SUBMISSION ON:

PROPOSED PLAN CHANGE 2 - EXISTING INTENSIVE FARMING LAND USES
Monday 21st October, 2019

TO: MANAWATŪ-WHANGANUI (HORIZONS) REGIONAL COUNCIL

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Potatoes NZ recognises the need for and supports improving water quality in Horizon's rivers to both meet the community objectives and the National Policy Statement for Freshwater Management objectives. The reasons for setting strict environmental limits is not being challenged. However it is Potatoes NZ position that Plan Change 2 needs to be modified to provide some accommodation to ensure that vegetable production activities, critical to New Zealand food chains, are not disrupted causing adverse consequences that were unintended.

Potatoes NZ key submission points

- Seeks changes to the policies and rules related to vegetable production activities, to protect the growers rights to farm into the future, with flexibility and sustainable impacts on freshwater values
- Potato production is complex and in general the sector agrees that the land use should be managed through regulatory tools
- We consider the discharges and transfer of discharges associated with fertiliser use and cultivation can be expressly *managed with targeted rules* where we inform Council of the management requirements to avoid environmental impacts.

In our view the following land use control rules could be adopted across the region to meet the objective without the implementation of the Plan Change 2:

- Permitted activity for use of land to cultivate potatoes up to 4 hectares

- Controlled activity for vegetable production activity (as farm enterprise) at the current intensity and scale

- Restricted discretionary activity for any vegetable production activity (as farm enterprise) where the rotation occurs (increasing intensity and scale) on any Classes I, II and III land; if it can be accommodated in a full rotation assessment within the Table 14.2A limits

- Full discretionary activity for any vegetable production enterprise (as farm enterprise) which increases the net intensity and scale for vegetable production activities on any Class I, II and II land and the full rotation assessment exceeds the Table 14.2A limits

- Non-complying for any other application.

BACKGROUND – Potato Production in Horizon's Region

Potato production in the Horizon's region provides seed potato production for other regions within New Zealand, supports significant NZ processing facilities (Pepsi, Griffin's, Mr Chips. Fresher Foods and Proper Snack Foods) and is a significant component of the table potato offering for New Zealand communities. Therefore the Horizon's region is home to nationally important potato product for New Zealand families.

74% of potato production is currently utilised locally in domestic food chains. Potato production in Horizons is currently around 10% of the New Zealand potato sector with between roughly one thousand[1] hectares of potatoes grown on land across Horizons every year; out of a national total of around 10,300ha. But there is significant potential as a result of the predominance of arable production land in the Horizons region.

The demand estimates for new potato production land suggest a national total of land required by 2025 will be increased by about 9,500 ha in total across NZ. A significant proportion of this would be required to locate in land across Horizons to enable supply to NZ processing facilities and to produce product at the right time of year in the required volumes. Potato production was formerly supported by processing in Fielding (McCains), and increased planting is a strong driver to re-establish new processing in the region.

While the area of Horizons farmland is significant in terms of the potato sector and consumers the activity is not a major contributor to the total footprint of land used for primary production activities and is a very small component (less than 1%) of the primary sector's water quality impacts[2].

There is potential for greater vegetable production across the region's highly productive land (LUC Class I, II and III). There is approximately 10%[3] of the countries highly productive land (**HPL**) in the Horizon's region. This current low utilisation means there is opportunity for growth of potato production within the Horizons region.

The land most suitable for potato production are the HPL areas of the Manawatu and Tararua District's, where the nutrient contribution to the nitrogen losses at the root zone at a catchment scale are <7% and <3.5% respectively for bringing this land into a rotation cycle.

BACKGROUND – Environmental Practices

Growers are continuing to improve environmental practices through applied science and agronomy. Agronomy is critical to the industry remaining competitive. The potato sector has well organised technical support that has driven a more comprehensive approach to environmental management. The sector has initiated a direct measurement programme for nitrogen and is developing more sophisticated environmental management tools to support better grower performance on discharges and emissions over time.

Potatoes grown in the Horizons Region support growing activities in many other regions, and provide a critical element of production for many other NZ processing businesses.

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[1] Fresh Facts 2018 984 ha

[2] as demonstrated by the technical documents supporting Plan Change 2

[3] Cost Benefit Analysis – NPS HPL (MPI Technical Paper No: 2019/10)

Growers producing potatoes in the Horizons Region utilise many different rotational structures. Potato production occurs alongside other commercial vegetable production activities, as well as within arable and animal-based farming systems. As the data from the Canterbury "Matrix of Good Management" program demonstrates there is limited commonality between individual grower production systems. Potato production systems in the Horizons region vary greatly by district and operator;

- Sheep and beef farming in the Ohakune District supports potatoes within a mixed root crop rotation over a roughly 10-13 year period.
- Seed potato production in the Rangatikei District operates across dairy pasture utilising a paddock only once across a five year period. The potato cultivation is often utilised to return soil health after damage caused by pugging from stock.
- Potato production in the Opiki District is within a mix of maize, dairy cattle and potato production rotated on a shorter term due to the soil.
- Potato production in the Horowhenua District is within a mix of green crops and / or onions.

Industry Value Charts

2018 NZ Potato Industry by Volume and Value

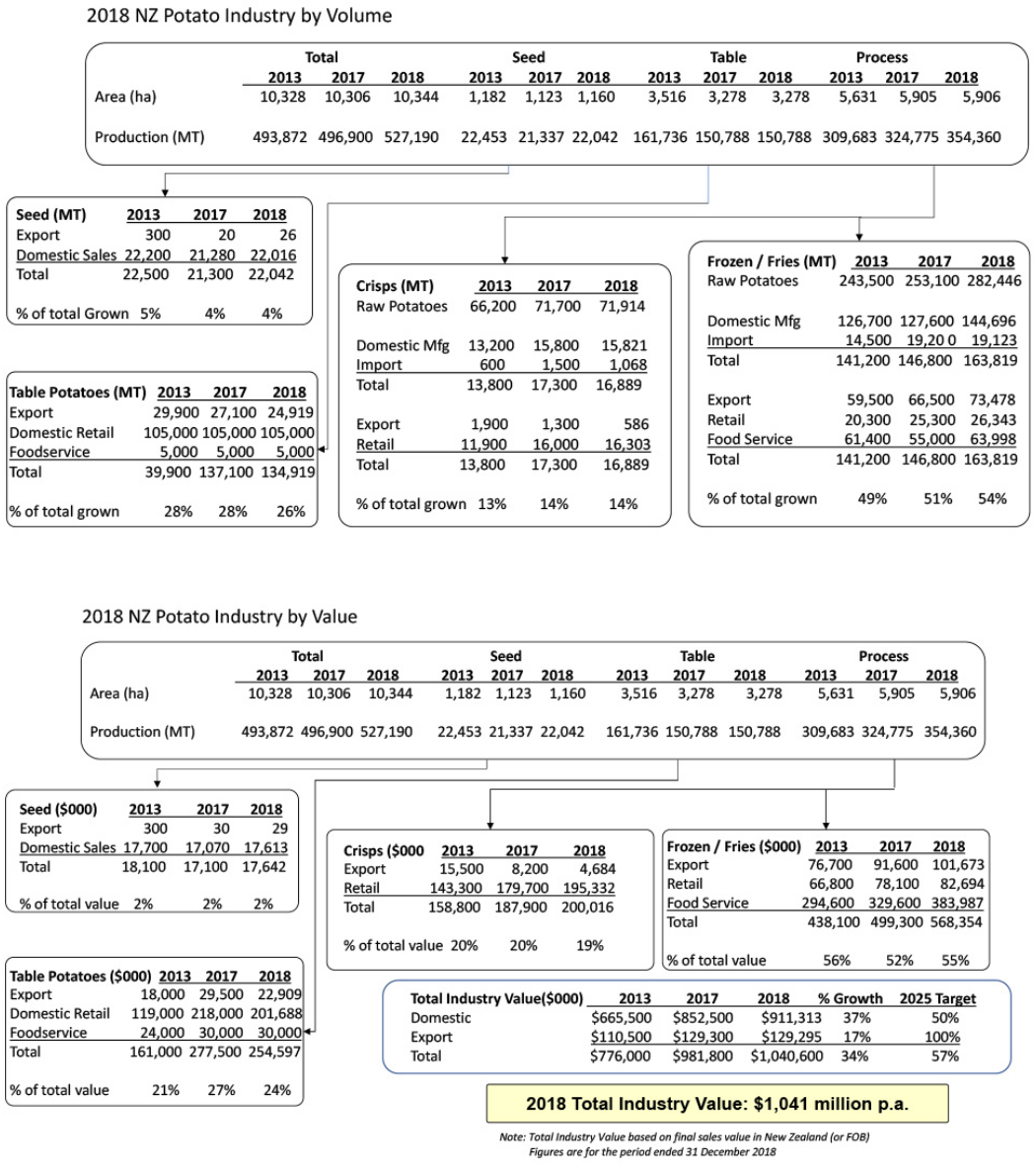

Fig 1: 2018 NZ Potato Industry by Volume and Value

Rotation has been at the heart of sustainable land use for potato production. The results of eliminating rotation were brutally experienced in the Irish potato famine where leasing was frozen to enable conversion to pastoral farming by British absentee land lords. Potato rotation was effectively frozen which caused a build-up of disease. The crop then failed between 1845 and 1850. Millions died or emigrated. This is an example of why potato farmers and other vegetable growers strictly observe rotational practice and why it is essential for healthy crops. Commonly production can occur for 1 or 2 years out of 5, with some soils requiring longer gaps to maintain soil health and structure.

The need for rotation is a reason why grower operations have incorporated a significant amount of lease land into their farming operations. There is significant pressure on lease land which leads to growers having to take advantage of leasing opportunities at short notice. There is no way to ensure that land can be found within an existing catchment, such as Horizon's region, at the right time to facilitate a growers' needs for production.

POTATOES NZ POSITION

Potatoes NZ recognises the need for; and supports the objective of improved water quality in Horizon's rivers to meet the community objectives and the National Policy Statement for Freshwater Management objectives. The reasoning for the setting of strict environmental limits is not being challenged.

However, it is our position that Plan Change 2 needs to be modified to provide some accommodation to ensure that vegetable production activities, critical to New Zealand food chains, are not disrupted causing adverse consequences that were unintended. Vegetable supply from the Horizons region, including potato production is one of these critical activities. Currently 94% of vegetable supply nationally is consumed locally. Within the potato sector including processed products the total is around 80%. Export activities critically often bolster value; and in return offset the costs of supporting domestic markets.[4]

Practically speaking; the heavier soils in HPL suit potato production more; from an environmental and production perspective. These deeper soils are more capable of absorbing the short-term impacts of rotation and cultivation. The highly productive Class I and II soils are sought after and generally there is competition to obtain this productive land.[5] We understand that about 17% of land in Horizons fits the HPL criteria.[6] Our view is that incentivising potato cultivation to rotate within Classes I and II is an effective mitigation against leaching of nutrients from lighter soils and this has informed the production of our submission.

Nationally, the Government has recognised that it is critical to maintain access to scarce LUC Class I, II and III land for a range of reasons; mostly related to commercial vegetable supply and domestic food security. A recently launched discussion document has proposed a National Policy Statement focussed on protecting these "highly productive" soils. While the main threat to land availability in the discussion document is urban encroachment; the discussion document also recognises the need to appropriately enable other factors of production to ensure this land can be utilised in the manner it has been protected for without risking these essential land parcels becoming stranded assets for the New Zealand public. Part of the discussion document is focussed on water related needs and there is at least the potential currently for national direction on matters covered within this plan change.

The proposed Plan Change 2 has the potential to significantly impair commercial vegetable production, including potato production. There is substantive evidence for our assessment as to the negative impact these restrictions will have. In summary the key difficulties are:

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[4] In addition, it is often difficult for a grower to know whether it is destined to be an export or domestic crop. Often it is the decision of the customer.

[5] Although it appears the majority of production is on Classes I, II, and III.

[6] Of a total of 2.2 million hectares. Obviously not all of this is farming land; or is available for primary production. Source: https://www.mpi.govt.nz/dmsdocument/23056-analysis-of-drivers-and-barriers-to-land-use-change.

1. Not all rural production activities are equal in value to the community or equal in environmental effects. The objectives and policies do not appropriately differentiate between activities that directly affect community wellbeing and other primary production activities. The values of vegetable growing (including potato production) for current domestic food supply and the ability to feed people in the future are not reflected in proposed Plan Change 2.

2. Plan Change 2 does not adequately address the effects of climate change in maintaining (the status quo) the land use versatility essential for food production. The Plan Change fails to recognise the value of the Manawatū-Whanganui region as a food source for the whole of New Zealand.

3. A tailored approach is required for managing commercial vegetable growing land to realise its food production purpose, while achieving catchment wide water quality improvements and other environmental benefits in the longer term. This means retaining / enabling access to Class I and II soils (under LUC classification) and the natural resources which support them.

4. Horticultural production systems are very diverse with a wide range of fruits, vegetables and other crops being grown across Manawatū-Whanganui region. Potato production systems rely on rotations; often enabled by sharing and leasing agreements. The approach to rotation in the Manawatū-Whanganui region has significantly reduced the ability of growers to undertake new leases.

5. We are concerned that unless changed Plan Change 2 will introduce further obstacles and requires amendment to avoid wider effects that are unrelated to horticulture.

6. Under the proposed Plan Change 2, existing production is under threat from the restrictions on movement of activities across artificial zone and catchment boundaries.

7. There are valid concerns about the ability to accurately and reliably assess nutrient discharges from horticultural systems, specifically the deficiencies in OVERSEER to model horticultural crops, and support a performance-based method for tallying nutrient losses related to horticultural management practices.

8. The real water quality improvements come from the practices adopted to manage discharges from land managed (often only in temporary rotations). The potato sector is supporting a more accurate "direct measurement" based approach. The industry supports requiring all growers to operate at good management practices; where they are shown to be effective at improving environmental outcomes.

9. The proposed Plan Change 2 fails to incentivise and enable existing areas of potato crops to move onto suitable land in a different catchment across the region, to account for crop rotation, leased land arrangements and to enable growers to move to less environmentally sensitive locations as they are available. Effects are likely to be seen on the leasing process for commercial vegetable production as a result of benchmark nitrogen losses being allocated to land use parcels; with the benefit accruing to the land owner.[7]

[7] In effect the grower is often losing the ability to utilise a footprint that was allocated to that land parcel based on the presence of the vegetable production activity during the period of benchmarking.

10. The ability for a group of growers to be able to manage environmental issues collectively to improve the effectiveness of their response to water quality issues is strongly supported in this submission. I consider Plan Change 2 should enable collaborative or collective approaches to regulating potato production activities. This has been demonstrated as workable by the irrigation schemes in the South Island and should be expressly provided for in the Plan.

11. No certainty is being provided in respect to growth needs. The lack of certainty means there is an unwillingness to invest in infrastructure; and threatens existing processing investments. Many processing facilities are relatively mobile and may choose to relocate or other regions; potentially offshore.[8]

POTATOES NZ SEEKS THE FOLLOWING AMENDMENTS

1. Potatoes NZ seeks amendments to the policy related to:

    - Policy 14-3 Good management practices

    - Policy 14-5 Management of intensive farming land uses

    - Policy 14-6 Resource consent decision-making for intensive farming land uses

2. The amendments seek to provide for and enable commercial vegetable production on the most suitable land in the interest of communities more broadly across NZ. The policy should recognise that unimpeded growth would be unsustainable but allow for flexibility to maintain a beneficial rotation and provide for growth within the environmental limits that currently exist.

3. Potatoes NZ proposes amendments to the rules related to vegetable production activities. Potato production is complex and in general the sector agrees that the land use should be managed through regulatory tools. Within this proviso we consider the discharges and transfer of discharges associated with fertiliser use and cultivation can be expressly *managed with targeted rules* within some reserved discretion without having an environmental impact.

4. It is our view that the following land use control rules could be adopted across the region to ensure that environmental concerns are meet:
    a. Permitted activity for use of land to cultivate potatoes up to 4 ha.
    b. Controlled activity for vegetable production activity at the current intensity and scale.
    c. Restricted discretionary activity for any vegetable production activity where the rotation occurs (increasing intensity and scale) on any Classes I and II land; if it can be accommodated in a full rotation assessment within the Table 14.2A limits.

[8] Significant processing capacity is owned and operated by overseas investors, including McCains, Heinz - Watties, PepsiCo. (Bluebird) and others.

d. Full discretionary activity for any vegetable production enterprise which increases the net intensity and scale for vegetable production activities on any Class I, II and II land and demonstrates the full rotation assessment within the Table 14.2A limits.
e. Non-complying for any other application.

5. The sector is actively developing collectivised approaches to regulatory compliance; along the lines of an irrigation scheme pathway. Accompanying this the sector is investing in direct measurement tools and better farm environment plan support. *We seek the ability to collectivise grower efforts to improve water quality by enabling a consent pathway for enterprises across water management zones;* as a discretionary activity.

6. *Rely on the grower's individualised farm plan for demonstration of environmental improvements.* The grower needs a systematic approach to discharge management on any land they are leasing or managing that does not negatively impact on the farm plans held by other users of the same land. The use of the LUC benchmark based on OVERSEER is problematic for potato production, due to technical issues with the estimation tools. Horizon's Regional Council has historically recognised this by allowing the use of proxies for vegetable production systems (N-Check) and this approach is to be commended. The main problem with the Table 14.2 benchmark LUC values is that it is a poor estimate environmental performance[9]. In our view the best indicator of environmental improvement is evidence of the actions within farm plans being implemented being linked to actual monitoring of effects.

7. Providing an Industry Specific Allocation based on rotation requirements, suitable land and best practice.

8. All other changes requested relate to the relief sought above and are consequential amendments including additional definitions (terms) and values for commercial vegetable production on HPL. These are detailed in the attached Schedule below. Included are changes to policies, rules, numeric tables, Schedules, maps and definitions. Some deletions are also proposed.

[9] ANALYSIS OF DRIVERS AND BARRIERS TO LAND USE CHANGE – AgFirst report for MPI

SCHEDULE 1 – Amendments requested as strike through

Proposed Plan Change 2 – Existing Intensive Farming Land Uses

The proposed insertions by Council are shown as underlined text and proposed deletions are shown as ~~strikethrough~~.

The relief is sought by PNZ for the policy and rules which are deemed to affect the production of commercial vegetables in the Horizons region. The relief is provided as red underlined changes and additions to the provisions proposed in Plan Change 2.

New Policy 5-8A

The following policy is sought to provide direction for the movement of commercial vegetable production within the areas defined as HPL. The policy seeks to provide a balance between access to the versatile soils and the controls required on production to manage the environmental risks associated with the activity. The outcome sought is meeting the community values and Objective 5-2 for Water quality.

Policy 5-8A: Management and regulation of commercial vegetable production land^ use activities affecting groundwater and surface water^ quality

Recognise the particular constraints that apply to commercial vegetable production (including the need to rotate crops to avoid soil- borne diseases and for growing locations in close proximity to processing facilities), while giving effect to Policy 5-7 to manage the effects on groundwater and surface water by providing a nutrient management framework that appropriately responds to and accommodates these constraints while improving or maintaining water quality by:

a) requiring commercial vegetable growing operations to operate at good management practice;
b) ensuring new commercial vegetable growing operations, or any expansion of an existing commercial vegetable growing operation is limited to the baseline commercial vegetable growing area, unless the nitrogen losses from the operation can be accommodated within the Table 14.2A nitrogen loss rate limits at the new location(s);
c) requiring commercial vegetable growing operations to demonstrate, at the time of application for resource consent and at the time of any Nutrient Management Plan audit, how any relevant nutrient loss reductions will be achieved;
d) constraining, unless a farming enterprise, commercial vegetable growing operations to a single water management sub-zone; and
e) requiring a Rotation Management Plan as part of any application for resource consent, and requiring that Rotation Management Plan to be prepared in accordance with Schedule X of this Plan.

Policy 5-9:

Policy 5-8: Management and ~~R~~regulation of intensive farming land^ use activities affecting groundwater and surface water^ quality

In order to give effect to Policy 5-7, the effects of intensive farming land^ use activities on groundwater and surface water^ quality must be managed in the following manner:

(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 water^ quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6~~

(B) ~~(C)~~ recognise the productive capability of land^ including commercial vegetable growing areas in the Water Management Sub-zone*

(C) ~~(D)~~ are achievable on all farms using good management practices and recognising the rotation requirements for vegetable growing.*

(D) ~~©~~ 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 land^ use activities must be regulated in targeted Water Management Sub-zones* to achieve the nitrogen leaching maximums specified in (i) except as provided for in (iia) and (iib) below.

(iia) Existing intensive land^ use activities which do not comply with (ii) must be regulated to reduce nitrogen leaching which is in excess of the nitrogen leaching maximums established under (a) by implementing good management practice*, and additional measures to minimise the degree of non-compliance, having regard to:

(A) the feasibility, practicality, and cost of achieving the nitrogen leaching maximums specified in (i); and

(B) the strategy for surface water^ quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6.

(iib) Existing land^ use activities which do not comply with (ii) but are intended to transition to an alternative non-intensive farming land^ use must be regulated to ensure that they are able to continue for a limited period of time in order to enable that transition and only where there is no increase in the exceedance of the nitrogen leaching maximums established under (a).

(iii) New intensive farming land^ use activities must be regulated throughout the Region to achieve the nitrogen leaching maximums specified in (i).

(b) Faecal contamination

(i) Those persons carrying out existing intensive farming land^ use activities in the targeted Water Management Sub-zones* listed in Table 14.1 or new conversions to intensive farming land^ use activities anywhere in the Region must be required, amongst other things, to:

(A) prevent cattle access to some surface water bodies^ and their beds^

(B) mitigate faecal contamination of surface water^ from other entry points (eg., race run-off)

(C) establish programmes for implementing any required changes.

(c) Sediment

(i) In those Water Management Sub-zones* where agricultural land^ use activities are the predominant cause of elevated sediment levels in surface water^, 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 accelerated erosion*, as described in Chapter 4.

(d) Good management practices*

(i) All intensive farming land^ use activities must be regulated to manage nutrient leaching and run-off, faecal contamination, and sediment losses in accordance with good management practices*.

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 Water Management Sub-zones* where nitrogen leaching is an issue will be a priority in order to find viable options for intensive farming land users that will have difficulty in achieving the cumulative nitrogen leaching maximums* (refer Table 14.1). Horizons will provide assistance through providing data and information that will assist in the identification and evaluation of innovative land use options and participating in any evaluative work as appropriate.
Who	Local communities, rural and other sector groups, Territorial Authorities, Regional Council.
Links to Policy	This method implements Policies 5-7 and 5-8. Target Advice and assistance is available for landowners in the Region regarding land use management practices

Method 5-13	Provision of Information
Description	Horizons will collate and publish information regarding Overseer version changes and the identification and evaluation of nutrient management models other than Overseer that may be more appropriate for calculation of on-farm nutrient losses.
Who	Regional Council, rural sector groups, and nutrient management model providers.

Target	• Horizons will consider whether it needs to respond to changes in Overseer through a plan change process. • A list of nutrient management models appropriate for use in intensive farming land is maintained on Horizons' website.

Policy 14-3: ~~Industry based standards~~ Good management practices*

When making decisions on resource consent^ applications, and setting consent conditions, for activities affecting groundwater and surface water^ quality, ~~C~~ Regional Council must have regard to good management practices* ~~will examine on an on-going basis relevant industrybased standards (including guidelines and codes of practice), recognising that such industry based standards 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 good management practices* address the matters in Policies 14-1, 14-2, 14-4, and 14-5 and 14-6.

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Policy 14-5: Management of intensive farming land^ uses

In order to give effect to Policy 5-7,and Policy 5-8, and intensive farming land^ use activities affecting groundwater and surface water^ quality must be managed in the following manner:

(a) The following land uses have been identified as intensive farming land^ uses:

(i) Dairy farming*

~~(ii) Commercial vegetable growing*~~

(ii~~i~~) Cropping*

(iii~~v~~) Intensive sheep and beef*

(b) The intensive farming land^ uses identified in (a) must be regulated where:

(i) They are existing (ie., established prior to the Plan having legal effect) intensive farming land^ uses, in the targeted Water Management Sub-zones*identified in Table 14.1[10] .

(ii) They are new (ie., established after the Plan has legal effect[11]) intensive farming land^ uses, in all Water Management Subzones* in the Region.

c) Nitrogen leaching maximums have been established:

(i) In Table 14.2 for intensive farming; and

(d) Except as provided for in Policy 14-6(d), ~~E~~existing intensive farming land^ uses regulated in accordance with (b)(i) must be managed to ensure that the leaching of nitrogen from

[10] The Plan has legal effect in the case of existing intensive farming land^ uses in these zones from the dates identified in Table 14.1.

[11] 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

those land^ 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 apply~~.

(e) New intensive farming land^ uses regulated in accordance with (b)(ii) must be managed to ensure that the leaching of nitrogen from those land^ uses does not exceed the cumulative nitrogen leaching maximum* values for each year contained in Table 14.2.

(f) Intensive farming land^ uses regulated in accordance with (b) must exclude cattle from:

(i) A wetland^ or lake^ that is a rare habitat*, threatened habitat* or at-risk habitat*.

(ii) Any river^ that is permanently flowing or has an active bed* width greater than 1 metre.

(g) All places where cattle cross a river that is permanently flowing or has an active bed* 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 14-5A: Management of commercial vegetable production land^ uses

In order to give effect to Policy 5-7,and Policy 5-8A, commercial vegetable production land^ use activities affecting groundwater and surface water^ quality must be managed in the following manner:

a) Commercial vegetable production land is within the baseline commercial production area within each water management sub-zone.
b) Except as provided for in (d) below, commercial vegetable production land^ uses regulated in accordance with Policy 5-8A, must be managed to ensure that the leaching of nitrogen from those land^ uses does not exceed the cumulative nitrogen leaching maximum* values contained in Table 14.2A.
c) A Rotation Management Plan (**RMP**) is prepared in accordance with Schedule X for applications where the commercial vegetable production is across more than one Water Management sub-zones.
d) Where nitrogen leaching from commercial vegetable production land exceeds the cumulative nitrogen leaching maximum* values contained in Table 14.2A a decision support tool is used to assess risks to groundwater and surface water and predict mitigation actions in accordance with Schedule X.

Policy 14-6A: Management of commercial vegetable production land^ uses

When making decisions on resource consent^ applications, and setting consent conditions^, for commercial vegetable production land^ uses the Regional Council must:

(a) Ensure the nitrogen leaching from the land^ is managed in accordance with Policy 14-5A.

(b) Ensure implementation of good management practices* to manage nutrient leaching and run-off, and sediment loss, as part of any commercial vegetable production land^ use.

(c) Provide for exceptions to (a) for existing commercial vegetable production land^ uses that exceed the cumulative nitrogen leaching maximum* where:

(i) Good management practices* are implemented in accordance with a nutrient management plan*, along with monitoring and performance measures to further reduce nutrient leaching and run-off, and sediment losses from the land^ progressively over time; or

(ii) The existing commercial vegetable production land^ use is to continue for no longer than five years in order to enable the transition to alternative baseline commercial vegetable growing area without an increase in nutrient leaching and run-off, and sediment losses from the land^ over that period of time.

(d) When determining whether to enable an existing intensive farm land^ use to continue under (c)(i), have regard to:

(i) Whether the proposed monitoring and performance measures represent the best practicable option^ to minimise the nutrient leaching and run-off, and sediment losses from the land^, having particular regard to:

(A) The extent of the exceedance of the cumulative nitrogen leaching maximum* in Table 14.2A;

(B) The rate of reduction of nitrogen loss towards the cumulative nitrogen leaching maximum* in Table 14.2A;

(C) The mitigation actions and controls in accordance with a Rotation Management Plan meet the Surface Water Quality Targets in Schedule E.

(D) Whether further reductions are currently possible for the commercial vegetable production land^ use based on existing technologies.

(ii) The extent to which the non-compliance with the cumulative nitrogen leaching maximum* specified in Table 14.2A is attributable to updates in versions of OVERSEER;

(iii) The nature and characteristics of the land^, having regard to physical characteristics of the soil including in terms of attenuation capacity, climatic conditions, and topography of the property;

(iv) The contribution of the progressive reduction in nutrient leaching and run-off, and sediment losses from the land^, over time, to the improvement of water^ quality within that Water Management Sub-zone*;

(v) The strategy for surface water^ quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6.

(e) When determining whether to enable the existing commercial vegetable production land^ use is to continue under (c)(ii), have regard to:

(i) Measures implemented in accordance with a nutrient management plan* to ensure that nutrient leaching and run-off, and sediment losses from the land^ do not increase over the duration of the resource consent^;

(ii) good management practices* proposed to avoid, remedy or mitigate nutrient leaching and run-off, and sediment losses from the land^;

(iii) the nature, sequencing, measurability and enforceability of any steps proposed to transition to alternative baseline commercial vegetable growing area use by the expiry of the resource consent^.

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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 effect3 in relation to Rule 14-1**
Mangapapa	Mangapapa Mana_9b	I July 2014
Waikawa	Waikawa West_9a Manakau West_9b	I July 2014
Other south-west catchments (Papaitonga)	Lake Papaitonga West_8	I July 2014
Mangatainoka	Upper Mangatainoka Mana_8a Middle Mangatainoka Mana_8b Lower Mangatainoka Mana_8c Makakahi Mana_8d	I July 2015
Other coastal lakes	Northern Manawatu Lakes West_6 Kaitoke Lakes West_4 Southern Wanganui Lakes West _5	I 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 Upper Kumeti Mana_4 Tamaki-Hopelands Mana_5a Lower Tamaki Mana_5b Lower Kumeti Mana_5c Oruakeretaki Mana_5d Raparapawai Mana_5e	1 July 2016
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*. Table 14.2 Cumulative nitrogen leaching maximum* by Land Use Capability Class*

Period (from the year that the rule has legal effect4)	LUC* I	LUC* II	LUC* III	LUC* IV	LUC* V	LUC* VI	LUC* VII	LUC* VIII
Year 1	51 ~~30~~	45 ~~27~~	40 ~~24~~	29 ~~18~~	25 ~~16~~	24 ~~15~~	11 ~~8~~	3 ~~2~~
Year 5	46 ~~27~~	42 ~~25~~	35 ~~21~~	26 ~~16~~	20 ~~13~~	16 ~~10~~	8 ~~6~~	3 ~~2~~

Year 10	44 ~~26~~	37 ~~22~~	32 ~~19~~	23 ~~14~~	20 ~~13~~	16 ~~10~~	8 ~~6~~	3 ~~2~~
Year 20	43 ~~25~~	35 ~~21~~	30 ~~18~~	21 ~~13~~	19 ~~12~~	16 ~~10~~	8 ~~6~~	3 ~~2~~

Table 14.2A sets out the cumulative nitrogen leaching maximum* for the land^ used for commercial vegetable production land^ use activities within each specified land use capability class*. Table 14.2A Cumulative nitrogen leaching maximum as determined across a rotation by Land Use Capability Class*

Period (from the year that the rule has legal effect[4])	LUC* I	LUC* II	LUC* III
Baseline commercial vegetable production area.	51	45	40
New commercial vegetable production areas.	46	42	35

Rules for Commercial Vegetable Production Activities

Rule	**Activity**	**Classification**	**Conditions/Standards/Terms**	**Control/Discretion Non-Notification**
14-1AA	The use of land^ pursuant to s9(2) RMA for commercial vegetable production and any ancillary discharge^ of contaminants^ into air pursuant to ss15(1) or 15(2A) RMA..	Permitted	(a) The area of land in commercial vegetable production must be less than 4.1Ha. (b) The discharge^ of fertiliser* onto or into land^ and any ancillary discharge^ of contaminants^ into air must comply with the conditions^ of Rule 14-5. (c) All activities must be undertaken in accordance with good management practice.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-1A Existing Commercial Vegetable Production land^ use activities	The existing use of land^ pursuant to s9(2) RMA for commercial vegetable production land that is within the baseline commercial growing area in the Water Management Sub-zones* listed in; and from the dates specified in Table 14.1 and any ancillary discharge^ of contaminants^ into air pursuant to ss15(1) or 15(2A) RMA..	Controlled	(a) A nutrient management plan* must be prepared for the land^, and provided annually to the Regional Council. (b) The activity must be undertaken in accordance with the nutrient management plan* prepared under (a). (c) The nutrient management plan* prepared under (a) must demonstrate that the nitrogen leaching loss from the activity will not exceed the cumulative nitrogen leaching maximum* specified in Table 14.2A. (d) The discharge^ of fertiliser* onto or into land^ and any ancillary discharge^ of contaminants^ into air must comply with the conditions^ of Rule 14-5. (e) The discharge^ of grade Aa biosolids* or compost* onto or into production land^ and any ancillary discharge^ of contaminants^ into air must comply with the conditions^ of Rule 14-7. (f) The discharge^ of poultry farm litter* onto or into production land^ and any ancillary discharge^ of contaminants^ into air must comply with the conditions^ of Rule 14-9. (g) The discharge^ of farm animal effluent* onto or into production land^ including: (i) effluent from dairy sheds and feedpads* (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary discharge^ of contaminants^ into air must comply with the conditions^, standards and terms of Rule 14-11.	Control is reserved over: (a) the implementation of the nutrient management plan* (b) compliance with the cumulative nitrogen leaching maximum* specified in Table 14.2A (c) good management practices* to avoid, remedy or mitigate nutrient leaching and run-off, and sediment losses from the land^ (d) the matters of control in Rule 14-11 (e) avoiding, remedying or mitigating the effects of odour, dust, fertiliser* drift or effluent drift (f) provision of information including the nutrient management plan* (g) duration of consent (h) review of consent conditions^ (i) compliance monitoring (j) the matters in Policies 14-5A, 14-6A and 14-9. Resource consent^ applications under this rule^ will not be notified and written approval of affected persons will not be required (notice of applications need not be served^ on affected persons).
14-2AA New Vegetable Production Activities	The use of land^ pursuant to s9(2) RMA for	Restricted Discretionary	(a) A nutrient management plan* must be prepared for the land^, and provided annually to the Regional	Discretion is restricted to: (a) preparation of and compliance with a

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
within the baseline commercial vegetable production land area.	commercial vegetable growing that is within the baseline commercial vegetable production area but was not existing in the Water Management Sub-zones* listed in and from the dates specified in Table 14.1, and any ancillary discharge^ of contaminants^ into air pursuant to ss15(1) or 15(2A) RMA. Including commercial vegetable production operated as an enterprise across the baseline commercial vegetable growing area where a growing rotation may include multiple land parcels.		Council. (b) The activity must be undertaken in accordance with the nutrient management plan* prepared under (a). (c) The nutrient management plan* prepared under (a) must demonstrate that the nitrogen leaching loss from the activity will not exceed the cumulative nitrogen leaching maximum in Table 14.2A. (d) A RMP must be prepared in accordance with Schedule X.	nutrient management plan* for the land^ (b) good management practices* to avoid, remedy or mitigate nutrient leaching and runoff, faecal contamination and sediment losses from the land^ (c) measures to exclude cattle from wetlands^ and lakes^ that are a rare habitat* or threatened habitat*, and rivers^ that are permanently flowing or have an active bed* width greater than 1 m (d) the bridging or culverting of rivers^ that are permanently flowing or have an active bed* width greater than 1 m that are crossed by cattle (e) the matters referred to in the conditions^ of Rules 14-5, 14-6, 14-7, and 14-9(f) (g) the matters referred to in the conditions^ of Rule 14-11 and the matters of control in Rule 14 -11 (g) avoiding, remedying or mitigating the effects of odour, dust, fertiliser* drift or effluent drift (h) provision of information including the annual nutrient management plan* (i) duration of consent (j) review of consent conditions^ (k) compliance monitoring (l) the matters in Policy 14-9.
Rule 14 -2B New Vegetable Production Activities exceeding the baseline commercial vegetable production land area.	The use of land^ pursuant to s9(2) RMA for commercial vegetable growing inside the baseline commercial vegetable growing area and any of the following discharges^ pursuant to ss15(1) or 15(2A) RMA associated with that intensive farming and any ancillary discharge^ of contaminants^ into air pursuant to ss15(1) or 15(2A) RMA.	Discretionary	(a) A nutrient management plan* must be prepared for the land^, and provided annually to the Regional Council. (b) The activity must be undertaken in accordance with the nutrient management plan* prepared under (a). (c) The nutrient management plan* prepared under (a) must demonstrate that the nitrogen leaching loss from the activity will not exceed the cumulative nitrogen leaching maximum in Table 14.2A.	Applications which demonstrate mitigation actions in a nutrient management plan and controls in accordance with a Rotation Management Plan which meet the Surface Water Quality Targets in Schedule E will generally be granted as non-notifed.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			A RMP must be prepared in accordance with Schedule X.	
Rule 14 -2C New Vegetable Production Activities exceeding the baseline commercial vegetable production land area.	All other uses of land^ pursuant to s9(2) RMA for commercial vegetable growing, including any of the following discharges^ pursuant to ss15(1) or 15(2A) RMA associated with that intensive farming and any ancillary discharge^ of contaminants^ into air pursuant to ss15(1) or 15(2A) RMA.	Non-Complying		

Rule Guide:

The location of archaeological sites when defined by a single co-ordinate is unlikely to define the true extent of subsurface archaeological evidence. The 50 metre rule should apply from the outer perimeter of the site.

Some activities in rare habitats*, threatened habitats* and at-risk habitats* are regulated by Rules 13-8 and 13-9. Discharges from agricultural activities at other locations are regulated as follows:

(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.

~~(b) Activities that do not comply - Except for Rule 14-3, activities pursuant to ss15(1) or 15(2A) RMA that do not comply with the permitted or controlled activity rules above are a discretionary activity under general Rule 14-30.~~

Glossary

A term or expression that is defined in this glossary is marked with the symbol * when used in the Plan.

A term or expression that is defined in the Resource Management Act 1991 (RMA) and used in the Plan, but which is not included in this glossary, has the same meaning as in the RMA. Definitions provided in the RMA are not repeated in this glossary. A term or expression that is defined in the RMA is marked with the symbol ^ when used in the objectives, policies or rules of the Plan, this glossary and the schedules to the Plan, other than Schedules F, G and I.

When:

- * is not used to identify a term anywhere in the Plan, or
- ^ is not used to identify a term in the objectives, policies or rules of the Plan, this glossary or the schedules to the Plan the term has its ordinary meaning.

…

Good management practices refers to evolving practical measures and methods, including those established in industry-based standards, which are used at a sector or community level to measure, manage and minimise the effects of discharges to land^ and water^.

…

Nutrient management plan means a plan prepared annually in accordance with the Code of Practice for Nutrient Management (NZ Fertiliser Manufacturers' Research Association 2007) which records (including copies of the ~~OVERSEER®~~ input and output files of a recognised nutrient management model used to prepare the plan) and takes into account all sources of nutrients for intensive farming and identifies all current and relevant nutrient management practices and mitigations, and which is prepared by a person who has been approved by the CEO, Whanganui-Manawatu Regional Council ~~both a Certificate of Completion in Sustainable Nutrient Management in New Zealand Agriculture and a Certificate of Completion in Advanced Sustainable Nutrient Management from Massey University~~.

Baseline commercial vegetable growing area

The definition for the baseline is problematic for a sector which has traditionally responded to market needs and a production cycle which is mobile for practical and commercial reasons.
We note that the evidence provided in the sector analysis from Agri-base shows a net static area, it also shows a reduction between the period prior to the baseline period.
Potato's New Zealand strongly supports a baseline based on the unique soils which are inherently limited in Horizons and which fundamentally restrict the industry outside this footprint.
Our recommendation is that the baseline area for vegetable production is based on the presence of LUC Class I and Class II.

New Definitions :

Term	*DEFINITION*
Baseline commercial vegetable growing area	means the aggregated area of land utilised for commercial vegetable production at the dates in Table 14.1 and the land is under the control (owned or leased) of a single grower or enterprise; and the area of land which is categorised as LUC Class I and/or Class II in each water management sub-zone.
Crop rotation	Crop rotation is the systematic planting of different crops in a particular order over several years in the same growing space. This process helps maintain nutrients in the soil, reduce soil erosion, and prevents plant diseases and pests.

Consequential changes to Schedule B – Surface Water Management Values.

There are consequential links between the provisions which are critical to commercial vegetable production on crop rotation systems which require clarification and identification in the plan. These changes apply within the Surface Water Management Value's framework. This requires the following consequential amendments to the values framework:

1. The Domestic Food Supply (DFS) value is changed to reflect the plan provisions to
    a. Commercial Vegetable Production (CVP)
2. Commercial Vegetable Production areas redrawn within Fig B:13 on page B-113 as the LUC Class I, Class II and Class III areas inclusive [LRI Map].
3. The following table B.13 on page B-115, which provides details of the CVP locations is updated to reflect the relief sought above (new map as composed for Fig B:13).

a. Table B.13: Commercial Vegetable Production (CVP) Value in the Region.

b. Column 5 heading: Commercial Vegetable Production Value

c. Entries for Column 5: Suitable for vegetable production (including seed production)

d. Part B.3 – Row 3: Land and Water Use

e. Row 3 - sub-row 5

   i. Column 1: CVP

   ii. Column 2: Commercial Vegetable Production

   iii. Column 3: The land and water is suitable for commercial vegetable production.

   iv. Column 4: Land-use suitability Class I, Class II and Class III

The relief is also able to be provided in visual maps and amended tables.

APPENDIX AA

Proposed New Schedule X – Farm Environment Plan

Potato's New Zealand recognises the absence within the primary sector of an effective modelling framework to predict nutrient losses and production efficiencies across differing cultivars, climates and soils. To provide growers with a solution PNZ has invested in a performance framework to enhance the Farm Environment Plan approach to sustainable management of the valuable resources including water, soils and people.

We consider that the performance based approach is at a stage where it can be introduced into the plan provisions for the LAWP as part of the proposed Plan Change 2.

Our recommendation is to provide a separate Schedule 7(b) – Farm Environment Plan for Potato Growing to enable the technology to assist both growers and CRC to obtain the best management outcomes for the environment and commercial vegetable production areas.

Proposed Schedule X:

Schedule X - Rotation (Commercial Vegetable Production) Management Plan

1. A Nutrient Management Plan shall be prepared in accordance with the requirements of Schedule Y. The Nutrient Management Plan shall be certified as meeting the requirements of Schedule Y by a Certified Farm Environment Planner (commercial vegetable production).
2. The Rotation Plan does not require duplication of material within an existing Nutrient Management Plan that is considered sufficient for purpose by a Certified Farm Environment Planner (commercial vegetable production).
3. Rotation Plans are not required to duplicate material provided to Horizons Regional Council for the purpose of complying with other rules in the plan.
4. Rotation Plans will not be incorporated into consent conditions as a whole; but matters of control or discretion will include relevant actions committed to by the consent holder. The relevant consent holder can alter the farm plan to include new land without altering the consent; if the actions undertaken at the new locations to mitigate environmental effects have the equivalent outcome anticipated within the NMP.
5. The Rotation (Commercial Vegetable Production) Plan shall identify key risk areas for the discharge of sediment, nitrogen, phosphorus and microbial pathogens, and identify actions, and timeframes for those actions to be completed, in order to reduce the diffuse discharges of these contaminants where practicable.

Part A – Requirements for Rotation (Commercial Vegetable Production) Management Plan

1. The Rotation Plan must clearly identify how any specified consent condition will be complied and shallcontainasaminimum:
    a. The name of the commercial vegetation production (enterprise) as the legal entity registered with the Canterbury Regional Council.
    b. A description of the enterprise, detailing the general rotational cropping system, properties owned, leased and otherwise farmed on over time within the domain of the rotation.
    c. A legal description for each parcel of land included in the rotation domain for the enterprise.

d. A notification process to Council for changes to the parcels of land in the rotation.

e. The Land Use Capability assessment for each of the parcels in the rotation.

Part B – Requirements for a risk assessment for commercial vegetable rotation

2. An assessment of the risk for diffuse discharges of sediment, nitrogen and phosphorus associated with the commercial vegetation production activities on the aggregated area of land used for commercial vegetation production, and the priority of those identified risks, having regard to the freshwater outcomes for Rivers and Lakes in Water Management Subzones and the Region-wide Water Quality Targets in Schedule E.

3. As a minimum, the risk assessment shall include:

    a. A risk assessment for the precedent nitrogen losses for each of the land parcels in the rotational domain of the Rotational Management Plan;

    b. A nutrient management plan with demonstrates how any relevant nutrient loss reductions to meet Table 14.2A limits will be achieved;

    c. The risk assessment should be equivalent to the process outlined in Section 4 of the Horticulture New Zealand Code of Practice for Nutrient Management Version 1.0 August 2014;

    d. A risk assessment for soil conservation, that is approved by a Certified Farm Environment Planner (commercial vegetable crops) and is equivalent to the process outlined in Section 1 of the Horticulture New Zealand Erosion & Sediment Control Guidelines for Vegetable Production Version 1.1 June 2014;

    e. Undertake a microbiological discharge risk assessment if animal or animal products are used on the rotation land parcels.

4. If stock are present on land managed within the enterprise, provisions of Schedule Y relating to the farming of animals apply. If stock are present a risk assessment for stock related discharges must be undertaken.

5. A schedule of mitigation actions and target completion dates derived from the risk assessments undertaken in clause 4 and 5 above.

6. The risk assessment data management, reporting and auditing will be consistent with the NZGAP requirements for vegetable production.

Part C Vegetable Growing Minimum Standards

7. Rotation Plans required under Commercial Vegetable Growing Operations Rules shall, in addition to the matters set out above, ensure the following matters are addressed.

1	Nitrogen, Phosphorus	Both (1) and (2) prepared by an appropriately qualified person
2	Nitrogen, Phosphorus	Annual calibration of fertiliser delivering systems through an approved programme such as Spreadmark/Fertspread

3	Soil / Phosphorus	As a minimum by block: an approved erosion and sediment control plan constructed in accordance with the Erosion and Sediment Control Guidelines for Vegetable Production June 2014
4	Nitrogen, Phosphorus	Documentation available for proof of fertiliser placement according to recommended instruction
5	Nitrogen, Phosphorus	Adoption and use of improved fertiliser products proved effective and available such as formulated prills, coatings and slow release mechanisms
6	Nitrogen, Phosphorus	Evidence available to demonstrate split applications by block/crop following expert approved practice relating to: • form of fertiliser applied • rate of application • placement of fertiliser • timing of application
7	Nitrogen	Maintain efficient irrigation to ensure yields and the export of nitrogen in crop are maximised.

No	Contaminant	Vegetable growing minimum standards
1	Nitrogen, Phosphorus	Annual soil testing regime, fertiliser recommendations by block and by crop
2	Nitrogen, Phosphorus	Tailored fertiliser plans by block and by crop

Part C - Requirements for a Rotation Management Plan – The management of contaminants from Commercial Vegetable Growing Operations activities across Water Management sub-zones and new commercial vegetable growing areas.

A Rotation plan (RMP) shall be prepared in accordance with the requirements below.

1) The RMP must be certified by a person approved by the Regional Council Chief Executive before an application under Rule 14.2AA and 14.2B can be granted by the Council.

2) The RMP must demonstrate for each sub-region and Water Management Sub-Zone how the expected reduction in nutrient discharges to freshwater can be achieved through completing

and implementing a farm environment plan action in accordance with Schedule 7. The achievement in reduction of discharges must be comparable when considered over all the properties and parcels managed by the RMP.

3) The RMP must be the responsibility of a legal entity that is accountable for achieving compliance with the conditions of resource consent issued under Rule 14.2AA and Rule 14.2B.

4) The RMP must be supported by a decision support tool that is able to be utilised as the accounting framework for the relevant enterprise. The decision support tool must:
    a) Provide measured and predicted data for adaptive management;
    b) Prioritise actions and review the performance of the commercial vegetable production rotation to meet targets and limits for nutrient management;
    c) Be capable of integrating with other sub-region, nutrient allocation zone and catchment scale accounting systems;
    d) Be able to measure mitigations for microbial, sediment, nitrogen and phosphorus discharges at all scales within the domain of the Rotation Management Plan to a standard approved by a peer review agent approved by the Chief Executive of the Regional Council;
    e) Provide data to Council for use in assessing compliance with the nutrient loss targets for the relevant nutrient allocation zones in Sections 6 to 15 of the Land and Water Regional Plan.

5) The RMP must clearly identify how any specified consent conditions will be complied with.