

# Memo

**File No:** 23 10 12

**Date:** 16 May 2016

**To:** Farm Environment Plan CSG Sub-group

**From:** Justine Young, Policy workstream, Healthy Rivers Wai Ora project

**Subject:** **Nitrogen – implications of policy approach that relies on property-level nitrogen limit**

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This memo sets out two of the CSG options and implications for managing nitrogen.

*How nitrogen will be managed in the interim period (Plan Change 1) while preparing for the next plan change*

Why discuss?

1. Staff need to ensure the section 32 is internally consistent.
2. CSG has changed its position on property-level limits for nitrogen between October 2015 and May 2016.

### **Nitrogen options chosen by CSG sub-groups**

In October 2015, CSG intended to manage nitrogen in a similar way to phosphorus, sediment and E.coli. It would rely on rules to prevent land use change and require reductions through mitigations for the four contaminants, with a future allocation regime in the next plan change, containing property-level limits. Landowners get 'fair warning' nitrogen limits are coming, that upwards creep is not acceptable and that the highest nitrogen leaching farms must make reductions now. This is done in policy and guidance documents that inform farm environment plans.

The CSG has recently chosen to put more emphasis on nitrogen, to the extent that landowners will be held to a nitrogen limit in Plan Change 1 rules. The farm plan sub-group is also considering whether to require property-level nitrogen reductions. See red coloured text in rules diagram Appendix 2.

### **Refresher on what needs to occur between 2016 and the next plan change**

WRC and other partners and agencies keep working together, so that when Plan Change 1 is reviewed there is:

1. Good progress to report, where water quality degradation has been halted and turned around as a result of implementing Plan Change 1, including that:
  - a. land use conversion (outside limited areas) is prevented, rules have stopped the most risky practices, and there have been reductions in diffuse contaminants leaving each property

- b. progress is reported on changes to land practices, and acknowledging there are time lags, some changes in the water are starting to be seen
2. Over the next 10 years or so, collect sufficient information to decide new rules for an equitable /'least unfair' allocation
  - a. More knowledge about effect of discharges in different places in the catchment – spatial differences, 'best' use of land from water quality point of view
  - b. Best places and costs for 'large scale' mitigations in each FMU e.g. afforestation and large constructed wetlands
  - c. Research and trials on-farm mitigations and efficient use of nitrogen, for lower environmental footprint pastoral/cropping/ vegetable farms
  - d. Confidence about property-level modelling of diffuse contaminants – using data on nitrogen reference points, ensure modelling can be used by all sectors (OVERSEER and other models).
3. Continue to build up experience and relationships at a co-governance and agency level, to enable an allocation decision to be made (decision will be far reaching, political, likely to be seen as the 'least unfair', rather than seen as equitable by all).

**Implications of nitrogen options from policy and implementation staff perspective.**

Description	Section 32 justification and Policy implications	Implementation
<b>Option 1 Nitrogen is treated the same as phosphorus, sediment and E.coli in the rules</b>		
<p><u>Ensuring reductions</u></p> <p>Policy 2a) requires reductions for all 4 contaminants (in the policy now)</p> <p>Policy 2b) would need to be amended to be consistent with 2a).</p> <p>Could add to policy to specify that “highest emitters of nitrogen over 75<sup>th</sup> percentile will be required to reduce through FEPs”</p> <p>Keep N reference point requirement. Could add P reference point.</p>	<p>Consistency in how all contaminants are dealt with</p> <p>As per 2) above, there is insufficient technical information to decide allocation.</p>	<p>Focus of implementation effort is on looking at all risk factors on farm, and having one process for developing a FEP (as opposed to additional requirements to manage N limit as per Taupo rules)</p>

No specified nitrogen leaching limit in rules		
Link to next Plan change and allocation decision	Purpose of the nitrogen reference point is clear – it is information for the next plan change ‘what is’, rather than ‘what should be’.	
<b>Option 2 Nitrogen is managed using ‘Taupo-style’ rule and other 3 contaminants are managed using FEPs</b>		
<p><u>Ensuring reductions</u></p> <p>As option 1 plus</p> <p>Additional rule requirements to ensure a ‘nitrogen cap and reduce regime’</p> <p>The rolling 5-year average is not exceeded and N reductions are made</p> <p>Transfers of nitrogen could be allowed as long as overall N to the River is not exceeded</p>	<p>A property-level N limit in a rule is an allocation of rights to discharge. Thus, Section 32 would have to address allocation issues (e.g. estimate \$ figure on land value change).</p> <p>Plan Change would contain 2 policy approaches, with different rationale and implementation focus:</p> <ol style="list-style-type: none"> <li>1. Nitrogen policy approach (cap and reduce and allow offsets/trading) is a market instrument. Farmers use OVERSEER, decide their own N mitigations, and as long as they stay under their regulated limit, can transfer to other farmers</li> <li>2. Sediment, phosphorus, microbes approach – ‘activity-based’ where farmers are required to put in specified mitigations to manage land</li> </ol> <p>Additional management effort for nitrogen (for landowners and agencies) has to be able to be justified by the benefit of closely managing one contaminant over other 3, in terms of effects on water</p> <p>Managing to a property-level limit is more precise, and thus</p>	<p>Implications are that a Taupo-style rule is needed if N limit is to be monitored and enforced by WRC. This is additional to the large effort (to farmers &amp; agencies) of implementing FEPs.</p> <p>If Option 2 is chosen, WRC would draw on its experience in implementing Taupo (controlled activity to cap nitrogen) and the recent report on use of Overseer in limit-setting, which means:</p> <ul style="list-style-type: none"> <li>• Nitrogen reference point input data may need greater scrutiny to ensure consistency</li> <li>• OVERSEER version is not specified, instead latest version can be used and a ‘work-around’ for changes is spelt out by WRC</li> <li>• The ‘work around’ for version changes is essential. From farmers point of view, if a nitrogen leaching number is spelt out in a consent and compliance is required with that number, there are changing goalposts most times there is a version change.</li> <li>• Latest legal advice is that cannot have permitted</li> </ul>

	<p>places greater onus on monitoring and compliance effort</p> <p>Trading allowed if TLG advice that spatial differences in the effect on water quality can be managed e.g. if the N discharge point is transferred upstream, this does not have a more adverse effect, or if so, 'trading ratios' are imposed up &amp; downstream</p>	<p>activity if do not specify an OVERSEER version</p>
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### Other considerations CSG has discussed about plan change 1 being an interim approach

In addition to the s32 and implementation comments above, the CSG has noticed that there might be a perception that water quality is not adequately dealt with if there is no N limit. Other regional councils have focused on N limits (ECan, Horizons One Plan, Tukituki -Hawkes Bay).

Counter to this is that CSG:

- Has to put out an interim solution now, and is well placed to stop the riskiest land changes and practices through new rules on land conversion, stock exclusion and ensuring good practice and other mitigations in farm plans.
- Is confident that Farm Environment Plans allow them to reduce both N & P in the interim period, so that water clarity improves (and are relying on TLG report on algal growth and N and P in the River as rationale to focus on both nutrients).
- Does not have all the technical information, and the project does not have the time for detailed allocation discussions now. See 'what needs to happen between now and the next plan change' and note that Bay of Plenty regional Council Rotorua Lakes Plan Change stakeholder group spent 8 months on refining their sector allocation.

Even if CSG decides on Option 1, there may be a perception that as soon as a nitrogen reference point is required, and there are interim controls on land use change (Rule 7 and Rule 2), then the Plan Change has set a grand parented allocation.

Counter to this is the statements in the Plan Change and communications with public and decision-makers, that:

- CSG is taking a long term, staged approach and that restricting land use change and N reference points are interim solutions for stage 1
- Every allocation decision has to start with 'what is being done currently'
- The land use conversion rule could have an 'end date' (see report to CSG 30-31st document 6186222)

## References

Freeman M, Robson M, Lilburne L, McCallum-Clark M, White L, Cooke A, & McNae D. 2016. Working Draft May 2016. Using OVERSEER - Establishing a national approach for the appropriate and consistent use of OVERSEER by regional councils in setting and managing water quality limits, July 2016. Report prepared by Freeman Environmental Ltd for the OVERSEER Guidance Project Board.

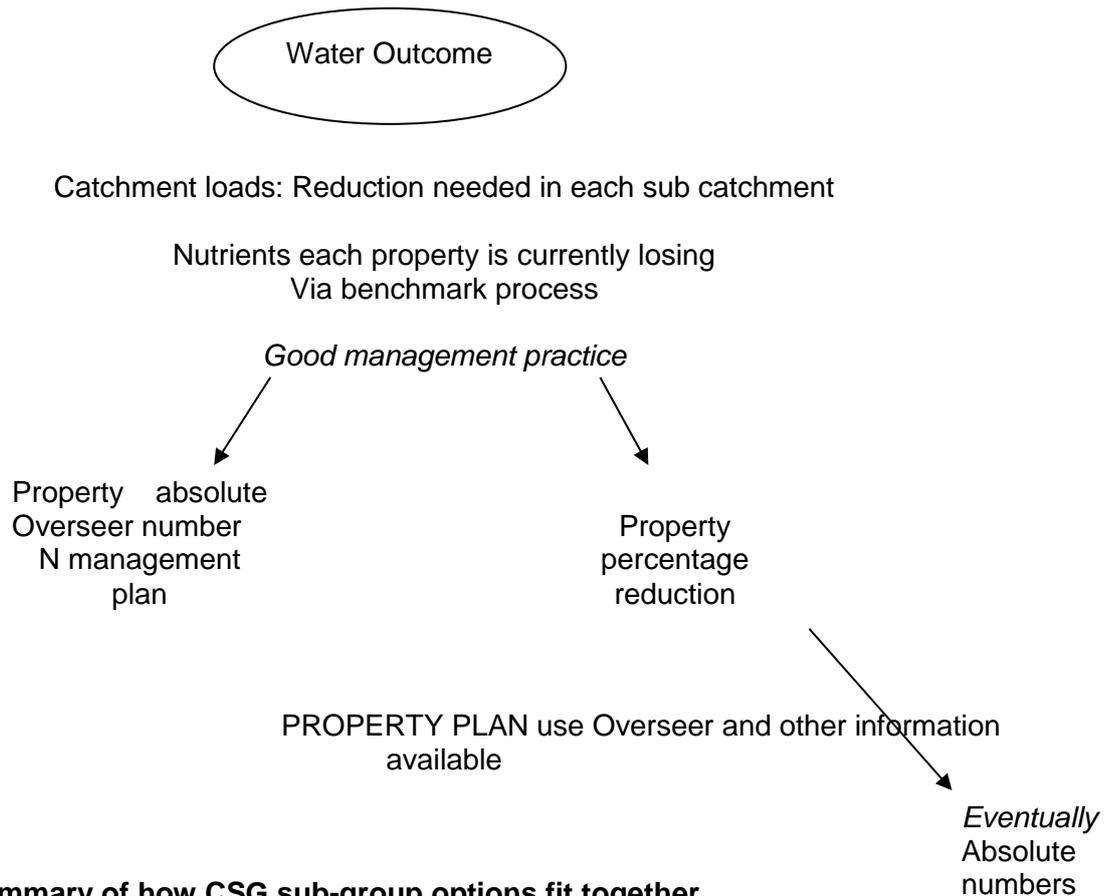
WRC 2014 Report to CSG Taupo Case study February 2014.

WRC 2016 Report to CSG 30-31st Dates and timeline for Plan Change 1 as a transition to allocating property-level limits in the next Plan document 6186222.

## Appendix 1

Reference: CSG subgroup: Managing nitrogen and phosphorus at a property-level] (Doc #3574906 dated 9 October 2015)

In their recommendation in the above report, the CSG agreed with the sub-group concluded they would take the approach on the right hand side of the diagram below. For the 2016 plan change, on balance, the sub-group believe it is **not** necessary or desirable to use an 'absolute' Overseer number.



**Figure 1 Summary of how CSG sub-group options fit together**  
(Diagram from Attachment 1 notes)

In order to know that a water quality outcome in a sub catchment is met, all the property-level nutrient reductions have to be assessed and aggregated to a sub-catchment level. In addition, biophysical processes that occur between the property-level and the surface water have to be accounted for. The sub-group was keen to discuss this further with the Technical Leaders Group.

### Numerical Overseer limit for Nitrogen

A numerical Overseer limit is one where a specific amount of nitrogen (specified as a maximum of kilograms of nutrient per hectare which can be lost per annum) is calculated using Overseer, formally allocated to a property by the Council, and cannot be exceeded other than via a consent. Overseer is used to develop a tailored nutrient management property plan that sets out the actions undertaken by the landowner to:

- (a) ensure that the Overseer number benchmarked is not exceeded, and, if required in the plan change to meet water quality outcomes,

(b) follows actions in the property plan to achieve an agreed reduction in kilograms per hectare per year, over an agreed time frame.  
Compliance action is likely if the specified amount is exceeded or the associated nutrient management plan is not followed.

For the 2016 plan change, on balance, the sub-group believe it is **not** necessary or desirable to use an 'absolute' Overseer number. However, the sub-group did see benefits in considering a numerical Overseer limit in future plan changes, as it gives the public a sense of certainty that water quality limits will be achieved.

The first stage toward achieving the Vision and Strategy will need to deal with implementing the new catchment rules and the considerable task of getting property plans in place across the catchment.

If we take a staged approach to nutrient reductions, but don't choose a numerical Overseer limit for nitrogen, this assumes:

1. There will be mechanisms that control further intensification in the first stage e.g. rules to stop the upward creep of nutrient.
2. All properties will still have to create a benchmark record of their inputs and outputs (for instance, as at 2016) so that there won't be an intentional intensification push in the interim period to 'beat the system'.

**Appendix 2 Rules decision tree with nitrogen ideas in red text**