per year permitted to be leached from the land to which the consent relates, each year.	recommended that this definition be changed to read: "*Nitrogen Discharge Allowance means the modelled nitrogen leaching when the property's Overseer Reference Dataset is modelled by the most recent version of Overseer™*.
OVERSEER™ Model • *The OVERSEER™ Model is a nutrient management computer model produced by AgResearch, FertResearch and the Ministry of Agriculture and Forestry, which provides estimates of the annual fate of nitrogen, phosphorus, potassium and other nutrients in kilograms per hectare per year.*	This is now out of date as the ownership structure is different, and will likely change in future. It does not seem to service a useful purpose and is recommended to be deleted.
Offsetting Nitrogen • *Once a Nitrogen Discharge Allowance has been determined for the land to which the consent applies, any further increase in nitrogen leaching must be offset by a corresponding and equivalent decrease in nitrogen on one or more other properties in the Lake Taupō catchment. The increase shall be secured by way of a change to the Nitrogen Discharge Allowance.* • *If the Nitrogen Discharge Allowance for the land to which the consent applies is to be changed, either through the sale or purchase of a nitrogen discharge entitlement, or through the sale or purchase of part of a farm, the consent holder will first need to either apply for a change to the consented Nitrogen Discharge Allowance pursuant to s127 of the RMA or seek a new consent under Rules 3.10.5.6 or 3.10.5.7.*	It is useful to have an advisory note about offsetting nitrogen although it will need to be reworded given that the NDA is no longer a set number for the property. Also the concept of nitrogen trading will be different under Overseer FM, than under version 5.4.3 (See discussion of the difference with respect to Rule 3.10.5.7 below). It is recommended that the following wording be used: • *Once ~~a Nitrogen Discharge Allowance has been determined~~ the Overseer Reference Dataset is established for the land to which the consent applies, any further increase in nitrogen leaching must be offset by a corresponding and equivalent decrease in nitrogen on one or more other properties in the Lake Taupō catchment through a formal nitrogen trading process. The increase and corresponding decrease of nitrogen leaching shall be secured ~~by way of a change to the Nitrogen Discharge Allowance~~ by changing each trading property's Overseer Reference Dataset, so that the modelled leaching using the most recent Overseer model reflects the increase or decrease of nitrogen on each of the trading properties.* • *If the ~~Nitrogen Discharge Allowance for the land to which the consent applies~~ Overseer Reference Dataset for a property is to be changed, either through the sale or purchase of a nitrogen discharge entitlement, or through the sale or purchase of part of*

Other matter	Comment
	a farm, the consent holder will first need to either apply for a change to the ~~consented Nitrogen Discharge Allowance~~ Overseer Reference Dataset for the property pursuant to s127 of the RMA or seek a new consent under Rules 3.10.5.6 or 3.10.5.7.
	As with Rule 3.10.5.7, it would be helpful to add a note about how leasing of nitrogen would occur. The following wording is recommended. ***Leasing of nitrogen:*** *When a land owner temporarily leases nitrogen to or from another land owner, a temporary 'Nitrogen leasing Overseer Reference Dataset' will be developed for each property subject to the lease, which reflects the changed Nitrogen Discharge Allowances under the leasing arrangement. On expiry of the lease, both properties will revert to being managed in accordance with the pre-lease Overseer Reference Datasets, or in accordance with Permitted Activity Rules 3.10.5.1 or 3.10.5.2.*

Complying Rule 3.10.5.9 – Land Uses that do not Comply with Rules 3.10.5.1-3.10.5.8

No change required to this rule.

Permitted Rule 3.10.5.10 – Nitrogen, effluent, and fertiliser discharges associated with Land Uses authorised under rules 3.10.5.1 to 3.10.5.9

No change required to this rule.

Permitted Rule 3.1.5.11 – Discharges to air associated with Land Uses authorised under rules 3.10.5.1 to 3.10.5.9

No change required to this rule.

3.10.5.12 Nitrogen Leaching Rates

For the purposes of determining nitrogen leaching amounts under Rules 3.10.5.1 to 3.10.5.9 the following nitrogen leaching rates shall be applied where relevant:

a) Use of land described under Rule 3.10.5.1 has a leaching rate of 8 kilograms per hectare per year

b) Use of land described under Rule 3.10.5.2 has the following leaching rates:

i) Unimproved land (including gorse and broom scrubland) 2 kilograms of nitrogen per hectare per year;

ii) *Non-nitrogen fixing plantation forest land 3 kilograms of nitrogen per hectare per year*

c) *Use of land for farming activities except under Rule 3.10.5.1, that may result in nitrogen leaching from the land and entering water, has a nitrogen leaching rate of an amount calculated using Version 5.4.3 of the OVERSEER™ nutrient budgeting model*

d) *An advanced wastewater system in accordance with Rule 3.10.6.3 has a leaching rate of 3.5 kilograms of nitrogen per year*

e) *A conventional wastewater system in accordance with Rule 3.10.6.4 has a leaching rate of 10.0 kilograms of nitrogen per year*

Discussion of 3.10.5.12 Nitrogen Leaching Rates

3.10.5.12 describes leaching rates to be ascribed in particular rules. Clause a) states that the use of land described under Rule 3.10.5.1 has a leaching rate of 8 kgN/ha/yr. With the move to updated versions of Overseer, this will no longer be correct. An updated Table 3.10.5.1 is proposed for the rule. There is no need to ascribe a particular leaching rate to this table, and in fact the leaching rate would change anyway as Overseer versions are updated. The rule does use a leaching proxy (12 kgN/ha/yr) to be used in consent processes for when properties are changing from permitted to consent status or vice versa. This is intended to simplify these change processes and is not meant to be taken as meaning that actual leaching for permitted activity land use would be 12 kgN/ha/yr, or that modelled leaching of permitted activity land use by different versions of Overseer would actually equate to 12 kgN/ha/yr. It is considered unnecessary (and unnecessarily complex) to explain this in 3.10.5.12. As all information needed is already in Rule 3.10.5.1, it is recommended that 3.10.5.12 a) be deleted.

With respect to 3.10.5.12(b), as noted earlier, rule 3.10.5.2 does not rely on Overseer modelling so does not have to be changed at this stage. There is further work underway to update Overseer modelling of leaching from plantation forests. Until this work is progressed, it is recommended that the leaching figures in 3.10.5.12b) be retained. The figures will need to be reviewed during the more comprehensive Chapter 3.10 review that will follow Plan Change 2.

It is recommended that clause c) be amended to read: *Use of land for farming activities except under Rule 3.10.5.1, that may result in nitrogen leaching from the land and entering water, has a nitrogen leaching rate of an amount calculated using ~~Version 5.4.3~~ the most recent version of the OVERSEER™ nutrient budgeting model.*

Clauses d) and e) can stay as they are given that the 3.5 kgN/yr for advanced wastewater systems and 10 kgN/yr for conventional wastewater systems were determined during the Regional Plan Variation 5 process by an analysis that did not involve Overseer modelling.

Explanation and Principal Reasons for Adopting Methods 3.10.5.1 to 3.10.5.12

It is recommended that this be updated as follows:

Rules 3.10.5.1 to 3.10.5.12 reflect the grandparenting approach to allowing nitrogen discharges, which is dependent on capping existing nitrogen leaching activities ~~at their current rate (averaged since 2001) as of the notification of the Plan~~ at the rates occurring during the original benchmark period, July 2001 to June 2005 . The rules ensure existing land uses are permitted or controlled (granting existing nitrogen leaching) but are locked into meeting standards ensuring no increase in nitrogen leaching. However, nitrogen offsetting has been added to the grandparenting approach to allow land use flexibility and increases in nitrogen leaching where corresponding decreases can be achieved. Development flexibility for forestry and undeveloped land is also provided for. The ability to trade (or offset) with other landowners has also been provided for.

3.10.9 Map of Lake Taupo Catchment

The map in section 3.10.9 had omitted to include a catchment boundary despite the heading of 'Map of Lake Taupo Catchment'. The opportunity of the plan change is taken to update the map by adding the catchment boundaries.