CNI Iwi Land Management Ltd

26 April 2016

The Chief Executive
Bay of Plenty Regional Council
PO Box 364
Whakatāne 3158

Dear Mary Anne

Plan Change 10: Lake Rotorua Nutrient Management

To provide some context for the CNIILML submission on Plan Change 10, we have below some background on the CNI settlement and the function of CNI Iwi Land Management Ltd.

The CNI Forest Land covers approximately 176,000Ha. It includes the lands presently occupied by the Kaingaroa, Whakarewarewa, Horohoro Forests and others. About 3,189 hectares or 7.2% of the Lake Rotorua Catchment is CNI Land.

The CNI Forest Lands are presently subject to Crown Forest Licences (CFLs) for plantation forests. On settlement, 30th of September 2010, the Crown issued termination notices to the licence holders, with a termination period of 35 years. i.e. parts of the CNI land can remain subject to the Crown Forest Licences until 30 September 2045. The forests and their current licence holders are:

- Kaingaroa, Whakarewarewa and Horohoro Forests - Kaingaroa Timberlands, whose interests are managed by Timberlands Ltd.
- Whakarewarewa Tokorangi Forest - the Rotorua District Council.

Land Owner Context

As part of the settlement of the historical claims of Iwi the Central North Island, CNI Forest Lands were vested in CNI Iwi Holdings Limited (CNIIHL) on 1 July 2009, to be held in Trust on behalf of all beneficiaries of the CNI Iwi Collective (in excess of 100,000 people), consisting of:

i. Ngāi Tuhoe; and
ii. Ngāti Manawa; and
iii. Ngāti Rangitihi; and
iv. Ngāti Tuwharetoa; and
v. Ngāti Whakaue; and
vi. Ngāti Whare; and
vii. Raukawa; and
viii. The Affiliate Te Arawa Iwi/Hapu

CNI Iwi Land Management Ltd (CNIILML) is a wholly owned subsidiary company of CNIIHL. It manages the CNI Forest Lands on behalf of and advances the objectives of CNIIHL, in accordance with the Deed of Settlement.

How Land Owner context interacts with the plan development process

The plan development process for Plan Change 10 built on the Bay of Plenty Regional Water and Land Plan (RWLP) Rule 11.

Rule 11 was developed between 2000 – 2004, with most consultation occurring in 2001[1] and Rule 11 finally being made fully operative in 2008. This all occurred prior to CNI lands being returned, and thus prior to the ability for CNIILML to act on behalf of their beneficiaries in advancing their aspirations for their land use.

During the development of Rule 11 the Crown took no interest in the effects of Rule 11 on land use flexibility. Maori land owners consulted at the time were interested in the effects on their land blocks, but not on CNI land. The CNI caretaker (the Crown) did not recognise the constraints being imposed. The main leaseholder (Kaingaroa Timberlands) was only interested in aspects that affected its forestry land use. CNIILML and their interests were thus absent from the Rule 11 process. No red flags were raised to the Regional Council on the issue of the "underutilised" CNI land being locked out of best and highest use, by Rule 11.

Plan Change 10 was developed using a collaborative stakeholder group process, with a CSG composed of people from various sectors and land uses, chosen to represent those would be affected by the rules. This group was called the Stakeholder Technical Advisory Group (STAG). To all intents and purposes this was a replay of the Rule 11 process. CNIILML's interests and concerns were covered by neither the foresters (as CNIILML are not foresters), nor by Maori land interests (as this was focussed on Te Ture Whenua land). As they had no effective voice at the table they have ended up with the most limiting of both worlds. Their first opportunity to be heard in the process was when the discussion draft was released. It appears that none of the issues they raised at that time made their way through into the proposed plan.

The plan outcome

CNIILML supports the primary objective of the Bay of Plenty Regional Council (BOPRC) proposal, which is to improve the water quality of Lake Rotorua. However the means by which that goal is achieved is of grave concern to CNIILML. The rules are not effective and equitable the rules in the way they control the effects of land use that contributing to nitrogen discharge. CNIILML believes that rules should act to incentivise people to replace high nitrogen emitting activities with low nitrogen emitting activities, while retaining for all landowners the ability and flexibility to develop their lands. The rules do not achieve this.

Yours sincerely

AS Te Pou.

Alamoti Te Pou
General Manager CNIILML

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[1] Proposed Regional Water and Land Plan Version 8 Section 32 Record 1.4.2. H/C file 5576 03 and 5576 04

BAY OF PLENTY REGIONAL COUNCIL TOI MOANA

Submission form

Send your submission to reach us by **4:00 pm** on **Wednesday, 27 April 2016.**

Submission number
Office use only

Post:	The Chief Executive Bay of Plenty Regional Council PO Box 364 Whakatāne 3158	**email:**	rules@boprc.govt.nz

Submitter name: CNI Iwi Land Management Ltd

This is a submission on **Proposed Plan Change 10 (Lake Rotorua Nutrient Management) to the BOP Regional Water and Land Plan**.

1 The details of my submission are in the attached table.

2 CNIILML **wishes** to be heard in support of their submission.

E mailed to Bay of Regional Council ***1pm on 27 April 2016***

_____ _____

[*Signature of person making submission or person authorised to sign on behalf of person making submission.]* *Date*
*[NOTE: A signature is **not** required if you make your submission by electronic means.*]

Address for service of submitter: Alamoti Te Pou

CNI Iwi Land Management Ltd

PO Box 1592
Rotorua 3040

Telephone: **Daytime:** 021 641 102 **After hours:** 021 641 102

Email: alamoti@landmanagement.co.nz **Fax: N/A**

Contact person: *[Name and designation if applicable]* Bridget Robson *bridget@eland.co.nz ph 027 224 1574*

http://www.mfe.govt.nz/publications/rma/everyday/plan-submission/.

SUBMISSION POINTS version: 10pm 17/4/16:

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	Whole plan	oppose	Revise the fundamental approach to allocation that is set out in the policies and rules, to replace it with one that uses the fundamental approach of matching land use to natural capital rather than the proposed regime, which is based on averaged sector contributions. Identify in the plan the route to making this transition from present use to natural capital.	The present plan design is a regime fundamentally based on grandparenting, despite being called an "integrated framework". Section 11.7 of the section 32 report identifies several alternative options that were discarded after very little consideration. Tax/charge was covered very sketchily. The only analysis being two reports, one from 1999, the other a 2011 OECD report. Unlike grandparenting, pollution charge/tax is property neutral. A pollution charge incentive structure has all the focus on driving that cost down. Activities must internalise their costs of production, or the land use changes. Charging appears to have been dismissed out of hand, without investigating: • what it might be set at, e.g. it could be progressive • how transitions in level of charge could drive behaviour (e.g. punitive at high /ha levels, none at low levels), • how to divorce it from political interference (using a formula approach set in the plan at the start e.g. like rent reviews on leasehold land) • how it could be used to drive behaviour in the right direction, and how to tune it to meet targets Comparing the level of effort to assess whether a charging regime could work, to the enormous amount of time effort and funds that have gone into trying to make the grandparenting allocation/Overseer regime work shows that a choice was made very early, without adequate consideration of alternatives. It is well known that using cap and trade encourages landholders to calculate how to accumulate the most wriggle room for their industry or themselves

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				CNI believes that other options for driving down N pollution were discarded without adequate consideration. CNI believes that decision to choose grandparent (sector average) allocation regime was made without carrying out any sensitivity analysis of such relevant things as: • Internal Rate of Return (IRR, which was done at 8%, when present rates are closer to 3%, • Price variation for land use products i.e. dairy was calculated on $6.50/kg MS. No analysis has been done on $4/kg MS to see whether the assumptions of the present approach re efficient use of land hold up). Appendix 4 to the section 32 report evaluates the economic benefits of the proposed regime (p 152, 157 - 169), but has no sensitivity analysis on changes to milk solid price or IRR. Such analysis ma have resulted in a different land use being favoured, making grandparenting even less appropriate. Other options have been discarded on the basis that they provide of lack of certainty of outcome. This is an interesting reason to use, in the context of the chosen option. A very large reliance has been put on the accuracy with which the overseer model can show actual leaching. This faith on those numbers bearing a close relationship to actual on-ground processes is not supported by the architects of the model (see reasons on submission point on LR P3c). Using numbers in this context requires considerable analysis of the uncertainty surrounding those numbers, which does not appear to have been done. (See reasons on submission point on LR P3c re errors from version to version). So because numbers appear to be concrete things, the proposed regime uses numbers that can be added up and distributed as allocation. But using numbers without understanding their limitations gives a false sense of confidence in their validity and usefulness.
	Whole plan	oppose	Revise the fundamental approach to allocation, to zero-base the discussion, rather than building policy and a rule set on the inequitable foundation put in place by Rule 11.	Rule 11 was developed between 2000 – 2004, with most consultation occurring in 20011 and Rule 11 finally being made fully operative in 2008. This all occurred prior to CNI lands being returned, and thus prior to the ability for CNIIHL and CNIILML to act on behalf of their beneficiaries in advancing their aspirations for their land use, which covers 7% of the Rotorua Lake catchment. During the development of Rule 11 the Crown took no interest in the effects of Rule 11

[1] Proposed Regional Water and Land Plan Version 8 Section 32 Record 1.4.2. HC file 5576 03 and 5576 04

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				on land use flexibility. Maori land owners consulted at the time were interested in the effects on their land blocks, but not on CNI land. The CNI caretaker (the Crown) did not recognise the constraints being imposed. Its leaseholder (Kaingaroa Timberlands) was only interested in the crop on the land (forestry), and their incentive as a lessor is to have a low land cost. This means that they are not an appropriate advocate for the underlying landholder. No red flags were raised to the Regional Council on the issue of the "underutilised" CNI land being locked out of best and highest use, by Rule 11, or since. The CNIILML strongly opposes this approach to allocate nitrogen. Although the initial allocation is a 'sector average range' approach, it is fundamentally Grandparenting. CNI strongly opposes the use of grandparenting as an allocation mechanism. An initial allocation approach based on 'Grandparenting' is not fair or equitable, and contradicts the effects-based philosophy of the RMA. The inherent inequity of the allocation approach is due to deriving NDAs from Rule 11 benchmarks. A review[2] of the original policy intent of Rule 11 and how efficient and effective it has been at achieving that intent highlighted the known inequities it created. This included the aspect of Rule 11 which ties permitted land use to recent productive use, rather than land use capability or best practice land management. Regarding the equity of land use activities, the report findings note that *"Rule 11 creates inequity in the primary production development potential that is available for undeveloped or under-developed land compared with established intensively farmed properties. This was highlighted by all Key Informants as a negative feature of Rule 11 and needs to be addressed.'* ***To address the inequities created by Rule 11:*** *Re-visit the aspect of Rule 11 which ties permitted land use to recent productive use. Any review should focus not just on actual historical practice but on best practice with respect to minimising nutrient export. The rule framework could acknowledge in some way the benefit that derives from low nutrient export from areas of land that are undeveloped or are in indigenous or exotic forest or are developed to low intensity compared with the land's capability.* ***Nutrient export allocations might be assigned to such land to enable development on a more equitable basis with other developed land in the catchment. Any adjustment to account for this inequity should ensure that the management of nutrient loss from land seeks to reduce it where it is high and set it at levels commensurate with best***

[2] August 2009 by Environmental Management Services Ltd

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				***productive practice compared with other good practice within the catchment**.'* This plan change does not address that fundamental inequity initiated by Rule 11. It is also not clear in the Section 32 report how Part 2 matters and s8 were fully considered, and thus the recent rulings in the Waitangi Tribunal (2012) that economically, Maori have the right to the development of their interests. While this is a secondary consideration to the protection of natural resources, the present rule regime reconfirms and locks in the existing land uses resource grab in the form of pollution "rights", and locks out CNI from any development, in a manner contrary to recent Waitangi Tribunal rulings. The section 32 report considers the effect of the rules on underdeveloped Maori Land in section 11.6 (although this appears to be only the in the context of Te Ture Whenua Land, not settlement returned land) and in appendix 4 pg 155. It does not do a zero-based effects assessment. It only does a comparative assessment based on the previous Rule 11 regime – which did not take great account of Maori interests in general, and predates the CNI land being returned. I.e. it institutionalises an unfair, inequitable, unlawful (in the context of Treaty of Waitangi rulings) regime, and brushes it away. It notes that there are opportunities to explore innovative land use on Maori land, supported by the gorse conversion and incentives programme. It is not clear how this applies to CNIs holdings, as plantation forestry has the lowest possible leaching capability of 2.5kg/Ha N. And the rule structure would make any upwards change from this a non-complying activity.
	Whole plan	oppose	In revising the fundamental approach to allocation, and in order to zero-base the discussion, ensure that all those parties with significant landholdings in the catchment have a place at the table for discussion on any allocation regime.	The development of the rules in the proposed plan was done by a collaborative stakeholder group. This group was well represented by those land uses creating the most pollution, and not represented by those land uses creating the lowest possible amount of pollution. No substantive effort was made to ensure that representation on STaG was correlated to the land area that is subject to these rules. Council's process was to use STaG as a development and testing ground for the allocation framework, policies and rules. Its makeup and interests means that CNI is constrained to reacting to a proposal, to which it has had no input, via a standard Schedule 1 process, along with all other submitters.

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				Council may be complying with the letter of the law, but certainly not the spirit as far as consultation with affected iwi is concerned. During the **preparation** of a proposed policy statement or plan, the local authority concerned shall consult— (a) the Minister for the Environment; and (b) those other Ministers of the Crown who may be affected by the policy statement or plan; and (c) local authorities who may be so affected; and (d) the tangata whenua of the area who may be so affected, through iwi authorities; … Consultation with iwi authorities For the purposes of clause 3(1)(d), a local authority is to be treated as having consulted with iwi authorities in relation to those whose details are entered in the record kept under section 35A, if the local authority— (a) considers ways in which it may foster the development of their capacity to respond to an invitation to consult; and (b) establishes and maintains processes to provide opportunities for those iwi authorities to consult it; and (c) consults with those iwi authorities; and (d) enables those iwi authorities to identify resource management issues of concern to them; and **(e) indicates how those issues have been, or are to be, addressed.** If the CNI estate was a tiny piece of land this absence of particular consultation could perhaps be regarded as an unfortunate oversight, but overlooking a landholder of 3189 Ha, or 7% of the total area is less explicable. Yet CNIILML is utterly left out of the pre-proposed plan negotiations. The land use that gets the lion's share of the allocation, is approximately 5000 Ha. Presented another way, the allocation on over 3000Ha is what a single 125Ha dairy farm is allocated.
	Whole plan	oppose	Revise the fundamental approach to allocation set out in the policies and rules, so it uses the fundamental approach of matching land use to natural capital rather than the proposed regime, which is based on averaged sector contributions.	The plan goes to great lengths to avoid confronting the fact that the level of N leaching from bovine dairying makes it an unsustainable land use in the Rotorua catchment. Instead of directly dealing with that problem it introduces an extremely complicated regime to edge this practice towards N pollution reduction, while heavily constraining all other land uses. It also appears that the incentives fund will be used to prop up this land use. I.e. the plan is actively supporting the continuation of an enterprise that

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			Identify in the plan the route to making this transition from present use to natural capital.	creates a significant externality, and not requiring that it internalise that, in any significant way. Instead it penalises other land users and uses. The methodology used by the plan also creates a value for that pollution "nitrogen discharge entitlements or allowances", which will increase the value of the land on which this activity is carried out. That is a very perverse effect, totally at odds with the direction than plan needs to be seeking. It overrides the principles regarding polluter pays, fairness and equity, and sustainable management. A 'Grandparenting' approach limits the ability of other responsible landowners in the catchment, who have historically minimised their nitrogen emissions, from using and developing their land in a manner that enables them to provide for their wellbeing. It is inequitable. It places the cost of future compliance on those responsible landowners that have historically mitigated the effects, whilst enabling those polluting to continue to pollute. The "grandparenting" approach allows the polluter to provide for their social, economic and cultural wellbeing, but no one else. An allocation approach based on grandparenting proposes to mitigate the adverse effects caused from farming activities by preventing forest land owners and undeveloped landowners from undertaking activities that would have less adverse impacts on the environment than farming. While this approach deals with cumulative effects on the environment, it does so in a manner that is deeply inequitable. It imposes the costs of mitigation on those that have not generated the adverse effect, while allowing those who have caused the adverse effect to continue to do so. A significant mitigation cost is being imposed on the non-polluters while permitting the polluter to continue to pollute. The cost of pollution should be internalised to those activities that are generating the adverse effect. An approach based on 'grandparenting' prevents landowners from undertaking activities that generate greater nitrogen emissions than that currently occurring on individual properties. For land owners with forests on their land, and those with undeveloped land, the approach prevents a change in land use. This constraint is due to the effects generated by other landowners in the catchment, in particular farmers. However for forestry and undeveloped land, it is quite conceivable that a land use change would not generate any significant adverse effects with the exception of increasing nitrogen emissions. It is quite conceivable that such a land use change would result in a minimal increase in nitrogen emissions on a per hectare basis, and far less than that currently emitted by farming activities. In such circumstances, it is only

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				their contribution to total catchment nitrogen emissions that would potentially render them non-complying activities. Undeveloped landowners will have no viable future land use option. Forest owners are constrained to replanting forests. Under an allocation approach based on 'grandparenting' land use options for land under forests are… forests. No alternatives. This reduces the land holder's ability to build in resilience, because they are locked into having all their eggs in one basket. This is contrary to the recent Crown direction to support the greater use of Maori owned land.
5	LR P1	Support	Retain	This overall intent of improving Lake Rotorua water quality by reducing nitrogen inputs to the lake is supported, as is the intent to monitor progress towards the level thought to be a sustainable lake level load.
5	LR P2	Oppose in part	Rename "nitrogen management plans" as "water pollution management plans"	This policy seeks to manage phosphorus loss. To do so through a vehicle named a "**nitrogen** management plan is misleading and confusing. The purpose of the plan is to manage excess nutrients that are causing water pollution. Name them for what they are.
5	LR P3	oppose	Replace the whole approach to determining nitrogen attribution so that it does not rely on OVERSEER for this exercise. Replace the approach labelled "Integrated Framework" with one that does not use any variant of grandparenting nor on an allocation of pollution "rights". Replace with an approach that does not reward the high polluters with large capacity to continue polluting and does not penalise low polluters with allocations that remove any opportunity to make any change to their land use.	OVERSEER is not designed for, or capable of, being used with the level of specificity that this policy requires. To try to do so falls into the trap of false precision, creating a highly misleading level of confidence in the numbers and thus the likely result. OVERSEER is neither accurate nor precise for identifying the amount of N leaching from a given set of farm inputs and processes. To use it as the main basis for policy to allocate N pollution discharge units is deeply flawed. Ideally a measurement device is both accurate and precise, with measurements all close to and tightly clustered around the true value. The accuracy and precision of a measurement process is usually established by repeatedly measuring some traceable reference standard. In the case of overseer this would be at minimum some lysimetric verification on the local soils. This also applies when measurements are repeated and averaged. In that case, the precision of the average is equal to the known standard deviation of the process divided by the square root of the number of measurements averaged. A common convention in science is to express accuracy and/or precision implicitly by means of significant figures. The margin of error is understood to be one-half the value of the last significant place. The false precision with which overseer is being used would give no indication that version to version changes can lead to >100% difference in

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				output numbers. Precision includes: • *Repeatability* — the variation arising when all efforts are made to keep conditions constant by using the same instrument and operator, and repeating during a short time period; and • *Reproducibility* — the variation arising using the same measurement process among different instruments and operators, and over longer time periods. Neither are evident in overseer yet. The leaching figures for version 6.2.0 (April 2015) are approximately half those for version 6.2.1 (November 2015). And there are relativity differences between land uses. With a variance of over 100% it is not credible to use a system that allocates to the decimal place per hectare.
5	LR P3a	Support?	Retain	
5	LR P3b	Oppose in part	Identify that a number generated by the ROTAN model gives an **indication** of the likely load to reduce, but it cannot be used as a definitive number. Policy and methods need to be designed to acknowledge the imperfect precision and accuracy of the data.	ROTAN is not able to accurately or precisely define the quantum of N flowing through the system and thus the quantum of N required to be removed. Relying on this as a definitive baseline number falsely suggests that the number is accurately known, which leads to a false sense that all other nitrogen management numbers can also be accurately defined. None of these numbers are accurately known, so a policy and process that relies on using very tight accounting systems, when the error factor is large and unknown, is deeply flawed. Analysis of ROTAN describes this: *Some of the original model problems remained. These included matching groundwater nitrogen loads owing to uncertainties in the extent of aquifer boundaries, groundwater age, land use patterns and nitrogen export rates. However, the model fit was deemed sufficiently good for scenario modelling. Several alternative versions of the ROTAN model were developed to test the sensitivity of predictions to uncertainties in key model coefficients and input data. These versions were named ROTAN-2 to ROTAN-9. While they were not calibrated as carefully as ROTAN-1* they provided valuable insights into model behaviour and reliability. http://tools.envirolink.govt.nz/case-studies/rotan-nitrogen-loads-to-lake-rotorua/
5	LR P3c	Oppose	Replace policy LR P3c with a policy that matches the attenuation of the soil to the land use i.e. a natural capital approach	Oppose the use of overseer as the sole measure of assessing N stocks and flows Oppose the use of overseer as the mechanism to support an allocation process Oppose the principle and process of allocating nitrogen discharge “allowances”

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			And Require that overseer version 6.2.1 or later is used; (for nitrogen discharge liability unit allocation purposes)	OVERSEER is utterly unsuitable for a very fine grained response to allocating nitrogen capacity to various land users that this policy proposes. It is a useful monitoring device, but it is totally unsuited to being used as a determinative tool in the way that this policy describes. The OVERSEER modelling tool is a black box model (the owners will not allow outside parties to see its workings, explain its workings nor allow any uncertainty or sensitivity analysis to assess its weaknesses). Depending on land use it displays differences in attenuation capacity and thus allowable discharges of up to 300% between updates/versions. It poorly represents the effects of mitigations and it has not been adequately validated for the soil types it is being used on. The only soil types it has been expressly matched to as far as output assessment is concerned are the group 21 soils: the silt loams. These are probably the most benign soils for attenuation of nitrogen, unlike the majority of soils in the Rotorua catchment. It is not appropriate to extrapolate from this one soil type, to guess how other soils with quite different characteristics may react and then use a modelled extrapolated response as the basis for calculating total N loss. It is not appropriate to model expected nitrogen loss without verification via measurement, or without extensive calibration. Several commentators identify the limitations of overseer, including the model owner: *Users input data on their farming practices into Overseer, which uses scientific modelling to estimate how those practices affect nutrient use and gas emissions. Farmers use this data to help improve farm productivity and environmental outcomes. However, Overseer does not measure water quality.* *The owners [of overseer] told us that the validation of Overseer's estimates has not been rigorous enough. They are currently reviewing their validation techniques and introducing new data sets to confirm Overseer's accuracy.* *The TRC argues that the science behind Overseer is uncertain and fails to take into account the uniqueness of each farm. The uncertain science means Overseer fails several policy tests, including relevance, necessity, effectiveness, and efficiency.* http://www.parliament.nz/resource/en-

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				nz/51DBSCH_SCR68054_1/01001b086f8b48ecc6a923322b27707caba0d13b ***Challenges in using OVERSEER information in regulations*** *Like all models used in regulation, there are challenges for regional councils in incorporating OVERSEER numbers into their regulatory processes. Modelled information needs to be applied appropriately according to the limitations of the model. For OVERSEER this includes:* • *How to deal with changes and updates to the model* • *Managing input data quality and auditing* • *Setting user qualification requirements* • *Understanding how often and when to collect information* • *Understanding the model averaging methods* • *Understanding the level of uncertainty in the modelled outputs* http://overseer.org.nz/use-by-regional-councils *NICHOLAS MCBRIDE Last updated 14:33, December 20 2015* *Changes to Overseer meant what may originally have recorded as 20kg of leaching per hectare, would now be estimated at 41kg per hectare. Physically though, the amount was the same…. The current version of Overseer is version 6.2.1.* But BOPRC is using 6.2.0 which is known to significantly underestimate the estimated leaching, based on silt loam. The Rotorua catchment has significant areas of soils with much higher leaching characteristics than silt loams. i.e. there is a double-whammy of inaccuracy.
5	LR P3d	oppose	Delete "the pastoral sector reductions using the Integrated Framework Approach" (IFA) Replace with a system that is consistent with: 1. the effects-based philosophy of the RMA and meets the purpose of the RMA (sustainable use, while meeting this in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being) and 2. the relevant policies of the RPS, particularly policies:	It is not clear why the allocation regime is so heavily weighted on the four principles for deciding the allocation method that the STAG **added** to policy WL 5B (pg 75 s32), rather than the principles of the RPS policy itself. Such a system must avoid picking winners, unlike the IFA which strongly favours bovine dairy farming. This is a land use that appears to be incapable of meeting a long-run sustainable level of N discharge unless it is heavily subsidised by other land uses. The STAG concepts: • No major windfalls for any sector – *but there are significant windfall gains to the highest polluting land use, as they have been allocated over 20 times the limits prescribed on other low leaching land uses, and they can trade these.*

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			IR 1B, IR 3B, IR 4B, IR 5B, IW 1B, IW 2B, IW 3B, IW 5B, IW 6B, WL 1B, WL 5B, WL 6B, 3. Is consistent with policies 21 and 23 of the RWLP 4. Taking a zero-based approach to identifying land use value and efficiency, and not relying on the inherent inequity of the allocation approach due to deriving NDAs from Rule 11 benchmarks. Replace at minimum with an allocation system based on natural capital principles. Preferably replace with a system that uses a hybrid of tradable emission units and fees	• Preference will be given to the allocation approach that has the least overall economic impact – *over what term? And what sensitivity analysis was done to support that this has occurred? The economic analysis done for the s32 was on the basis of $6.50 /kg MS, whereas the price is now $4.* • Existing investment (including in infrastructure, land value, cash investment and in nutrient loss management) will be recognised. These were supposed to be additional to the RPS direction, but it appears that they have actively displaced them. WL 5B required that the principles a-i were regarded in developing a regime to allocate among land use activities the capacity of Rotorua Te Arawa lakes to assimilate contaminants, within the limits established in accordance with Policy WL 3B. (a) Equity/Fairness, including intergenerational equity; (b) Extent of the immediate impact; (c) Public and private benefits and costs; (d) Iwi land ownership and its status including any Crown obligation; (e) Cultural values; (f) Resource use efficiency; (g) Existing land use; (h) Existing on farm capital investment; and (i) Ease of transfer of the allocation. WL 5B did not say that this allocation process would be to allocate all the rights to just the farms. Nor did it suggest that the allocation would favour the highest polluting farms.
5	LR P4i	support	Retain	
5	LR P4ii	Support in part	Identify the purpose or direction of those reviews	
5	LR P4iii	support	Retain	
5	LR P4iv	oppose	Delete	False accuracy Only use overseer as a guidance tool to inform and support direction and trend as it is only a model and it has not been properly calibrated for many of the Rotorua soils.
6	LR P5	oppose	Delete Replace with a regime that uses the WL 5B criteria to determine the allocation, not one that gives pre-eminence to the StaG additional criteria (section	The present allocation regime does not have any clear regard for the principles and considerations of RPS policy WL 5B "Allocating the capacity to assimilate contaminants". There is no assessment of the policy approach against the parameters listed in this

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			10.2.1 of s32 report) or to the highest polluting land uses in the catchment.	policy. Section 10.2.2 of the s32 report lists the alternatives without making any attempt to assess their pros and cons compared to Policy WL 5B. WL 5B (a) The Integrated Framework Approach does not achieve equity or fairness, including intergenerational equity. Instead it provides windfall gains for the highest polluters by allocating them rights to externalise their pollution, which will also be capitalised into their land value, with the tab being picked up by the low polluting land uses and the wider community. Allocating emission rights to enterprises relying on land use introduces the possibility (or likelihood) that those rights become capitalised into the value of the land, creating a whole different value for what should be a cost of polluting. This grandparenting allocation process seems to significantly up the ante for gaming. Not only are industry/enterprise bodies going to lobby hard for allocation regimes that favour their particular industry but there are added incentives to secure allocation between players within an industry. WL 5B (b) The Integrated Framework Approach does not address the extent of the immediate impact, instead it allocates the lion's share of any available nutrient to those activities creating the most immediate impact. WL 5B (d) The Integrated Framework Approach does not support the aspirations of Iwi land ownership including any Crown obligation. This lack is most starkly exposed in how the CNI settlement lands have been treated. They have had no consideration through the process whatsoever. Because it wasn't Maori Land, they missed out on consideration as that stakeholder. Because the crop on the land was forest, it was treated as if the interests of the crop owner and the land owner were in accord. Which they are not. No effort was made to understand this distinction and no effort was made to involve or find to the long term aspiration of the landowner, despite this being 7% of the total catchment area. WL 5B (e) The Integrated Framework Approach assumes that cultural values correspond to Maori Land ownership, and be concurrent with their values. And that was the only group consulted. As a result of the rules CNI is locked forever into the lowest discharging land use. There is no way of changing from plantation forestry, even though the underlying land is capable of a greater range of uses. There is no allocation of discharge units to provide for a broader range of land uses which would enable CNI to increase the resilience of their asset (by having land uses other than planation forestry) for the benefit of the 8 Iwi members and 100,000 beneficiaries. WL 5B (f) The Integrated Framework Approach makes no attempt to calculate the resource use efficiencies (total water footprint) of water required to generate product,

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				sustain crops, or the subsequent loss of assimilative capacity of receiving water through pollution attenuation, for the production of milk solids vs production of meat or animal fibre, vs production of crops (for human or animal consumption) vs production of wood fibre. WL 5B (g) there is complete concord with existing land use, whether or not this land use is appropriate. WL 5B(h) it appears that the incentive scheme may be used to further weight this parameter. Rather than considering whether present capital investment would ever economically and physically be able to meet anticipated nitrogen reductions, it appears that the fund will be used to support this high-leaching land use. WL 5B(i) it is not easy to transfer allocation from heavily polluting land uses to non-polluting land uses. It is not even contemplated. The rules make it impossible. This provides no incentive to come up with low-polluting land uses that might have far greater net worth to the community than the few high polluting land uses that capture all the value of the allocation.
6	LR P6	oppose	Delete. Replace with a methodology that does not rely on false precision of a black box[3] model that is as yet un-validated for Rotorua soils.	False accuracy. See comments on LR P3c. Only use overseer as a guidance tool to inform and support direction and trend. To use overseer as the primary tool for allocation is deeply flawed.
6	LR P7	oppose	Delete. Replace with "to provide for the authorised trading of "Nitrogen discharge **liability units"** between all properties, from July 2022, to encourage water resource use efficiency.	This institutionalises perverse incentives and windfall gains to the largest polluters; directly contrary to the stated objectives of the plan change. The use of the term "Nitrogen loss **entitlements**" is a very strange choice, when the purpose of this whole plan change should be to require land use enterprises to internalise their externalities. Not to send a message that the highest polluting among them are somehow **entitled** to be polluting, in such a way that other land uses are heavily constrained in their actions to benefit these few.
6	LR P8	Support in part	Subject to the change in title to reflect that the purpose is to manage a range of pollutants. Rename "nitrogen management plans" as "water pollution management plans".	This policy seeks to manage phosphorus loss. To do so through a vehicle named a "**nitrogen** management plan is misleading and confusing. The purpose of the plan is to manage excess nutrients that are causing water pollution. Name them for what they are.
6	LR P9a	oppose	Delete	unenforceable
6	LR P9b	support	Retain	

[3] So called because the designers will not allow scrutiny of its workings.

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6	LR P9c	Support in part	Define “intensive land use”	Without a definition of intensive land use this policy is meaningless
6	LR P9d	Support in part	Define “intensive land use”	Without a definition of intensive land use this policy is meaningless
6	LR P9e	oppose	Replace with an input measure rather than relying on an overseer assessment of “no increase in nitrogen loss”	False accuracy. See comments on LR P3c. Only use overseer as a guidance tool to inform and support direction and trend. To use overseer as the primary tool for assessing no increase in nitrogen loss is deeply flawed because: 1. it is so poorly calibrated to Rotorua soils, 2. there are still a number of assumptions that need refining, 3. changes to the algorithms in versions and subversions change not only the total quantity leached, but also the relativity between land uses.
6	LR P9f	oppose	Replace with an input measure rather than relying on an overseer assessment of “no increase in nitrogen loss”	False accuracy. See comments on LR P3c. Only use overseer as a guidance tool to inform and support direction and trend. To use overseer as the primary tool for assessing no increase in nitrogen loss is deeply flawed because: 1. it is so poorly calibrated to Rotorua soils, 2. there are still a number of assumptions that need refining, 3. changes to the algorithms in versions and subversions change not only the total quantity leached, but also the relativity between land uses
6	LR P9g	oppose	Replace with an input measure rather than relying on an overseer assessment of “no increase in nitrogen loss”	False accuracy. See comments on LR P3c. Only use overseer as a guidance tool to inform and support direction and trend. To use overseer as the primary tool for assessing no increase in nitrogen loss is deeply flawed because: 1. it is so poorly calibrated to Rotorua soils, 2. there are still a number of assumptions that need refining, 3. changes to the algorithms in versions and subversions change not only the total quantity leached, but also the relativity between land uses
6	LR P9g	oppose	Change to read “The use of land for ~~farming~~ activities ~~on properties/farming enterprises~~ that can demonstrate low nitrogen loss”.	Forestry is constrained to (b), which has tighter constraints than (g). This locks forestry into no flexibility. There should be the capability for forestry to become other productive enterprises. The present policy is utterly inequitable and unfair.
6	LR P9h	oppose	Add in a requirement that they meet a test of BMP or BPO	All land uses should be operating at BMP or BPO
7	LR P10	Support in part	Add to this policy what the matters the resource consents would consider.	Merely requiring them to state “for the use of land of farming activities” with no direction as to what the intent of the use would be, is insufficient.
7	LR P13	oppose	Delete.	False accuracy

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				Overseer is not capable of being used to accurately determine the nitrogen loss from land, (see commentary re policy LR P3c) so this is a fool's errand. Only use overseer as a guidance tool to inform and support direction and trend.
7	LR P14	Support in part	Retain the concept of using alternative models	Making provision for an alternative methodology is wise, otherwise the whole plan is at the mercy of one model and its techniques.
7	LR P14b	support	Retain	The data quality is crucial. This means it can be used in more than one model, which could be cross-checked against each other for verification of accuracy, and used for trend analysis.
7	LR P15	support	Retain	This information is vital for any form of nutrient management process.
8	LR P16	oppose	Require review clauses be included, that require consent performance track the trend of water quality maintenance or improvement for the lake	Long term consents are only acceptable if they are required to mirror the direction of the remainder of the activities in the catchment in improving their effectiveness of managing their pollution.
8	LR P17	support	Retain	
8	LR M1	support	Retain	
8	LR M2	support	Retain	
8	LR M2a	support	Retain	
8	LR M2b	support	Retain	
8	LR M2c	Support in part	Add (c)(iv) scenario runs of the lake model, ROTAN or Overseer, for sensitivity analysis.	All of these models have assumptions that will affect their outputs. Sensitivity analysis assists in identifying weaknesses in the models, to enable targeting of data collection and on-ground verification of inputs, processes and constants.
8	LR M2d	support	Retain	
8	LR M2e	support	Retain	
8	LR M3	Support in part	Add to …"and a review of consent conditions, <u>to require that consents issued under LR R8, LR R9, LR R10, LR r11 and LR R12 are calibrated to the required water quality targets.</u> or words to like effect	LR M3 needs to be clearly locked to the consents, and the consents need to have review conditions built into them to provide for this response.
9	LR M4	Support in part	Revise to add: <u>this may include initiation of a plan change and a review of thresholds for permitted activities.</u>	Far too vague at present and does not identify course of likely action.
9	LR M5	support	Retain	
9	LR M5a	support	Retain	
9	LR M5b	support	Retain	
9	LR M5c	Support in part	Reword as: Develop and maintain a ~~Nitrogen Discharge Allowance~~ <u>landuse input data register</u> that will <u>allow for</u> monitor<u>ing of</u> catchment wide…	A Nitrogen Discharge Allowance appears to be based on the output from Overseer. Which means it is subject to the vagaries of the changes that various versions of Overseer introduces. It would be better to have a register of the input data, because that raw data can be fed through any version of any model. Data is real, not modified

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				by a range of assumptions in a way that model outputs are.
9	LR M5d	support	Retain	
9	LR M5e	support	Retain	
12	LR R1	oppose	Remove	Unenforceable. There appears to be no data collection process associated with this rule that would enable council to understand compliance with: 1. Effective area 2. Nitrogen inputs 3. Stocking rates
12	LR R2	oppose	Revise to permit forestry to change to other land uses	This rule, combined with the only other rule that appears to apply to land covered with production forestry (LR R12) means that land presently covered in production forestry is locked into production forestry with no possibility of changing to any other land use. This is independent of what the underlying land is capable of. i.e. there may be production forestry on LUC class 3, which has a relatively high versatility, but the land owners cannot use it for anything else, because all nutrient rights have been handed out to the highest polluting activities. This rule renders this versatile land incapable of reasonable use, and places an unfair and unreasonable burden on CNI, the persons having an interest in the land (s85).
12	LR R3a	oppose	Reword LR R3a as "no land use that has a leaching profile of [say] >10kg/Ha N". Add a table to Schedule Three that identifies the leaching profiles of horticulture, cropping, fodder crops, dairy support, drystock and dairying. Refer to the table created in schedule 3 in the rule	The attempt here is to create a de minimus by referring to some activities, prefaced with Commercial. While many of these may be lifestyle blocks with low leaching actually happening, the list of activities is incomplete and only partially related to the problem of leaching. E.g. if someone was to grow a cut and carry fodder crop, or fodder for dairy support, this rule would not trigger a response, even though both of these activities are high leaching.
13	LR R4b	oppose	Reword LR R4b as "no land use that has a leaching profile of [say] >10kg/Ha N". Add a table to Schedule Three that identifies the leaching profiles of horticulture, cropping, fodder crops, dairy support, drystock and dairying. Refer to the table created in schedule 3 in the rule	The attempt here is to create a de minimus by referring to some activities, prefaced with Commercial. While many of these may be lifestyle blocks with low leaching actually happening, the list of activities is incomplete and only partially related to the problem of leaching. E.g. if someone was to grow a cut and carry fodder crop, or fodder for dairy support, this rule would not trigger a response, even though both of these activities are high leaching.
13	LR R5b	support	Retain	
14	LR R6c	support	Retain	
14	LR R6d	support	Retain	
14	LR R7	Support in part	Reword to read "the use of land for low intensity ~~farming activities~~ land use on properties/~~farming enterprises~~ …	

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15	LR R7b	oppose	Delete	It sis not clear why this land use should be excluded from purchasing any nitrogen loss "entitlement", which has been allocated to a different land holder. The redistribution of nitrogen loss entitlements should allow for the most efficient exchange among all land users.
15	LR R8	Support in part	Add to matters that control is reserved over (v) Circumstances that may require a review of a Nitrogen Management Plan or consent conditions including a change to property size, the sale or disposal of land, permanent removal of nitrogen discharge allowance from the catchment, changes to Lake water quality limits changes in lease arrangements, significant farm system changes and subdivision or words to like effect	Most of these matters that constitute circumstances that may require a review of a Nitrogen Management Plan or consent conditions are input matters, but there is no clear link for requiring a review clause or a review of the consent that is associated with output effects. This is necessary in case the type and level of response that the consent allows becomes seriously out of kilter with the requirements for meeting the Lake water quality limits.
16	LR R9	Support in part	Add to matters that control is reserved over (v) Circumstances that may require a review of a Nitrogen Management Plan or consent conditions including a change to property size, the sale or disposal of land, permanent removal of nitrogen discharge allowance from the catchment, changes to Lake water quality limits changes in lease arrangements, significant farm system changes and subdivision or words to like effect	Most of these matters that constitute circumstances that may require a review of a Nitrogen Management Plan or consent conditions are input matters. But there is no clear link for requiring a review clause or a review of the consent that is associated with output effects. This is necessary in case the type and level of response that the consent allows becomes seriously out of kilter with the requirements for meeting the Lake water quality limits.
17	LR R10	Oppose in part	Reword this rule and make consequential changes to other rules, to ensure that there is no limitation on the type of initial land use that may purchase nitrogen loss entitlements.	The structure of the rules at present makes it a permitted activity for the higher leaching land uses to trade among themselves, but it excludes the lowest leaching activities from any such trade. This is inefficient in terms of potential economic outcomes, inequitable, unfair and unreasonable.
18	LR R11	Support in part	Reword as: The use of land ~~for farming activities~~ on properties~~/farming enterprises~~ in the Lake Rotorua	This rule is aimed at those properties within the groundwater but not surface water catchment of the Lake, but its principles could equally be used for other activities than the traditional farming ones that overseer has been designed to model, and to avoid

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			groundwater catchment…	total capture by a trademarked black box model for this whole nutrient loss assessment process.
19	LR R12	Oppose	Reword so that plantation forestry is not permanently locked into plantation forestry land use, with no consideration of the underlying land capability, or create a restricted discretionary rule to allow for land use according to land use capability for land presently in plantation forest.	As non-complying activity test is an extremely high bar, and is included to signal that the consent application is extremely unlikely to be granted. This means that should CNI want to develop any of the land it owns that is presently in production forest, this will be nigh on impossible. For reasons explained in other parts of this submission, CNI has been completely overlooked in both Rule 11 and this rule development process, as far as fairly providing for alternative productive land uses.
20	Definitions Dairy support	oppose	Revise to narrow down what can be regarded as dairy support	Dairy support's NDA is included within the drystock allocation range. But this disguises a massive N leaching range possible with various ways of using airy support land e.g. fodder crops.
21	Definitions Nitrogen discharge allowance	oppose	Rename as Nitrogen discharge ~~allowance~~ as Nitrogen discharge units	Calling an externality that should not be happening an "allowance" sends the wrong signals. Pollution is not allowed. It is particularly not allowed by the RMA s15 and 17.
21	Definitions Nitrogen loss entitlement	Oppose in part	Rename throughout the plan "Nitrogen loss ~~entitlements~~" as "Nitrogen discharge liability units"	Calling an externality that should not be happening an "entitlement" sends the wrong signals. No one is entitled to pollute.
21	Definitions overseer	Oppose in part	Revise the definition to say …commonly referred to as OVERSEER) is a ~~software application~~ model under development, with numerous versions, that can produce substantially different information outputs on the same piece of land with the same input data, and that lacks sensitivity to mitigation changes.	Overseer still needs a lot of verification to make its outputs less variable. To gloss over the variability between versions and sub-versions (releases/upgrades) is to misrepresent and over represent its value as a tool for meeting lake water quality. It also needs substantial verification to be relevant for many of the soil types in the Rotorua catchment. While overseer is a useful tool, the reliance being placed on it in this plan change is too great. Until its accuracy can provide greater confidence that the input and output is accurately representing the real world, the reliance on it must be limited to guidance and advisory, and not be fundamental to rule design.
21	Definitions Property/farming enterprise	Support in part	Clarify that this also applies to forestry land	
21	definitions Reference files	Oppose	Delete the present definition and replace with: The overseer version files that any subsequent version/release or upgrade to Overseer are referenced back to. For lake Rotorua it is 5.4.1.	Overseer is an unstable representation of the biophysical factors and farming systems found within the Rotorua Catchment, thus the definition should not imply that it is a an accurate representation of the Rotorua groundwater processes. Overseer still needs a lot of verification to make its outputs less variable. This definition attempts to manage that large problem of variability between versions and sub-versions (releases/upgrades), by using a particular version as the reference point. To do so makes for a very complicated relationship between the reference version, used for

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				initial N discharge allocation purposes, and subsequent versions which may change that expected discharge amount by up to 300%, and change the distribution of that difference among land uses. That means that there is no certainty for land users as to what reductions they need to make. While overseer is a useful tool, the reliance being placed on it in this plan change is too great. Until its accuracy can provide greater confidence that the input and output is accurately representing the real world, the reliance on it must be limited to guidance and advisory, and not be fundamental to rule design.
22	Sched 1 Table LR 5 Column 2	Oppose	Delete rule 11 status	This plan change should have zero-based the start points for the setting on initial allocations, as Rule 11 relied on a process that was inequitable, unfair, inefficient in its use of land, and unlawful with regard to recent Treaty of Waitangi rulings. See reasons also in whole Plan opposition to the use of Rule 11.
24	Sched 1 Additional matters	Oppose	Include a further additional matter that covers what happens if the overseer version shows a very different reduction either generally or for a particular sector is required.	
27	Sched 3	Oppose in part	Relate items d-g to the relevant subset of area of the property. Reword d as Stocking rate (numbers classes and ages) including a breakdown by month and the effective area these are run	If it is not a stocking rate on effective area, then there is the potential for land users to average out a highly leaching activity over a bigger area.
29	Sched 5 Bullet 1	Oppose in part	Revise to read: Improvement to the model algorithms <u>to improve the accuracy of the input:output relationship</u> and the user interface	
29	Sched 5 Step 1 Overseer reference files	Oppose in part	Require that overseer reference files: 1. are from version 6.2.1 or later, and 2. that the soil type is stated for the hypothetical farms, and 3. that the soil type used for these references files is the most common one for that land use type in the Rotorua catchment, and 4. have been actually calibrated in real conditions (I.e. lysimeter tests have been done to verify the accuracy) for Rotorua climatic conditions.	Overseer has only been verified for silt loam soils, which have a much lower leaching profile than many found in the Rotorua Lakes. To be appropriate for Rotorua and to not underestimate likely leaching, the friable pumice soils should be used as the reference soils. This has to be verified by lysimeter testing, not by extrapolation from other soils. Versions earlier than 6.2.1 significantly overestimate the attenuation capacity of soils, as they model that nitrogen is held in the root zone longer than it plausibly can be, thus significantly underestimating the likely nitrogen leaching problems.
29	Sched 5	Oppose	Replace overseer 6.2.0 with 6.2.1 or later	Versions earlier than 6.2.1 significantly overestimate the attenuation capacity of soils,

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	Step 2			as they model that nitrogen is held in the root zone longer than it plausibly can be, thus significantly underestimating the likely nitrogen leaching problems.
29	Sched 5 Step 2 A 5	Oppose	This way of expressing a required loss - as 1. a percentage of a reference file, 2. which underestimates actual loss (v6.2.0), 3. uses a wrong soil type (silt loam) and 4. is a farm type average based on a hypothetical farm is incredibly complicated, as well as being uncertain.	There are many places that errors would compound in this process described in A5. A model has been pushed well beyond where it is competent to perform, but because it spits out numbers (without any confidence interval associated with those numbers), an unhealthy reliance is being put on the validity of those numbers. This is case of false precision. It is a valiant but vain attempt to quantify the necessary nitrogen discharge reductions, but due to the multiple limitations of the method, it is doomed to failure.
29	Sched 5 Step 2B 7	oppose	Revise to simplify the relationship between the reference file and the subsequent files, having made sure the reference files are entirely relevant to the Lake Rotorua circumstances.	
29	Sched 5 Table LR 8	oppose	Revise the plantation forestry start point to be the all-in average, of 32 NDA rather than the present 2.5 NDA which locks it into no use flexibility at all.	Plantation forestry has a start point and reference file number of 2.5, making it lower than unproductive land (bush and scrub). The rule framework does not allow plantation forestry to leach any more nitrogen than its start point, so it is entirely boxed into a corner. It's not even possible to revert to native forest. This is unfair, inequitable, unreasonable and contrary to the direction of the Waitangi tribunal on the development of Maori land.
32	Sched 6 Para 3	support	retain	
32	Sched 6 B5c	Support in part	State the requirements of effluent systems e.g. that all ponds are sealed.	Effluent systems are compliant with consent conditions gives no guidance to consent officers writing consent conditions about the nature or purpose of those conditions.
34	Sched 7	Oppose	Revise to allow plantation forestry to participate in nitrogen discharge unit trades	The structure of the rules at present makes it a permitted activity for the higher leaching land uses to trade among themselves, but it excludes the lowest leaching activities from any such trade. This is inefficient in terms of potential economic outcomes, inequitable, unfair and unreasonable.