

HORIZONS REGIONAL COUNCIL

PLAN CHANGE 2 PROVISIONS – COMPARISON OF HORIZONS PROPOSED AMENDMENTS AND PARTIES’ REQUESTED RELIEF

This document:

1. Shows three sets of amended provisions alongside each other:
 - a. Left column: Council’s proposed provisions as provided during hearing week 1 on 22 November 2023
 - b. Middle column: M Scott primary evidence proposed provisions (underlined and struck-out with blue highlight) representing changes from Horizons position).
 - c. Right column: M Scott and G Carlyon proposed provisions for reconvened hearing February 2024:
 - The proposed policy changes have been made to the operative One Plan provisions.
 - Rows where the right hand column has no text (i.e. is empty) this is because the operative One Plan does not have the text recorded in the left and/or middle column, rather it is only from the decisions version of the One Plan.
 - Changes proposed by the Appellants, are shown underlined and struck-out with blue highlight.
2. Uses the comparison table provided by Council during hearing week 1 on 22 November 2023 as a starting point, only adding the right hand column. Consequently the key for Council’s comparison document still applies to the left and right hand columns. It is:

In the provisions that follow:

Text shown in **black** represents the decisions version of PC2.

Text shown in **red** (underlined and struck-out) represents the Council’s proposed provisions, following expert conferencing between planning and farm system experts for the parties and mediation.

Text shown in **red** (underlined and struck-out) and highlighted yellow represents further amendments proposed to Horizons to address matters raised in evidence.

Regional Council provisions as put forward during hearing – 22 November 2023	M Scott primary evidence provisions	M Scott and G Carlyon provisions for reconvened hearing – made to Operative One Plan text
Policy 5-8: Management and regulation of intensive farming <i>land</i>[^] use activities affecting groundwater and surface <i>water</i>[^] quality In order to give effect to Policies 5-3, 5-4, 5-5, 5-6 and 5-7, the effects of intensive farming <i>land</i>[^] use activities on groundwater and surface <i>water</i>[^] quality must be managed in the following manner:	No change	Policy 5-8: Management and regulation of intensive farming <i>land</i>[^] use activities affecting groundwater and surface <i>water</i>[^] quality <i>(note: operative one plan includes no chapeau under this heading. Provisions for reconvened hearing stay with that drafting)</i>
(a) Nutrients (i) Nitrogen leaching maximums must be established in the The regional plan <u>will specify limits¹ that which:</u> (A) <u>minimise the risk of nitrogen leaching loss from intensive farming <i>land</i>[^] use activities;</u> (B) take into account all the sources of nitrogen in the catchment; (C) will contribute to address key sources and pathways of contaminant loss through the implementation of the strategy for surface <i>water</i>[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5 and the strategy for groundwater quality set out in Policy 5-6;	(a) Nutrients (i) <u>Nitrogen leaching maximums must be established in the</u> Nitrogen leaching maximums must be established in the The regional plan <u>will specify limits² that which:</u> (A) <u>minimise the risk of nitrogen leaching loss from intensive farming <i>land</i>[^] use activities;</u> (B) take into account all the sources of nitrogen in the catchment; (C) will contribute to <u>contribute to address key sources and pathways of contaminant loss through the</u> implementation of the strategy for surface <i>water</i>[^] quality set out in	(a) Nutrients (i) Nitrogen leaching maximums must be established in the regional plan which: (A) take into account all the non-point sources of nitrogen in the catchment (B) will achieve the strategies for surface <i>water</i>[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6 (C) recognise the productive capability of <i>land</i>[^] in the Water Management Sub-zone*

(D) recognise the productive capability of <i>land</i>[^] in the <i>Water Management Sub-zone</i>[*]; (E) are achieved <u>achievable</u> on most farms using <i>good management practices</i>[*] and <i>best management practices</i>[*]; (F) provide for appropriate timeframes for achievement.	Policies 5-2, 5-3, 5-4 and 5-5 and the strategy for groundwater quality set out in Policy 5-6; (D) recognise the productive capability of <i>land</i>[^] in the <i>Water Management Sub-zone</i>[*]; (E) are achieved <u>achievable achieved</u> on most farms using <i>good management practices</i>[*] and <i>best management practices</i>[*]; (F) provide for appropriate timeframes for achievement	(D) are achievable on most farms using good management practices (E) provide for appropriate timeframes for achievement where large changes to management practices or high levels of investment are required to achieve the nitrogen leaching maximums.
(ii) Existing intensive farming <i>land</i>[^] use activities must be regulated in targeted <i>Water Management Sub-zones</i>[*] to <u>achieve the limits</u> achieve the nitrogen leaching maximums specified in (i) except as provided for in (iia) and (iib) below.	(ii) Existing intensive farming <i>land</i>[^] use activities must be regulated in targeted <i>Water Management Sub-zones</i>[*] to <u>achieve the limits</u> achieve the nitrogen leaching maximums <u>achieve the nitrogen leaching maximums</u> specified in (i) except as provided for in (iia) and (iib) below.	(ii) Existing intensive farming <i>land</i>[^] use activities must <u>generally</u> be regulated in targeted <i>Water Management Sub-zones</i>[*] to achieve the nitrogen leaching maximums specified in (i).
(iia) Existing intensive farming <i>land</i>[^] use activities which do not comply with (ii) must be regulated to reduce <u>the risk of</u> nitrogen leaching loss from the <i>land</i>[^] to the maximum extent reasonably practicable in the shortest feasible timeframe by implementing measures, including	(iia) Existing intensive farming <i>land</i>[^] use activities which do not comply with (ii) must be regulated to reduce <u>the risk of</u> nitrogen leaching loss <u>loss</u> from the <i>land</i>[^] to the maximum extent reasonably practicable in the shortest feasible timeframe which is in excess of the nitrogen leaching maximums	<u>(iia) For existing intensive land uses that do not achieve the nitrogen leaching maximums established under (i), the regional plan must provide that any consents granted:</u>

¹ The word 'limits', as used in Chapters 5 and 14, has its natural meaning and is not used in the sense used in the National Policy Statement for Freshwater Management 2020.

² The word 'limits', as used in Chapters 5 and 14, has its natural meaning and is not used in the sense used in the National Policy Statement for Freshwater Management 2020.

<i>good management practice</i>*, and additional measures, having regard to:	<u>established under (a)</u> -by implementing measures, including <i>good management practice</i>* <u>and additional measures</u>, having regard to:	
(A) the contribution of the nitrogen leaching loss from the <i>land</i>[^] to cumulative nitrogen leaching loss within the <i>Water Management Sub- zone</i>*; (B) the actual and potential effects of the nitrogen leaching loss from the <i>land</i>[^] on downstream groundwater and surface <i>water</i>[^] quality; (C) the extent of non-compliance with the nitrogen leaching maximums limits specified in (a) (i) and the timing of planned reductions in nitrogen leaching loss from the <i>land</i>[^]; (D) the feasibility, practicality, and cost of implementing measures to achieve the nitrogen leaching limits maximums specified in (a) (i) having regard to the <i>land use capability class</i>* of the <i>land</i>[^]; and (E) the strategy for surface <i>water</i>[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6.	(A) the contribution of the nitrogen leaching loss loss from the <i>land</i>[^] to cumulative nitrogen leaching loss loss within the <i>Water Management Sub- zone</i>*; (B) the actual and potential effects of the nitrogen leaching loss from the <i>land</i>[^] on downstream groundwater and surface <i>water</i>[^] quality; (C) the extent of non-compliance with the nitrogen leaching maximums limits limits specified in (a) (i) and the timing of planned reductions in nitrogen leaching loss loss from the <i>land</i>[^]; (D) the feasibility, and practicality, and cost of implementing measures to achieve the nitrogen leaching limits maximums maximums specified in (a) (i) having regard to the <i>land use capability class</i>* of the <i>land</i>[^]; and (E) <u>the suitability of intensive farming on that land, if there is continued high nitrogen leaching loss; and</u> (F) the strategy for surface <i>water</i>[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the	<u>(A) take into account all the non-point sources of nitrogen in the catchment</u> <u>(B) will achieve the strategies for surface water[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for grounder water quality in Policy 5-6</u> <u>(C) recognise the productive capability of land[^] in the Water Management Sub-zone*</u> <u>(D) are of limited duration.</u>

	strategy for groundwater quality in Policy 5-6.	
(iib) Existing intensive farming <i>land</i> [^] use activities which do not comply with (ii) but which demonstrate the intention to a transition to an alternative non-intensive farming <i>land</i> [^] use must be regulated to ensure that they are able to continue for a period not exceeding five years in order to enable that transition and only where it can be demonstrated that there is no increase in the <u>risk of</u> nitrogen leaching loss from the existing intensive farming <i>land</i> [^] use activity during that period.	(iib) Existing intensive farming <i>land</i> [^] use activities which do not comply with (ii) but which demonstrate the intention to a transition to an alternative non-intensive farming <i>land</i> [^] use must be regulated to ensure that they are able to continue for a period not exceeding five years in order to enable that transition and only where it can be demonstrated that there is no increase in the <u>risk of</u> nitrogen leaching loss <u>loss</u> from the existing intensive farming <i>land</i> [^] use activity during that period.	Text in middle column no longer sort.
(iii) New intensive farming <i>land</i> [^] use activities must be regulated throughout the Region to achieve the nitrogen leaching maximums specified in (i).	No change	No change – text as set out in left column same as operative One Plan.
(b) Faecal contamination (i) Those persons carrying out existing intensive farming <i>land</i> [^] use activities in the targeted <i>Water Management Sub-zones</i> * listed in Table 14.1 or new conversions to intensive farming <i>land</i> [^] use activities anywhere in the Region must be required, amongst other things, to:	No change	No change – accept provision as amended in decisions version. Changes to operative One Plan shown below. (c) Faecal contamination (i) Those persons carrying out existing intensive farming <i>land</i> [^] use activities in the targeted <i>Water</i>

(A) prevent cattle access to some surface <i>water bodies</i>[^] and their <i>beds</i>[^] (B) mitigate faecal contamination of surface <i>water</i>[^] from other entry points (eg., run-off from races, feed pads and paddocks) (C) establish programmes for implementing any required changes.		<i>Management Sub-zones</i>[*] listed in Table 14.1 or new conversions to intensive farming <i>land</i>[^] use activities anywhere in the Region must be required, amongst other things, to: (D) prevent cattle access to some surface <i>water bodies</i>[^] and their <i>beds</i>[^] (E) mitigate faecal contamination of surface <i>water</i>[^] from other entry points (<u>eg., run-off from races, feed pads and paddocks</u>) (F) establish programmes for implementing any required changes.
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(d) Sediment (i) In those <i>Water Management Sub-zones*</i> where agricultural <i>land^</i> use activities are the predominant cause of elevated sediment levels in surface <i>water^</i>, the Regional Council will promote the preparation of voluntary management plans under the Council's Sustainable Land Use Initiative or Whanganui Catchment Strategy for the purpose of reducing the risk of <i>accelerated erosion*</i>, as described in Chapter 4.	No change	No change – text as set out in left column same as operative One Plan.
(e) <i>Good management practices*</i> All intensive farming <i>land^</i> use activities must be regulated to, as a minimum, implement <i>good management practices*</i> to <u>manage</u> minimise the risk of nutrient leaching and run-off, faecal contamination, and sediment losses.	(f) <i>Good management practices*</i> All intensive farming <i>land^</i> use activities must be regulated to, as a minimum, implement <i>good management practices*</i> to <u>manage</u> <u>manage minimise the risk of</u> nutrient leaching and run-off, faecal contamination, and sediment losses.	No change – provision supported same as support in M Scott primary evidence. Provision not in operative One Plan, introduced by decisions version. (g) <i>Good management practices*</i> All intensive farming <i>land^</i> use activities must be regulated to, as a minimum, implement <i>good management practices*</i> to manage the risk of nutrient leaching and run-

		off, faecal contamination, and sediment losses.
Method 5-12 Innovative Land Use Research Description Support initiatives by local communities, sector groups or tangata whenua which develop options for sustainable land use in the Region. Support for work in <i>Water Management Sub-zones*</i> where nitrogen leaching is an issue, as identified in Table 14.1, will be a priority in order to find viable options (including nitrogen loss leaching mitigation options) for intensive farming land users that will have difficulty in reducing the risk of nitrogen leaching loss to the extent necessary to achieve the nitrogen leaching maximums-limits specified in the One Plan rules. Horizons will provide assistance through providing data and information that will assist in the identification and evaluation of innovative nitrogen loss leaching mitigations or land use options and participating in any evaluative work as appropriate.	Method 5-12 Innovative Land Use Research Description Support initiatives by local communities, sector groups or tangata whenua which develop options for sustainable land use in the Region. Support for work in <i>Water Management Sub-zones*</i> where nitrogen leaching is an issue, as identified in Table 14.1, will be a priority in order to find viable options (including nitrogen loss leaching mitigation options) for intensive farming land users that will have difficulty in reducing the risk of nitrogen leaching loss loss to the extent necessary to achieve the nitrogen leaching maximums-nitrogen leaching maximums-limits specified in the One Plan rules. Horizons will provide assistance through providing data and information that will assist in the identification and evaluation of innovative nitrogen loss leaching mitigations or land use options and participating in any evaluative work as appropriate.	No change – provision supported same as support in M Scott primary evidence. Provision not in operative One Plan, introduced by decisions version. Method 5-12 Innovative Land Use Research Description Support initiatives by local communities, sector groups or tangata whenua which develop options for sustainable land use in the Region. Support for work in <i>Water Management Sub-zones*</i> where nitrogen leaching is an issue, as identified in Table 14.1, will be a priority in order to find viable options (including nitrogen leaching mitigation options) for intensive farming land users that will have difficulty in reducing nitrogen loss to the extent necessary to achieve the nitrogen leaching maximums specified in the One Plan rules.

		Horizons will provide assistance through providing data and information that will assist in the identification and evaluation of innovative nitrogen leaching mitigations or land use options and participating in any evaluative work as appropriate.
Method 5-13 Provision of Information Description Horizons will collate and publish information regarding Overseer and the identification and evaluation of nutrient management models and nitrogen leaching loss risk assessment methods other than Overseer that may be more appropriate for calculation of the effects of risk of on-farm nutrient losses when considering applications for consent and in compliance monitoring. Horizons will register and maintain Overseer files for synthetic farm systems simulating the range of intensive farming land uses regulated under the One Plan. Horizons will make publicly available the estimated nitrogen leaching loss values for those synthetic farm systems, including values amended by Overseer version updates. Horizons will have regard to the impact of Overseer version updates, (as demonstrated by changes in the estimated nitrogen leaching loss values of the	Method 5-13 Provision of Information Description Horizons will collate and publish information regarding Overseer Overseer and and the identification and evaluation of nutrient management models and nitrogen leaching loss risk loss assessment methods other than Overseer that may be more appropriate for calculation of the effects of risk of on-farm nutrient losses when considering applications for consent and in compliance monitoring. Horizons will register and maintain Overseer files for synthetic farm systems simulating the range of intensive farming land uses regulated under the One Plan. Horizons will make publicly available the estimated nitrogen leaching loss values for those synthetic farm systems, including values amended by Overseer version updates. Horizons will have regard to the impact of Overseer version updates, (as demonstrated by changes in the	No change to provision as supported in M Scott primary evidence (middle column). (Provision not in operative One Plan, introduced by decisions version.)

<u>synthetic farms over time), when considering applications for consent for IFLU activities and in compliance monitoring.</u>	<u>estimated nitrogen leaching loss values of the synthetic farms over time), when considering applications for consent for IFLU activities and in compliance monitoring.</u> Horizons will register and maintain Overseer files for synthetic farm systems simulating the range of intensive farming land uses regulated under the One Plan. Horizons will make publicly available the estimated nitrogen leaching loss values for those synthetic farm systems, including values amended by Overseer version updates. Horizons will have regard to the impact of Overseer version updates, (as demonstrated by changes in the estimated nitrogen leaching loss values of the synthetic farms over time), when considering applications for consent for IFLU activities and in compliance monitoring.	
Method 5-13 Provision of Information Target - Horizons will update Table 14.2 to respond to changes in Overseer through a plan change process (where necessary) and will provide clarification within the One Plan of the methodology used to establish the <i>Cumulative Nitrogen Leaching Maximums*</i> in Table 14.2. <u>Horizons will maintain representative Overseer farm system reference files and</u>	Method 5-13 Provision of Information Target Horizons will update Table 14.2 consider whether it needs to respond to changes in Overseer through a plan change process (where necessary) and will provide clarification within the One Plan of the methodology used to establish the <i>Cumulative Nitrogen Leaching Maximums*</i> in Table 14.2.	No change to provision as supported in M Scott primary evidence (middle column). (Provision not in operative One Plan, introduced by decisions version.)

make their base files and nitrogen leaching loss estimates available on its website. • Horizons will recognise the impact of Overseer version upgrades when comparing the outputs from future versions of Overseer with Table 14.2 CNLM values and with nitrogen leaching limits specified in consent conditions, to ensure comparability between Overseer estimates over time. • A list of nutrient management models appropriate for use in intensive farming land is maintained on Horizons' website.	• Horizons will maintain representative Overseer farm system reference files and make their base files and nitrogen leaching loss estimates available on its website. • Horizons will maintain representative Overseer farm system reference files and make their base files and nitrogen leaching loss estimates available on its website. • Horizons will recognise the impact of Overseer version upgrades when comparing the outputs from future versions of Overseer with Table 14.2 CNLM values and with nitrogen leaching limits specified in consent conditions, to ensure comparability between Overseer estimates over time. • A list of nutrient management models appropriate for use in intensive farming land is maintained on Horizons' website.	
Policy 14-3: Good management practices* When making decisions on <i>resource consent</i>[^] applications, and setting consent conditions, for activities affecting groundwater and surface <i>water</i>[^] quality, the Regional Council must require the implementation of have regard to <i>good management practices*</i>, and additional measures to reduce for decreasing nitrogen leaching, to the extent that those <i>good management practices*</i> and measures address the matters in Policies 14-1, 14-2, 14-4, 14-5 and	Policy 14-3: Good management practices* When making decisions on <i>resource consent</i>[^] applications, and setting consent conditions, for activities affecting groundwater and surface <i>water</i>[^] quality, the Regional Council must require the implementation of have regard to <i>good management practices*</i>, and additional measures to reduce for decreasing nitrogen leaching, to the extent that those <i>good management practices*</i> and measures address the matters in Policies 14-1, 14-2, 14-	Return to operative One Plan version, which is: Policy 14-3: Industry-based standards The Regional Council will examine on an on-going basis relevant industry-based standards (including guidelines and codes of practice), recognising that such industry based standards

14-6 and contribute to decreasing contaminant loads in the relevant <i>water management sub-zone</i> *.	4, 14-5 and 14-6 and contribute to decreasing contaminant loads <u>in order to achieve cumulative nitrogen leaching maximum values</u> in the relevant <i>water management sub-zone</i> *.	generally represent current best practice, and may accept compliance with those standards as being adequate to avoid, remedy or mitigate adverse effects^ to the extent that those standards address the matters in Policies 14-1, 14-2, 14-4 and 14-5.
Policy 14-5: Management of intensive farming <i>land</i>^ uses In order to give effect to Policy 5-7 and Policy 5-8, intensive farming <i>land</i> ^ use activities affecting groundwater and surface <i>water</i> ^ quality must be managed in the following manner:	No change	No change – text as set out in left column same as operative One Plan.
(a) The following land uses have been identified as intensive farming <i>land</i> ^ uses: (i) <i>Dairy farming</i> * (ii) <i>Commercial vegetable growing</i> * (iii) <i>Cropping</i> (iv) <i>Intensive sheep and beef</i> *	No change	No change – text as set out in left column same as operative One Plan.
(b) The intensive farming <i>land</i> ^ uses identified in (a) must be regulated where: (i) They are existing intensive farming <i>land</i> ^ uses (i.e. established prior to the date specified in Table 14.1 on	No change	Provision as supported same as supported in M Scott primary evidence. Some parts of provision not in operative One Plan, introduced by decisions version.

which Rule 14-1 had legal effect³), in the targeted <i>Water Management Sub-zones*</i> identified in Table 14. (ii) They are new-intensive farming <i>land^</i> uses, in any <i>Water Management Sub-zones*</i> in the Region (that is, established after the date the Plan had legal effect, which is 24 August 2010 for <i>dairy farming*</i> and 9 May 2013 for <i>commercial vegetable growing*, cropping*</i> and <i>intensive sheep and beef*</i>⁴).		(b) The intensive farming <i>land^</i> uses identified in (a) must be regulated where: (i) They are existing intensive farming <i>land^</i> uses (i.e. <u>established prior to the date specified in Table 14.1 on which Rule 14-1 had legal effect³</u>), in the targeted <i>Water Management Sub-zones*</i> identified in Table 14. (ii) They are new <u>(i.e. established after the Plan has legal effect)</u> intensive farming <i>land^</i> uses, in <u>all any</u> <i>Water Management Sub-zones*</i> in the Region <u>(that is, established after the date the Plan had legal effect, which is 24 August 2010 for dairy farming* and 9 May 2013 for commercial vegetable growing*, cropping* and intensive sheep and beef*⁴).</u>
(c) Nitrogen leaching maximums have been established in Table 14.2.	No change	No change – text as set out in left column same as operative One Plan.
(d) Except as provided for in Policy 14-6(d), existing intensive farming <i>land^</i> uses	(d) Except as provided for in Policy 14-6(d), existing intensive farming <i>land^</i> uses	(d) Existing intensive farming <i>land^</i> uses regulated in accordance with

³ The third column of Table 14.1 specifies the date on which the Plan had legal effect in relation to Rule 14-1 in the targeted *Water Management Sub-zones**.

⁴ As explained in footnote 3 to Table 14.1, the Plan has legal effect in the case of *dairy farming** from 24 August 2010 and for *commercial vegetable growing*, cropping** and *intensive sheep and beef** it has legal effect from 9 May 2013 for the purpose of regulating new intensive farming *land^* use activities under Rules 14-3 and 14-4.

regulated in accordance with (b)(i) must be managed to ensure that the <u>risk of</u> leaching of nitrogen from those <i>land^</i> uses does not exceed one of the <u>limits parameters</u> specified in (i), (ii) or (iii) below:	regulated in accordance with (b)(i) must be managed to ensure that the <u>risk of</u> leaching of nitrogen from those <i>land^</i> uses does not exceed <u>one of the limits parameters parameters</u> specified in <u>(i), (ii) or (iii) below:</u>	(b)(i) must be managed to ensure that the <u>projected long-term average</u> leaching of nitrogen from those <i>land^</i> uses does not exceed the cumulative nitrogen leaching maximum* values for each year contained in Table 14.2, unless the circumstances in Policy 14-6(b) apply.
i. the <i>cumulative nitrogen leaching maximum*</i> values for each year contained in Table 14.2; or ii. <u>The <i>nitrogen leaching risk</i> * calculated in accordance with Schedule [X]; or</u> iii. the lesser of 80% of the land's nitrogen leaching baseline* or the 75th percentile nitrogen leaching loss for the relevant water management zone*; or iii. for <i>commercial vegetable growing*</i>, <u>the <i>nitrogen leaching risk</i> * calculated in accordance with Schedule [Y] and</u> the growing area does not exceed the area of <i>commercial vegetable growing*</i> of the baseline growing period*; and the activity implements good management practice* and best management practice* to achieve, within 3 years of lodgement of the application, a minimum reduction in cumulative nitrogen leaching loss from the	i. <u>the <i>cumulative nitrogen leaching maximum*</i> values for each year contained in Table 14.2; or</u> ii. <u>The <i>nitrogen leaching risk</i> * calculated in accordance with Schedule [X]; or</u> iii. the lesser of 80% of the land's nitrogen leaching baseline* or the 75th percentile nitrogen leaching loss for the relevant water management zone*; or iii. <u>for <i>commercial vegetable growing*</i>, the <i>nitrogen leaching risk</i> * calculated in accordance with Schedule [Y] and the growing area does not exceed the area of <i>commercial vegetable growing*</i> of the baseline growing period*; and the activity implements good management practice* and best management practice* to achieve, within 3 years of lodgement of the application, a minimum reduction in cumulative nitrogen leaching loss from the</u>	Text in middle column superseded. Support Operative version with amendment to (d) (above)

land^ of 35% relative to the baseline growing period*; iv. provided that, in (ii) and (iii) above, the application for consent is lodged no later than 31 December 2022. <u>[the date that is twelve months from the date on which PC2 becomes operative]</u> and the mitigations <u>proposed in the application to reduce nitrogen leaching risk are implemented within two years of the date of the grant of consent.</u>	land^ of 35% relative to the baseline growing period*; iv. <u>provided that, in (ii) and (iii) above, the application for consent is lodged no later than 31 December 2022.</u> <u>[the date that is twelve months from the date on which PC2 becomes operative]</u> and the mitigations <u>proposed in the application to reduce nitrogen leaching risk are implemented within two years of the date of the grant of consent.</u>	
(e) New intensive farming <i>land^</i> uses regulated in accordance with (b) (ii) must be managed to ensure that the leaching of nitrogen from those <i>land^</i> uses does not exceed the <i>cumulative nitrogen leaching maximum*</i> values for each year contained in Table 14.2. (f) Intensive farming <i>land^</i> uses regulated in accordance with (b) must exclude cattle from: (i) A <i>wetland^</i> or <i>lake^</i> that is a <i>rare habitat*</i>, <i>threatened habitat*</i> or <i>at-risk habitat*</i>. (ii) Any <i>river^</i> that is permanently flowing or has an <i>active bed*</i> width greater than 1 metre. (g) All places where cattle cross a river that is permanently flowing or has an <i>active</i>	No change	No change – text as set out in left column same as operative One Plan.

<i>bed</i>* width greater than 1 metre must be culverted or bridged and those culverts or bridges must be used by cattle whenever they cross the river.		
Policy 14-6: Resource consent decision-making for intensive farming <i>land</i>[^] uses When making decisions on <i>resource consent</i>[^] applications, and setting consent <i>conditions</i>[^], for intensive farming <i>land</i>[^] uses the Regional Council must:	No change	No change – text as set out in left column same as operative One Plan.
(a) Ensure the nitrogen leaching from the <i>land</i>[^] is managed in accordance with Policy 14-5. (b) Require implementation of <i>good management practices</i>*, and additional measures where necessary, to manage <u>the risk of</u> nutrient leaching and run-off, faecal contamination and sediment loss, as part of any intensive farming <i>land</i>[^] use.	(a) Ensure the nitrogen leaching from the <i>land</i>[^] is managed in accordance with Policy 14-5. (b) Require implementation of <i>good management practices</i>*, and additional measures where necessary, to manage <u>the risk of</u> nutrient leaching and run-off, faecal contamination and sediment loss, as part of any intensive farming <i>land</i>[^] use.	(a) Ensure the nitrogen leaching from the <i>land</i> is managed in accordance with Policy 14-5. (b) An exception may be made to (a) for existing intensive farming <i>land</i>[^] uses in the following circumstances: i. <u>to enable the transition to an alternative non-intensive farming <i>land</i>[^] use over a period of time not exceeding five years to a use that meets the cumulative nitrogen leaching maximums*</u> where the existing intensive farming <i>land</i>[^] use occurs on land that has 50% or higher of LUC Classes IV to VIII and has an average annual rainfall of 1500 mm or greater; or

		ii. where the existing intensive farming land[^] use cannot meet year 1 the <i>cumulative nitrogen leaching maximums*</i> but a trajectory toward meeting the cumulative nitrogen leaching maximums* within a reasonable timeframe is demonstrated shall be managed through conditions on their resource consent to ensure year 1 cumulative nitrogen leaching maximums* are met within 4 years; or iii. the exceedance of the cumulative nitrogen leaching maximums* is due to the calculation against Table 14-2 over-estimating nitrogen loss, as shown by the results of one or more scientifically robust models that estimate nitrogen loss and the opinion of a person who has a Certificate of Completion in Advanced Sustainable Nutrient Management from Massey University, and a trajectory toward meeting the cumulative nitrogen leaching maximums* within a reasonable timeframe is demonstrated; or.
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		iv. for commercial vegetable growing*, the growing area does not exceed the baseline growing area* and, within 3 years of lodgment of the application, the activity will achieve a minimum reduction in cumulative nitrogen leaching loss from the land^ of 35% relative to the baseline growing period'
		(ba) Where resource consent is sought for an existing intensive farming land used on the basis of the exception specified in Policy 14-6(b) ii. or iv., the decision-maker must: A. consider the contribution of the proposal to the maintenance and enhancement of mana whenua values, including those identified in Schedule B; B. take into account all non-point sources of nitrogen in the catchment; C. consider the extent of non-compliance with the cumulative nitrogen leaching maximums and the timing of planned reductions

		in nitrogen leaching loss from the land; D. be consistent with having more intensive land uses on land units with higher productive capability and discouraging intensive land uses on land units with lower productive capability, based on <i>land use capability class</i>; E. consider potential effects of nutrient leaching and run-off, faecal contamination and sediment losses from the land^ on surface water^ and groundwater receiving environments, recognizing the state, sensitivity and absorptive capacity of the receiving environment and of downstream lakes and wetlands; and F. only grant consent if doing so aligns with the strategies for surface water quality set out in Policies 5-2, 5-3, 5-4, and 5-5, and the strategy for ground water quality in Policy 5-6. _____
(c) Ensure that cattle are excluded from surface <i>water</i> ^ in accordance with Policy	No change	No change - This provision is para (d) in the operative One Plan. Inclusion

14-5 (f) and (g) except where landscape or geographical constraints make stock exclusion impractical. In all cases, the effects of any unavoidable losses of nitrogen, phosphorus, faecal contamination and sediment must be avoided remedied or mitigated by other works or environmental compensation.		with amendment made in decisions version (shown below) is supported however, consider should remain is para (d) not (c). (d) Ensure that cattle are excluded from surface <i>water</i>^ in accordance with Policy 14-5 (f) and (g) except where landscape or geographical constraints make stock exclusion impractical. In all cases, <u>the effects of</u> any unavoidable losses of nitrogen, phosphorus, faecal contamination and sediment must be avoided remedied or mitigated by other works or environmental compensation.
(d) Provide for exceptions to (a) for existing intensive farming <i>land</i>^ uses that exceed the <u>limits parameters</u> specified in Policy 14-5 (d) only where: (i) <i>Good management practices</i>* are implemented in accordance with a <i>nutrient management plan</i>* specifying timelines and N leaching targets, along with additional measures to ensure nutrient leaching and run-off, faecal contamination and	(d) Provide for exceptions to (a) for existing intensive farming <i>land</i>^ uses that exceed the <u>limits parameters</u> <u>parameters</u> specified in Policy 14-5 (d) only where: (i) <i>Good management practices</i>* are implemented in accordance with a <i>nutrient management plan</i>* specifying timelines and N leaching targets, along with additional measures to ensure nutrient leaching and run-off, faecal contamination and sediment losses	Because of numbering reversal above, para (c) as now proposed is recorded here. (c). Where an exception is made to the <i>cumulative nitrogen leaching maximum</i>* the existing intensive farming <i>land</i>^ uses must be managed by consent conditions to ensure: i. Good management practices to minimise the loss of nitrogen,

sediment losses from the <i>land</i>[^] are reduced to the maximum reasonably practicable extent <u>and achieved</u> as soon as <u>practicable reasonably feasible progressively over time</u>; or (ii) The existing intensive farming <i>land</i>[^] use is to continue for no longer than five years in order to enable the transition to an alternative non-intensive farming <i>land</i>[^] use without an increase in nutrient leaching and run-off, faecal contamination and sediment losses from the <i>land</i>[^] over that period of time.	from the <i>land</i>[^] are reduced to the maximum reasonably practicable extent <u>and achieved as soon as practicable reasonably feasible progressively over time</u>; or (ii) The existing intensive farming <i>land</i>[^] use is to continue for no longer than five years in order to enable the transition to an alternative non-intensive farming <i>land</i>[^] use without an increase in nutrient leaching and run-off, faecal contamination and sediment losses from the <i>land</i>[^] over that period of time.	phosphorus, faecal contamination and sediment are implemented. ii. Any losses of nitrogen, which cannot be minimised, are remedied or mitigated, including by other works or environmental compensation. Mitigation works may include but are not limited to, creation of wetland and riparian planted zones. iii. <u>There is no increase in nutrient leaching and run-off, faecal contamination and sediment losses from the <i>land</i>[^]:</u> iv. <u>resource consent is not granted for a period exceeding ten years.</u>
(e) When determining whether to enable an existing intensive farming <i>land</i>[^] use to continue under (d)(i), have particular regard to: (i) <u>The contribution made to the maintenance and enhancement of values held by mana whenua for the relevant catchment.</u> (ii)(iii) The extent of the activity's exceedance of the <u>limits parameters</u> specified in Policy 14-5(d) <u>(i), (ii) or (iii)</u> and the	(e) When determining whether to enable an existing intensive farming <i>land</i>[^] use to continue under (d)(i), have particular regard to: (i) <u>The contribution made to the maintenance and enhancement of values held by mana whenua for the relevant catchment.</u> (ii)(iii) The extent of the activity's exceedance of the <u>limits parameters parameters</u> specified in Policy 14-5(d) <u>(i), (ii) or (iii)</u> and the calculated <u>potential</u>	Text in middle column superseded. Policy considerations proposed set out in (ba).

calculated <u>potential</u> contribution of the nitrogen leaching <u>loss</u> from the <i>land</i>[^] to cumulative nitrogen leaching <u>loss</u> within the relevant <i>Water Management Sub-Zone</i>[*]; (iii)(iii) Proportionality in ensuring that the existing intensive farming <i>land</i>[^] uses that have high risk of nitrogen leaching <u>loss</u> relative to the <u>cumulative nitrogen leaching maximum* values limits specified in Table 14.2</u> relevant limit set out in Policy 14-5 (d) (i) or (ii) are required to make <u>appropriately</u> proportionate reductions in nitrogen leaching <u>loss</u>; (iv) <u>For any application to exceed the limits described in Policy 14-5 (d) (i) or (ii), any rainfall record for the property (and the reliability of that record) and any farm scale assessment of the profile available water of the soils on the property.</u> (v)(iii) Whether further reductions in nitrogen leaching <u>risk</u> are currently possible for the intensive farming <i>land</i>[^] use based on available mitigation measures	contribution of the nitrogen leaching <u>loss</u> <u>loss</u> from the <i>land</i>[^] to cumulative nitrogen leaching <u>loss</u> <u>loss</u> within the relevant <i>Water Management Sub-Zone</i>[*]; (iii)(iii) Proportionality in ensuring that the existing intensive farming <i>land</i>[^] uses that have high risk of nitrogen leaching <u>loss</u> <u>loss</u> relative to the <u>cumulative nitrogen leaching maximum* values limits specified in Table 14.2</u> <u>cumulative nitrogen leaching maximum* values limits specified in Table 14.2</u> relevant limit set out in <u>Policy 14-5 (d) (i) or (ii)</u> are required to make <u>appropriately</u> proportionate reductions in nitrogen leaching <u>loss</u> <u>loss</u>; (iv) <u>For any application to exceed the limits described in Policy 14-5 (d) (i) or (ii), any rainfall record for the property (and the reliability of that record) and any farm scale assessment of the profile available water of the soils on the property.</u> (v)(iii) Whether further reductions in nitrogen leaching <u>risk</u> are currently possible for the intensive farming <i>land</i>[^] use based on available mitigation measures that have been <u>demonstrated tested and</u>	
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that have been <u>demonstrated tested and proven</u> to be effective at farm scale or through farm system modelling, optimisation and analysis of marginal costs and benefits <u>that to</u> determine the range of leaching reductions <u>practicable for the farm system; available;</u> (vi) Consent duration, ensuring that <u>no consent is granted for a duration the duration is limited to a period not exceeding ten years, and a shorter limiting duration to less than ten years duration</u> where continued high <u>risk of cumulative</u> nitrogen leaching from the <i>land</i>[^] <u>remains is planned</u> without progressive reduction through the use of <i>best management practice</i>[*];	<u>proven</u> to be effective at farm scale or through farm system modelling, optimisation and analysis of marginal costs and benefits <u>that to</u> determine the range of leaching reductions <u>practicable for the farm system including reducing the stocking rate; available;</u> (vi) Consent duration, ensuring that <u>no consent is granted for a duration exceeding ten years, and shorter proportionate to the anticipated nutrient leaching from the land, on both a per hectare basis and total nitrogen loss for the farm, above values that contribute to meeting the cumulative nitrogen leaching maximum for the relevant catchment.</u>	
(f) <u>When determining whether to enable an existing intensive farming <i>land</i>[^] use to continue under (d)(i) or (ii), also have regard to:</u> (i) <u>Whether the proposed <i>good management practices</i>[*] innovations and mitigation measures proposed to manage</u>	(f) <u>When determining whether to enable an existing intensive farming <i>land</i>[^] use to continue under (d)(i) or (ii), also have regard to:</u> (i) <u>Whether the proposed <i>good management practices</i>[*] innovations and mitigation measures proposed to manage the risk of nutrient leaching</u>	Text in middle column superseded. Policy considerations proposed set out in (ba) above.

(i) the risk of nutrient leaching and run-off, faecal contamination and sediment losses from the land^Δ represent the best practicable option^Δ to minimise these contaminants, nutrient leaching and run-off, faecal contamination and sediment losses from the land^Δ, having regard to: (i) The feasibility, practicality and financial implications of implementing alternative measures that could achieve the parameters limits described in Policy 14-5(d); (ii) <u>The appropriate length of time to spread the costs of actions and mitigations required to reduce nitrogen loss relative to the scale of the farming business.</u>	and run-off, faecal contamination and sediment losses from the land^Δ represent the best practicable option^Δ to minimise these contaminants, nutrient leaching and run-off, faecal contamination and sediment losses from the land^Δ, having regard to: (i) <u>The appropriate length of time to spread the costs of actions and mitigations required to reduce nitrogen loss relative to the scale of the farming business. The feasibility, practicality and financial implications of implementing alternative measures that could achieve the parameters limits described in Policy 14-5(d);</u>	
(ii) <u>The predicted reduction in risk of nitrogen leaching, towards the limits parameters described in Policy 14-5(d);</u> (D) Whether further reductions are currently possible for the intensive farming land^Δ use based on available mitigation	No change	Text in middle column superseded. Policy considerations proposed set out in (ba) above.

measures that have been tested and proven to be effective at farm scale or through farm system modelling, optimisation and analysis of marginal costs and benefits that determines the range of leaching reductions available existing technologies; (iii) The extent to which the non-compliance with the <i>cumulative nitrogen leaching maximum</i>* specified in Table 14.2 is attributable to updates in versions of OVERSEER;		
(iii) (iv) The nature and characteristics of the <i>land</i>[^], including <i>land use capability class</i>* and productive capability, physical characteristics of the soil including in terms of attenuation capacity, climatic conditions, and topography of the property; (v) The contribution of the progressive reduction in <u>risk of</u> nutrient leaching and run-off, faecal contamination and sediment losses from the <i>land</i>[^], over	Note the proposed deletion of clause (vi) (consent duration) and placement of it into clause (e) (vi) above with different wording.	Text in middle column superseded. Policy considerations proposed set out in (ba) above.

time, to the improvement of <i>water</i>[^] quality within that <i>Water Management Sub-zone</i>* and <u>the need for water quality improvement need for such progressive reduction</u>, by reference to <u>any difference between current state and</u> the relevant Schedule E targets; <u>(vi) Consent duration, ensuring that no consent is granted for a duration the duration is limited to a period not exceeding ten years, and a shorter limiting duration to less than ten years duration where continued high risk of cumulative nitrogen leaching from the <i>land</i>[^] remains is planned without progressive reduction through the use of <i>best management practice</i>*;</u>		
(vi) The potential effects of nutrient leaching and run-off, faecal contamination and sediment losses from the <i>land</i>[^] on surface <i>water</i>[^] and groundwater receiving environments, recognizing the state, sensitivity and absorptive capacity of the receiving environment and of downstream lakes and wetlands; (vii) The surface <i>water</i>[^] management values for the relevant <i>Water Management Sub-zone</i>*, including the values	No change	Text in middle column superseded. Policy considerations proposed set out in (ba) above.

described in Schedule B and in any relevant treaty settlement documents; (viii) The strategy for surface <i>water</i>[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6; (ix) The operational crop rotation requirements of <i>commercial vegetable growing</i>* necessary to avoid soil-borne diseases and maintain crop health; (x) The importance of maintaining food security for New Zealanders to support community well-being; (xi) The <u>scale and likelihood of</u> potential benefits of off-site mitigation measures to address adverse effect of nutrient leaching and run-off, faecal contamination and sediment losses on <i>water</i>[^] quality in the <i>surface water management sub-zone</i>*.		
(g) When determining whether to enable the existing intensive farming land[^] use to continue under (d) (ii), have regard to: (i) measures implemented in accordance with a nutrient management plan* to ensure that nutrient leaching and run-off, faecal contamination and sediment loss from the land[^] do	No change	Text in middle column superseded. Policy considerations proposed set out in (ba) above.

(ii) not increase over the duration of the resource consent^; good management practices* and additional measures that are proposed to avoid, remedy or mitigate the risk of nutrient leaching and run-off, faecal contamination and sediment losses from the land^; (iii) the measures or arrangements necessary, including the nature, timing and sequencing of any steps required, to ensure transition out of the intensive farming use of the <i>land</i>^ by the date of expiry of the <i>resource consent</i>^ and to prevent resumption of that intensive farming activity on the <i>land</i>^.		
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14.1 Rules – Agricultural Activities

Table 14.1 sets out the target *Water Management Sub-zones** where management of existing intensive farming *land*^ use activities must be specifically controlled.

Table 14.1 Targeted *Water Management Sub-zones**

Catchment	Water Management Sub-zone*	Date the Rules of the Plan have legal effect ⁵ in relation to Rule 14-1
Mangapapa	Mangapapa Mana_9b	1 July 2014
Waikawa	Waikawa West_9a Manakau West_9b	1 July 2014
Other south-west catchments (Papaitonga)	Lake Papaitonga West_8	1 July 2014
Mangatainoka	Upper Mangatainoka Mana_8a Middle Mangatainoka Mana_8b Lower Mangatainoka Mana_8c Makakahi Mana_8d	1 July 2015
Other coastal lakes	Northern Manawatu Lakes West_6 Kaitoke Lakes West_4 Southern Wanganui Lakes West_5	1 July 2015
Coastal Rangitikei	Coastal Rangitikei Rang_4	1 July 2015
Lake Horowhenua	Lake Horowhena Hoki_1a Hokio Hoki_1b	1 July 2015
Upper Manawatu above Hopelands	Upper Manawatu Mana_1a Mangatewainui Mana_1b Mangatoro Mana_1c Weber-Tamaki Mana_2a Mangatera Mana_2b Upper Tamaki Mana_3	1 July 2016

⁵ The Plan has legal effect in the case of *dairy farming** from 24 August 2010 and for *commercial vegetable growing**, *cropping** and *intensive sheep and beef** it has legal effect from 9 May 2013.

Catchment	Water Management Sub-zone*	Date the Rules of the Plan have legal effect ⁵ in relation to Rule 14-1
	Upper Kumeti Mana_4 Tamaki-Hopelands Mana_5a Lower Tamaki Mana_5b Lower Kumeti Mana_5c Oruakeretaki Mana_5d Raparapawai Mana_5e	
Manawatu above gorge	Hopelands-Tiraumea Mana_6 Upper Gorge Mana_9a Mangaatua Mana_9c	1 July 2016

Table 14.2 sets out the *cumulative nitrogen leaching maximum** for the *land*[^] used for intensive farming *land*[^] use activities within each specified *land use capability class*^{*}. **The cumulative nitrogen leaching maximum* values in Table 14.2 were derived using Overseer® 6.2.3.**

Note: addition made by decisions version and supported by appellants.

Table 14.2 Cumulative nitrogen leaching maximum* by Land Use Capability Class*

Period (from the year that the rule has legal effect ⁴)	LUC* I	LUC* II	LUC* III	LUC* IV	LUC* V	LUC* VI	LUC* VII	LUC* VIII
Year 1	51	45	40	29	25	24	11	3

Year 5	46	42	35	26	20	16	8	3
Year 10	44	37	32	23	20	16	8	3
Year 20 (applies to new intensive farming <i>land</i> [^] use activities only)	43	35	30	21	19	16	8	3

Note: The appellants seek deletion of percentile and risk tool tables

Table 14.2A 75th Percentile leaching rates by targeted Water Management Sub-zone*		
Catchment	Water Management Sub-zone*	Maximum nitrogen leaching loss rate (kg N/ha/year)
Coastal Rangitikei	Rang_4	32
West Coast lakes, Lake Horowhenua, other coastal lakes	Hoki_1a, 1b; West_4; West_5; West_6; West_8; West_9a, 9b	35
Upper Manawatu and Weber Tamaki (upstream of Tamaki confluence)	Mana_1a, 1b, 1c; Mana_2a, 2b	45

Other Upper Manawatu (Upper Tamaki, Tamaki-Hopelands, Upper Kumeti, Hopelands-Tiraumea, Upper Gorge)	Mana_3; Mana_4; Mana_5a, 5b, 5c, 5d, 5e; Mana_6; Mana_9a, 9b, 9c	45
Mangatainoka	Mana_8a, 8b, 8c, 8d	49

Table 14.2A: Nitrogen Leaching Risk Limits*—Pastoral

The following are the *nitrogen leaching risk limits** for pastoral intensive farming *land*[^] use activities for the purposes of Rule 14.1 and Schedule [Z]:

	Profile Available Water		
Rainfall	151-350mm	61-150mm	0-60mm
Rainfall 1 <1000 mm/year	180	180	130
Rainfall 2 1000-1300 mm/year	180	150	120
Rainfall 3 1300-1600 mm/year	150	130	110
Rainfall 4 >1600 mm/year	150	120	110

Table 14.2B: Nitrogen Leaching Risk Limits*—Commercial Vegetable Growing

The following are the *nitrogen leaching risk limits** for commercial vegetable growing activities for the purposes of Rule 14.1 and Schedule [Z]. The limits prescribed in Table 14.2B apply to both the nitrogen fertiliser practices described in Topic 1 and the soil health practices described in Topic 2 of Schedule [Y]. For the purposes of Rule 14.1, the *nitrogen leaching risk** of the activity must not exceed the largest number of the range specified in Table 14.2B.

	Profile Available Water		
Rainfall	151-350mm	61-150mm	0-60mm
Rainfall 1 <1000 mm/year	21 40 72	21 40 72	52
Rainfall 2 1000-1300 mm/year	21 40 72	21 40 60	48
Rainfall 3 1300-1600 mm/year	60	52	44
Rainfall 4 >1600 mm/year	60	48	44

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification	Appellant proposed changes for reconvened hearing.
14-1 Existing intensive farming land[^] use activities	The use of <i>land[^]</i> pursuant to s9(2) RMA for any of the following types of intensive farming: (i) <i>dairy farming*</i> (ii) <i>commercial vegetable growing*</i> (iii) <i>cropping*</i> (iv) <i>intensive sheep and beef farming*</i> that was existing in the <i>Water Management Sub-zones*</i> listed in and from the dates specified in Table 14.1 and any of the following <i>discharges[^]</i> pursuant to ss15(1) or 15(2A) RMA associated with that intensive farming: (a) the <i>discharge[^]</i> of <i>fertiliser*</i> onto or into <i>land[^]</i> (b) the <i>discharge[^]</i> of <i>contaminants[^]</i> onto or into <i>land[^]</i> from	Controlled	a) The existing intensive farming <i>land[^]</i> use was not granted a resource consent under Rule 14-1 or Rule 14-2 of this Plan prior to 22 July 2019. b) A <i>nutrient management plan*</i> must be prepared for the <i>land[^]</i>, and provided to the Regional Council with the application for <i>resource consent[^]</i> and thereafter as required by any condition of <i>resource consent[^]</i>. c) The activity must be undertaken in accordance with the <i>nutrient management plan*</i> prepared under (b). d) The <i>nutrient management plan*</i> prepared under (b) must demonstrate that: (i) the nitrogen leaching loss from the activity will not exceed the <i>cumulative nitrogen leaching maximum*</i> specified in Table 14.2	Control is reserved over: (a) the contents, implementation and review of the <i>nutrient management plan*</i> for the <i>land[^]</i> (b) <i>irrigation method (where the existing intensive farming land[^] use involves irrigation)</i> <i>(b) compliance with the cumulative nitrogen leaching maximum* specified in Table 14.2 the nitrogen leaching loss from the land[^] and the good management practices* and best management practices* (and additional measures where necessary) to limit nitrogen leaching loss from the land[^] to the rate specified in condition (d) and to avoid, remedy or mitigate nutrient leaching and run-off, faecal</i>	<u>Re: conditions/standards/terms column</u> Retain operative One Plan version <u>Re: control/discretion/non-notification column</u> Retain operative One Plan with the following amendments: Control is reserved over: (a) The <u>contents</u>, implementation <u>and review</u> of the <i>nutrient management plan*</i> <u>for the land[^]</u> (b) compliance with the <i>cumulative nitrogen leaching maximum*</i> specified in Table 14.2 (c) the matters of control in Rule 14-11 (d) avoiding, remedying or mitigating the effects of odour, dust, <i>fertiliser*</i> drift or effluent drift (e) provision of information including the <i>nutrient management plan*</i> (f) duration of consent (g) review of consent <i>conditions[^]</i> (h) compliance monitoring <u>and reporting</u> (i) the matters in Policy 14-9.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification	Appellant proposed changes for reconvened hearing.
	(i) the preparation, storage, use or transportation of stock feed on <i>production land</i>[^] (ii) the use of a <i>feedpad</i>[*] (c) the <i>discharge</i>[^] of <i>grade Aa biosolids</i>[*] or <i>compost</i>[*] onto or into <i>production land</i>[^] (d) the <i>discharge</i>[^] of <i>poultry farm litter</i>[*] onto or into <i>production land</i>[^] (e) the <i>discharge</i>[^] of farm <i>animal effluent</i>[*] onto or into <i>production land</i>[^] (or upon expiry or surrender of any existing consent for that <i>discharge</i>[^]) including: (i) effluent from dairy sheds and <i>feedpads</i>[*]		<u>Note: The Appellants propose deletion of all text (d) (ii) to (iv):</u> (ii) the nitrogen leaching <u>risk for loss from</u> the activity will not exceed <u>the nitrogen leaching risk limit specified in Schedule [X] (for pastoral farming) or Schedule [Y] (for commercial vegetable growing); and a rate that is the lesser of:</u> a. <u>80% of the nitrogen leaching baseline* of the land</u>[^] (which must be achieved by 31 December 2022) <u>and</u> b. <u>the nitrogen leaching loss specified for the relevant Surface Water Management Sub-zone* in Table 14-2A; or</u> (iii) for <i>commercial vegetable growing</i>[*], the growing area does not	<u>contamination and sediment losses from the land</u>[^] (c) the matters of control in Rule 14-11 (d) avoiding, remedying or mitigating the effects of odour, dust, <i>fertiliser</i>[*] drift or effluent drift (e) provision of information including the <i>nutrient management plan</i>[*] (f) duration of consent (g) review of consent <i>conditions</i>[^] (h) compliance monitoring <u>and reporting</u> (i) the matters in Policies 14-5, 14-6 and 14-9. <i>Resource consent</i>[^] applications under this <i>rule</i>[^] will not be notified and written approval of affected persons will not be required (notice of	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification	Appellant proposed changes for reconvened hearing.
	(ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary discharge[^] of contaminants[^] into air pursuant to ss15(1) or 15(2A) RMA. Where the existing intensive farming land[^] use is located partly on land within one or more of the water management sub-zones* listed in Table 14.1 and partly on other land, this rule only applies: (a) if at least 20% of the existing intensive farming land[^] use is located on land within the listed		exceed the <u>baseline commercial growing area*</u>; <u>and, within 3 years of lodgment of the application, the activity will achieve a minimum reduction in cumulative nitrogen leaching loss from the land[^] of 35% relative to the baseline growing period*</u>; (iv) provided that <u>under for the purpose of (d) (ii) and (iii) above, the application for consent is lodged no later than [the date that is twelve months from the date on which PC2 becomes operative] and the mitigations proposed in the application to reduce nitrogen leaching risk will be implemented within two years of the date of the grant of consent. 31 December 2022.</u>	applications need not be served[^] on affected persons).	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification	Appellant proposed changes for reconvened hearing.
	<i>water management sub-zones*</i>; and (b) to the portion of the existing intensive farming <i>land^</i> use that is located within the listed <i>water management sub-zones*</i>.		e) Cattle must be excluded from: (i) <i>wetlands^</i> and <i>lakes^</i> that are a <i>rare habitat*</i> or <i>threatened habitat*</i>, and (ii) the <i>beds^</i> of <i>rivers^</i> that are permanently flowing or have an <i>active bed*</i> width greater than 1 m. f) <i>Rivers^</i> that are permanently flowing or have an <i>active bed*</i> width greater than 1 m, that are crossed by cattle must be bridged or culverted, and the cattle must cross via that bridge or culvert, and run-off originating from the carriageway of the bridge or culvert must be <i>discharged^</i> onto or into <i>land^</i>. g) The <i>discharge^</i> of <i>fertiliser*</i> onto or into <i>land^</i> and any ancillary <i>discharge^</i> of <i>contaminants^</i> into air must comply with the <i>conditions^</i> of Rule 14-5.		

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification	Appellant proposed changes for reconvened hearing.
			h) The <i>discharge</i>[^] of <i>contaminants</i>[^] onto or into <i>land</i>[^] from: (i) the preparation, storage, use or transportation of stock feed on <i>production land</i>[^], or (ii) the use of a <i>feedpad</i>[*] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-6. i) The <i>discharge</i>[^] of <i>grade Aa biosolids</i>[*] or <i>compost</i>[*] onto or into <i>production land</i>[^] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-7. j) The <i>discharge</i>[^] of <i>poultry farm litter</i>[*] onto or into <i>production land</i>[^] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-9.		

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification	Appellant proposed changes for reconvened hearing.
			k) The <i>discharge</i> [^] of farm <i>animal effluent</i> [*] onto or into <i>production land</i> [^] including: (i) effluent from dairy sheds and <i>feedpads</i>[*] (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^], standards and terms of Rule 14-11.		

NOTE: Appellant proposed changes for reconvened hearing:

Accept that Rule 14-2 Restricted Discretionary Activity only applies to Existing intensive farming *land*[^] use activities that do not comply with any of the conditions, standards and terms (e) to (k) of Rule 14-1 (cross-referencing altered to (d) to (j) of Rule 14-1 with the deletion of Horizons proposed 14-1(a)).

Rule 14-2A Existing intensive farming <i>land</i>[^] use	The use of <i>land</i> [^] pursuant to s9(2) RMA for any of the following intensive farming: (i) <i>dairy farming</i> [*]	<u>Discretionary</u>			Agree with provisions to the left except cross-referencing to refer to terms (a) to (c) of Rule 14-1 with the deletion of
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activities not complying with conditions, standards, or terms (a) to (d) (e) of Rule 14-1 or condition (a) of Rule 14-2.	(ii) <i>commercial vegetable growing*</i> (iii) <i>cropping*</i> (iv) <i>intensive sheep and beef farming*</i> that was existing in the <i>Water Management Sub-zones*</i> listed in and from the dates specified in Table 14.1, and any of the following <i>discharges</i>[^] pursuant to ss15(1) or 15(2A) RMA associated with intensive farming, that do not comply with conditions, standards and term (a) to (d) of Rule 14-1 or condition (a) of Rule 14-2.				Horizons proposed 14-1(a).
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- (a) **Discharges not covered by rules** - Agricultural discharges pursuant to ss15(1) RMA that are not covered by the rules above are a **discretionary activity** under Rule 14-30.

Note: Appellants seek deletion of schedules below.

Schedule [X]: How to determine the *nitrogen leaching risk** of existing *intensive farming land uses**

(Pastoral farming)

Applying the Nitrogen Leaching Risk Scorecard

A pastoral farm's *nitrogen leaching risk** shall be determined by:

1. Using the Nitrogen Leaching Risk Scorecard set out below, and in accordance with the explanations and definitions provided, assigning points for the sub-practices under the each of the six topics listed, to the extent they are relevant to the farming system; and
2. In the case of Topic 1 Stock Management, adjusting the Sub-practice (a) points by the applicable percentage in Sub-practice (c);
3. Summing the total number of Sub-practice positive points and deducting the sub-practice negative points for each Topic to generate 6 Topic scores; and
4. Summing all 5 Topic scores to provide a Part A aggregate Topics score; and
5. Determining what, if any, mitigations under Part B are applicable and applying the points and/or percentage adjustments applicable to the Part A aggregate Topic Score to generate the score that is *nitrogen leaching risk**.

PART A: Nitrogen Leaching Risk Scorecard – Pastoral land management practices

Topic 1: Stock Management

(a) Stock Management: Stocking Rate	Points
This sub-practice addresses the number of grazed animals on the land, recognising that a high stocking rate is a key driver for increased nitrogen leaching on farm. The area (hectares) used in the calculation of the stocking rate is the effective area of the dairy farm.	
For the purpose of this Scorecard the effective area is the area of land used for grazing livestock (including the milking platform), cropping or as sacrifice paddocks. Dairy farm is the area of land used for <i>dairy farming*</i> . The stocking rate used for the calculation shall be the peak stocking rate . The peak stocking rate is the highest stocking rate on the farm over the 12-month period. The stock unit (su) values for farmed animals are as listed in Part C of this Schedule.	
≤ 16 su/ha	0
>16 – ≤20 su/ha	20
>20 – ≤28 su/ha	30
>28 – ≤32 su/ha	40
>32 su/ha	50
(b) Stock Management: Pasture Eaten	Points
The Scorecard moderates the stocking rate risk by assessing the total amount of dry matter eaten. It is acknowledged that stocking rate alone as a method of assessing nitrogen loss risk does not account for differences in size and age of animals, both of which will contribute to differences in total dry matter eaten. This sub-practice accounts for differences in	

amount of dry matter eaten and therefore the amount of nitrogen ingested and returned to pasture as urinary N and N in excreta. The expression T DM/ha used below refers to tonnes of dry matter per hectare.	
≤ 10 T DM/ha	5
>10 — ≤12 T DM/ha	10
>12 — ≤14 T DM/ha	20
>14 — ≤16 T DM/ha	40
>16 — ≤18 T DM/ha	60
>18 T DM/ha	80
(c) Stock Management: Wintering Off the Milking Platform This sub practice moderates the stocking rate risk (sub practice (a)) by reducing the points attributed to that Sub practice. This is calculated using the percentage of time animals spend off farm between the months of May – August. For the purpose of this Scorecard, milking platform (MP) means that part of any dairy farm that is used for grazing lactating dairy cows during the milking season and includes the animal effluent disposal area. For the avoidance of doubt, it excludes land used for grazing heifers or the wintering off of dairy cows.	Reduction of peak stocking rate points
>80 — ≤100% animals off MP	-50%
>60 — ≤ 80% animals off MP	-40%
>40 — ≤60% animals off MP	-30%
> 20 — ≤40% animals off MP	-20%
> 0 — ≤ 20% animals off MP	-10%
(d) Stock Management: Wintering Practices: This sub practice considers that extent of time stock are fed using different winter grazing practices. The risk is determined by allocating points on a pro rata basis according to the percentage of time (total hours) animals are kept on, and/or fed, using the listed systems. For the purpose of this Scorecard break feed fodder crop means feeding of stock within an area of pasture or crop (a) within a paddock in which the fence is moved regularly to allow the stock to graze another area of pasture or crop within the paddock; or (b) within a paddock that is subdivided into cells or grid using temporary fencing; and where the stock as moved regularly. An extensive fodder crop means a form of grazing on crop that is not break feed fodder crop. Barn or wintering pad means any hard structure used for feeding livestock from which effluent is captured and directed to an authorised effluent management system.	Points
Off pasture (barn or wintering pad)	-40
On pasture	0
Extensive fodder crop	20
Break feed fodder crop	40

Topic 2: Nitrogen Fertiliser:

(a) Nitrogen Fertiliser: Total N	Points
This sub practice assesses the level of risk associated with nitrogen fertiliser application. The total amount of nitrogen used per annum is the main driver for the nitrogen management risk factor. This is calculated by summing the total amount of nitrogen fertiliser applied annually (kg / ha) across the effective area .	
N Fertiliser applied ≤ 50 kg/ha	0
N Fertiliser applied $>50 - \leq 100$ kg/ha	10
N Fertiliser applied $>100 - \leq 150$ kg/ha	30
N Fertiliser applied $>150 - \leq 175$ kg/ha	50
N Fertiliser applied $>175 - \leq 200$ kg/ha	60
N Fertiliser applied $>200 - \leq 225$ kg/ha	70
N Fertiliser applied $>225 - \leq 250$ kg/ha	90
N Fertiliser applied $>250 - \leq 300$ kg/ha	150
N Fertiliser applied >300 kg/ha	200
(b) Nitrogen Fertiliser: Conversion Efficiency	Points
The conversion efficiency calculates how many kilograms of milk solids are produced per kilogram of nitrogen (N) applied. This sub factor is calculated by simply dividing the total amount of milk solids (kg MS) produced by the total kilograms of nitrogen applied via fertiliser.	
kgMS/kgN Fertiliser >25	-40
kgMS/kgN Fertiliser $>13 - \leq 25$	-20
kgMS/kgN Fertiliser $>9 - \leq 13$	0
kgMS/kgN Fertiliser $>5 - \leq 9$	20
kgMS/kgN Fertiliser ≤ 4.5	40
(c) Nitrogen Fertiliser: Timing of Application:	Points
This sub practice assesses the timing of application of nitrogen fertilisers (which influences nitrogen leaching). The scoring of this sub practice works by grouping each of the farm's nitrogen (N) fertiliser applications into one of the three time periods and recording the highest score of those time periods. (That is, if fertiliser is applied in May-June and in September to April, then this sub practice will attract 40 points).	
N Fertiliser applied September-April	-10
N Fertiliser applied July-August	20
N Fertiliser applied May-June	40
(d) Nitrogen Fertiliser: Average Monthly Application Rates	Points
This sub practice calculates the average amount of N applied in any given month to a block by summing all monthly fertiliser applications. Total nitrogen applied is then divided across the block(s) it was applied to. For example, where an N fertiliser application is applied to multiple blocks in a month, the application is to be pro-rata across the blocks it was applied to. This is necessary because Product A (20% Nitrogen) could be applied every month across Block 1 and Block 2 but Product B (46% Nitrogen) was applied every month across Block 1 only.	

Highest N fertiliser applied is $\leq$ 25 kg/ha	-20
Highest N fertiliser applied is $>$ 25 kg/ha	0

Topic 3: Effluent Management

(a) Effluent Management: Storage	Points
This sub practice is scored according to the extent to which the recommend effluent storage capacity is installed. It is expressed as percentage of the storage calculated using the Dairy Effluent Storage Calculator (DESC). Although the scoring scale provided below in increments 10%, scores should be allocated in accordance with a sliding scale from 0 to 100 based on the percentage of required storage that is provided. That is, if a farm has 95% of the required storage it will attract 5 risk points. The DESC may be accessed at: https://www.dairynzdesc.co.nz	
100% storage	0
90% storage	10
80% storage	20
70% storage	30
60% storage	40
50% storage	50
40% storage	60
30% storage	70
20% storage	80
10% storage	90
No storage	100
(b) Effluent Management: Discharge Application Depth:	Points
The application depth is the volume of effluent discharged to soil. It is measured as the depth following a single effluent irrigation cycle. For the purpose of this scorecard High risk soils and Low risk soils are as described at: https://www.horizons.govt.nz/HRC/media/Media/Soil-Risk-list.pdf	
High risk soils + $\leq$ 10mm	0
High risk soils + $>$ 10mm	20
Low risk soils + $\leq$ 24mm	0
Low risk soils + $>$ 24mm	20
(c) Effluent Management: Disposal Area Without a Feed Pad	Points
The sub practice is scored according to the sufficiency of the effluent disposal area for the farm system. It is calculated simply as the area (hectares) of effluent disposal area per hundred cows, or part thereof. For the purpose of this Scorecard, a feed pad is an area of hard surface used for the regular supplementary feeding and loafing of cattle where the animal effluent is collected for disposal to land in accordance with the rules of this regional plan.	
Disposal area $>$ 4 ha/100 cows (no feed pad)	0

Disposal area >3 — ≤4 ha/100 cows (no feed pad)	10
Disposal area >2 — ≤3 ha/100 cows (no feed pad)	20
Disposal area ≥1 — ≤2 ha/100 cows (no feed pad)	30
Disposal area <1 ha/100 cows (no feed pad)	40
(d) Effluent Management: Disposal Area With a Feed Pad	Points
Disposal area >7ha/100 cows (with feed pad)	0
Disposal area >5 — ≤7 ha/100 cows (with feed pad)	10
Disposal area >3 — ≤5 ha/100 cows (with feed pad)	20
Disposal area ≥1 — ≤3 ha/100 cows (with feed pad)	30
Disposal area <1 ha/100 cows (with feed pad)	40

Topic 4: Imported Feed

(a) Imported N: Total Imported N This sub practice is scored according to the total amount of nitrogen (N) introduced to the farm via all imported supplementary feed divided by the effective area of the farm. The N content of feed can be found at: https://www.dairynz.co.nz/feed/supplements/feed-values/ For the purpose of this Scorecard, imported supplementary feed means any animal feed supplied to animals on a dairy farm that is not grown on that dairy farm.	Points
Total imported N from feed ≤ 40 kg/ha	0
Total imported N from feed >40 — ≤80 kg/ha	20
Total imported N from feed >80 — ≤120 kg/ha	40
Total imported N from feed >120 — ≤160 kg/ha	60
Total imported N from feed > 160 kg/ha	80
(b) Imported N: Average N Content of Imported Supplements This sub practice is scored according to the average N content of the imported supplementary feed. The average % of nitrogen in the total amount of imported supplementary feed is calculated on a pro rata basis.	Points
Imported Feed with average N % ≤ 1.0	0
Imported Feed with average N % >1.0 — ≤ 1.5	3
Imported Feed with average N % >1.5 — ≤ 1.75	6
Imported Feed with average N % >1.75 — ≤ 2.0	9
Imported Feed with average N % >2.0 — ≤ 2.25	12
Imported Feed with average N % >2.25 — ≤ 2.5	15
Imported Feed with average N % >2.5 — ≤ 3.0	18
Imported Feed with average N % > 3.0	20
(c) Imported N: Conversion Efficiency This sub practice calculates the conversion efficiency of nitrogen (N) introduced via imported supplementary feed to product. This measures the efficiency of nitrogen from imported supplementary feed converted into kilograms of milk solids (kg MS).	Points

Kg MS / Kg N from supplements: >50	-40
Kg MS / Kg N from supplements: >30 — ≤50	-20
Kg MS / Kg N from supplements: >20 — ≤30	0
Kg MS / Kg N from supplements: >10 — ≤20	20
Kg MS / Kg N from supplements: ≤10	40

Topic 5: Cropping and Cultivation

(a) Cropping and Cultivation: Minimum Tillage This sub practice assesses the risk of release of mineral nitrogen resulting from cultivation. The total percentage of the farm cultivated using minimum tillage is calculated as the area of minimum tillage divided by the total effective area of the farm.	Points
≤2% of farm cultivated annually	0
>2% — ≤4% of farm cultivated annually	5
>4% — ≤6% of farm cultivated annually	10
>6% — ≤8% of farm cultivated annually	15
>8% — ≤10% of farm cultivated annually	20
>10% — ≤15% of farm cultivated annually	30
>15% — ≤20% of farm cultivated annually	40
>20% of farm cultivated annually	50
(b) Cropping and Cultivation: Conventional Cultivation This sub practice assesses the risk of nitrogen leaching associated with conventional cultivation. The total percentage of the farm cultivated using conventional cultivation is calculated as the conventionally cultivated area divided by the total effective area of the farm.	Points
>0 — 2% of farm cultivated annually	10
>2% — ≤4% of farm cultivated annually	20
>4% — ≤6% of farm cultivated annually	30
>6% — ≤8% of farm cultivated annually	40
>8% — ≤10% of farm cultivated annually	50
>10% — ≤15% of farm cultivated annually	70
>15% — ≤20% of farm cultivated annually	90
>20% of farm cultivated annually	120
(c) Cropping and Cultivation: Season of Forage Crop Grazing This sub practice considers the higher risk of leaching associated with winter harvesting. The season of grazing is taken directly from the harvest date recorded for each crop.	Points
Crop grazing (summer) 1 October — 31 March	-30
Crop grazing (winter) 1 April — 30 September	30
(d) Cropping and Cultivation: Fertiliser Applied in Winter This sub practice considers whether nitrogen fertiliser is applied to crops during high-risk winter months.	Points

No fertiliser applied during 1 May to 31 August	0
Fertiliser applied during 1 May to 31 August	30

PART B – Pastoral Farming Mitigations

(a) Constructed Wetlands Points are deducted based on the catchment area that drains to any constructed wetland on a dairy farm. A constructed wetland is a wetland that has been deliberately constructed to intercept surface and/or subsurface contaminant flows. <u>The reduction is adjusted on a pro-rata basis to reflect the area of the catchment as a proportion of the entire farm area.</u> The reference to 'catchment area' below is to the area of the farm that drains to the constructed wetland	Reduction in overall risk score
0.5% of the catchment area	-5
1% of the catchment area	-12.5
2% of the catchment area	-18
3% of the catchment area	-21
4% of the catchment area	-24.5
5% of the catchment area	26
(b) Plantain: % of dry matter in diet (by mass over summer and autumn)	Reduction in overall risk score
≤10% of feed	0
>10 — ≤20% of feed	6%–10%
>20 — ≤30% of feed	12%–20%
>30% of feed	18%–30%
(c) Retired areas Where areas of the farm are retired from farming (i.e. no livestock, fertiliser, supplements, effluent or cropping), the overall risk score can be reduced by a factors equal to: (retired area/entire area of farm).	

PART C: Stock unit equivalents

	Breed	Stock Unit Equivalent (SU)
Milking	Friesian/Jersey Cross	8
Milking	Ayrshire	6.7
Milking	Friesian	8.5
Milking	Jersey	6.5
Milking	Other	8
Replacements	Friesian/Jersey Cross	4.2
Replacements	Ayrshire	3.6
Replacements	Friesian	4.5

	Breed	Stock Unit Equivalent (SU)
Replacements	Jersey	3.5
Replacements	Other	4.3
Calves to Weaning		2
Breeding Bulls		5.5
Sheep - Ewe		1
Sheep - Ram		0.8
Sheep - Lamb		0.7
Deer - Fawn		1.2
Deer - Yearling		1.8
Deer - Stag		2.2
Deer - Hind		2
Dairy - Carryover		5.5
Beef - Bull		5.5
Beef - Cow		5.5
Beef - Calf		3.5
Beef - Yearling		3.5
Goat - Kids		0.6
Goat - Adult		0.8
Horse		11
Pony		7
Alpaca - Adult		0.7
Alpaca - Cria		0.4
Llama - Adult		1.8
Llama - Cria		1
Pig		1.6

Schedule [Y]: How to determine the *nitrogen leaching risk** of existing *intensive farming land uses** (Commercial Vegetable Growing*)

Applying the Nitrogen Leaching Risk Scorecard

The *nitrogen leaching risk** of commercial vegetable growing* shall be determined by:

1. Using the Nitrogen Leaching Risk Scorecard set out below, and in accordance with the explanations and definitions provided, assigning points for the sub practices under the each of the two topics listed, to the extent they are relevant to the vegetable growing system; and
2. For all sub practices, risk scores are derived by multiplying the points (P) by the proportion of the productive vegetable growing area occupied by the sub practice (%); and
3. The total *nitrogen leaching risk** is calculated by summing the total number of sub practice positive points and deducting the sub practice negative points; and
4. Where the *commercial vegetable growing** activity occurs in conjunction with any other intensive farming land[^] use, separate *nitrogen leaching risk** scores must be calculated for each intensive farming land[^] use.

PART A: Nitrogen Leaching Risk Scorecard – Commercial Vegetable Growing* land management practices

Topic 1: Nitrogen Fertiliser Practices

(a) Nitrogen fertiliser annual application rate	Points (P)	Proportion of productive area (%)	Risk Score = P x %
N fertiliser: <100 kgN /ha	0		
N fertiliser: 100-150 kgN /ha	30		
N fertiliser: 151-200 kgN /ha	60		
N fertiliser: 201-250 kgN /ha	90		
N fertiliser: 251-300 kgN /ha	150		
N fertiliser: 301-400 kgN /ha	200		
N fertiliser: >400 kgN /ha	250		

(b) Nitrogen fertiliser application rate per application (individual)	Points (P)	Proportion of productive area (%)	Risk Score = P x %
N fertiliser: <25 kg /ha	-30		
N fertiliser: 25-50 kg /ha	0		
N fertiliser: 51-75 kg /ha	30		
N fertiliser: 76-100 kg /ha	60		
N fertiliser: >100 kg /ha	90		

(c) Nitrogen balance/budget	Points (P)	Proportion of productive area (%)	Risk Score = P x %
Yes	-50		
No	0		

(d) Nitrogen soil testing	Points (P)	Proportion of productive area (%)	Risk Score = P x %
Before every nitrogen fertiliser application	-50		
At the beginning of each crop cycle	-30		
One a year	0		
Never	50		

(e) Crop establishment fertiliser application method	Points (P)	Proportion of productive area (%)	Risk Score = P x %
Incorporated, GPS banded, controlled application	-20		
Surface, GPS banded, controlled application	-15		
Incorporated, banded	-10		
Surface, banded	-5		
Surface broadcast, incorporated	10		
Surface broadcast	20		

(f) Side fertiliser application method	Points (P)	Proportion of productive area (%)	Risk Score = P x %
GPS banded, controlled application	15		
Banded	5		
Broadcast	20		

Topic 2: Soil Health

(a) Practices between crops	Points (P)	Proportion of productive area (%)	Risk Score = P x %
Cover crop	30		
Fallow < 4 weeks	0		
Fallow 4 — 12 weeks	25		
Fallow > 12 weeks	50		
(b) Catch crops (cut and carry)	Points (P)	Proportion of productive area (%)	Risk Score = P x %
Yes	20		
No	0		

PART B: Definitions

Nitrogen fertiliser annual application rate (sub practice 1(a)): means the total quantity of elemental nitrogen fertiliser applied divided by the productive area. This should be split into the different rate bands based on the proportion of productive area (i.e., 50% at 100 — 150 kgN/ha and 50% at 151 — 200 kgN/ha). This is not a whole operation average.

Nitrogen fertiliser application rate per application (sub practice) 1(b): means the amount of elemental nitrogen applied per hectare for a single application. This should be split into the different rate bands based on the proportion of productive area where rates vary between crops. This is not a whole operation average.

Catch crop: means any crop that is grown with the primary objective of catching excess nitrogen in soils that otherwise may be lost through leaching. At harvest this crop is exported off farm. Examples include maize and grass grown for silage or hay.

Cover crop: means any crop that is grown with the primary objective of catching excess nitrogen in soils that otherwise may be lost through leaching. Before the planting of the next vegetable crop the cover crop is mulched and/or incorporated into the soil.

Fallow: means a period of time after crop harvest where the soil remains bare.

Nitrogen soil testing (mineral N): means the use of soil mineral N testing. E.g., Quick N test or laboratory based mineral N.

Nitrogen balance/budget: means a decision support tool to help a grower understand the inputs and outputs of nitrogen for a crop growing system. Nitrogen outputs are balanced against nitrogen inputs in a graph or table, categorised by source or destination. Nitrogen budgets assist growers with appropriate nitrogen fertiliser recommendations.

The following definition of 'Nutrient Management Plan' is agreed between Horizons and Horticulture NZ:

Productive Area: means the total productive vegetable growing area within the boundaries of the land[^] (boundary to boundary). ~~This The area denominator in Part A 1 (a) and 1 (b) is an operation's total productive vegetable growing area. This include both owned and leased land[^]. Productive area is all the area within the boundaries of the productive vegetable growing area. This includes the block or paddock total area where the crop is grown, including wheel tracks and beds that are not cropped, as well as headlands and races. This includes both owned and leased land. While the total land area cannot increase without consent, the location of leased land may change from year to year. The level of risk on the all leased land must be assessed and must not increase the overall risk level. Productive area does not include the land occupied by buildings and yards. Productive vegetable growing area does not include areas that cannot be cropped such as bush blocks of indigenous² vegetation, nor does it include permanent pasture (being land[^] in pasture grown for longer than 2 years).~~

Crop establishment fertiliser application methods:

Incorporated: means the fertiliser is applied into the soil at the time of application.

GPS banded: means the placement of fertiliser in continuous narrow ribbons, usually at specific distances from the seeds or plants, recorded using GPS.

Banded: means the placement of fertiliser in continuous narrow ribbons, usually at specific distances from the seeds or plants.

Surface: means the application of fertiliser which remains on top of the soil.

Broadcast: means the spreading of fertiliser evenly over a large area. The fertiliser then remains on the soil surface to break down.

Controlled application: means a method of applying fertiliser in a precise and targeted manner using an electronic rate controller that adjusts rates during spreading irrespective of speed.

Schedule [Z]—Calculation of Nitrogen Leaching Risk Limit*

Part A—Nitrogen leaching risk limit* where a farm is predominantly within the parameters described by a single cell of Table 14.2A

Except as set out in Part B below, the *Nitrogen Leaching Risk limit** is as set out in Table 14.2A (for pastoral farming) and Table 14.2B (for commercial vegetable growing);

A *Nitrogen Leaching Risk limit** shall be regarded as being applicable to an intensive farming *land*^Δ use if at least 90% of the area of that *land*^Δ is located within the rainfall and profile available water categories described in Tables 14.2A and 14.2B as applying to that *Nitrogen Leaching Risk limit**;

For the purpose of applying Tables 14.2A and 14.2B, rainfall shall be determined by reference to Map XX and profile available water shall be determined by reference to Map YY.

Part B—Nitrogen leaching risk limit* where *land*^Δ is located within multiple cells in Table 14.2A

This part applies where more than 10% of the *land*^Δ occupied by an intensive farming *land*^Δ use activity is located:

- a) in one rainfall category (as specified in Table 14.2A and shown on Map XX) and the balance of the *land*^Δ is located in one or more of the other categories; or
- b) in one category of profile available water (as specified in Table 14.2A and shown on Map YY) and the balance in one or more of the other categories.

In the case of either (a) or (b) above, the *Nitrogen Leaching Risk Limit** shall be calculated as follows:

Nitrogen leaching risk limit* = % of area of the *land*^Δ in each cell of Table 14.2A multiplied by the score in that cell *plus* the percentage of the area of the *land*^Δ in any other cell multiplied by the score in that other cell.

For example: *Nitrogen leaching risk limit** = (%*L*₁ × Y) + (%*L*₂ × Z)

Where:

%*L*₁ is the percentage of the *land*^Δ that has rainfall and profile available water described by a cell in Table 14.2A;

Y is the risk score in the cell of Table 14.2A to which %*L*₁ applies;

%*L*₂ is the percent of the property that has rainfall and profile available water described in a cell of Table 14.2A other than the cell referred to in %*L*₁; and

Z is the score within the cell of Table 14.2A to which %*L*₂ applies.

Illustrated Example:

Using the table below, if a 200ha farm in the 1000–1300 rainfall category has 50% of its land area in the ‘medium soil’ and 50% in the ‘coarse soil’ category, the *Nitrogen leaching risk limit** is 50% × 150 (75) plus 50% × 120 (60) = a limit of 135.

	Profile Available Water		
Rainfall	151–350mm (‘fine soil’)	61–150mm (‘medium soil’)	0–60mm (‘coarse soil’)
Rainfall 1 <1000 mm/year	—	—	—

Rainfall 2 1000-1300 mm/year	-	50% x 150 = 75	50% x 120 = 60
Rainfall 3 1300-1600 mm/year	-	-	-
Rainfall 4 >1600 mm/year	-	-	-