BEFORE THE HEARING COMMISSIONERS APPOINTED BY WAIKATO REGIONAL COUNCIL

IN THE MATTER	of the Resource Management Act 1991 ("**the Act**")
AND	
IN THE MATTER	of the hearing of submissions on The Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments

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INDUSTRY STATEMENT OF MICHELLE KATHLEEN SANDS FOR HORTICULTURE NEW ZEALAND

3 MAY 2019

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SUMMARY

1. This industry statement outlines the position of Horticulture New Zealand (**HortNZ**) on the Waikato Regional Council's Block 2 Section 42A Report to the submission on the Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments (**PC1**).

2. The statement provides commentary on the principles applied in the S42A report and the implications for commercial vegetable production if applied in Block 3. Therefore, the purpose of this statement and those of the various experts for HortNZ in Block 2 is to set the scene for what will be further considered in Block 3.

3. An increase in commercial vegetable production is required in order to meet the increase in domestic food demand anticipated as a result of projected population growth. The ability to increase commercial vegetable production is limited by diminishing availability of suitable land. Suitable land has a ranking of Land Use Capability (LUC) 1 – 2, access to high quality water, a temperate climate and access to key transport routes and labour.

4. In the Waikato and Waipa Catchments, there is likely to be less than 15.9% of LUC 1-2 land available (and which is suitable) for new commercial vegetable production. Appendix A of Ms Gillian Holmes's evidence provides a breakdown of land availability in each sub-catchment.

5. The limited of area and location for increased production support enabling provisions within PC1 that allow for a managed approach to increased commercial vegetables, while also meeting water quality targets.

6. The evidence of Ms Gillian Holmes demonstrates that a limited increase in commercial vegetable production has negligible cumulative effects and can improve water quality in some catchments by off-setting between contaminants.

7. The S42A report is clear, and it is reflected in the amended provisions, that there is a change in principle from "manage and reduce" contaminants, to total reduction of, and no increase in, any contaminant. Exceptions have been made for land subject to Policy 16 and point-source discharges associated with regionally significant industries. The S42A report specifically questions the justification for off-setting between contaminants.

8. HortNZ believes an exception for increased commercial vegetable production is justified for the following reasons:

    - Commercial vegetable production is a regionally significant industry. Providing locally grown fresh vegetables to meet food

demand will afford a number of social and economic benefits of regional and national scale

- A limited increase in commercial vegetable production, aligns with the Vision and Strategy and the concept of Te Mana o te Wai. In particular, by sustaining a healthy community, restoring and protecting water quality in relevant catchments through off-setting between contaminants and negligible cumulative effects.

- The holistic nature of the Vision and Strategy and the concept of Te Mana o Te Wai highlights the need for balanced decision-making when considering trade-offs between healthy waters, healthy environments and healthy communities.

- An increase in commercial vegetable production aligns with PC1's Cultivation and Primary Production Value

9. HortNZ is concerned that the non-complying activity rule still applies to increases in commercial vegetable production and my support for the policy framework in Block 2 is dependent on the outcomes of Block 3 hearings.

10. HortNZ deems Rule 3.11.5.2 as being applicable to fruit production, although queries the 20ha threshold and exclusion of enterprises.

INTRODUCTION

Qualifications and experience

1. My name is Michelle Kathleen Sands. I am the Manager Natural Resources and Environment, with Horticulture New Zealand. I manage HortNZ's Natural Resources and Environment team who are involved in national, regional and district planning processes across New Zealand. I have been in this role since May 2018

2. I hold a Bachelor of Science Honours from Victoria University (1995). I am a member of the New Zealand Hydrology Society and a Certified Environmental Practitioner with the Environment Institute of Australia and New Zealand. I have over 20 years of post-graduate experience in environmental management. During this time, I have worked in local government, the voluntary sector, research, consultancy and currently for the horticulture industry.

3. My experience includes providing expert witness testimony on water quality and quantity issues at council hearings, board of inquiry and environment court mediations.

4. Since beginning my role at HortNZ, I have met with growers across New Zealand to better understand their horticultural operations and how resource management issues impact them.

5. While I am a qualified hydrologist with strong water quality management experience, I am not appearing in the capacity of an expert in this hearing. My role in this hearing is as HortNZ's representative and advocate.

Purpose and scope of evidence

6. This statement provides commentary on the Officers' s42A Report and the likely implications for commercial vegetable production, which is going to be more thoroughly considered in Block 3. Therefore, the purpose of this statement and those of the various experts for HortNZ in Block 2 is to set the scene for what will be further considered in Block 3.

7. To provide context for the implications of PC1 for horticulture, my statement begins with a discussion on domestic food supply in New Zealand including meeting future food demand. My statement also provides brief comment on how the matters covered in the s42A Report relate to fruit production activities.

8. Background information about HortNZ was outlined in the Industry Statement for Block 1 and is not repeated here.

9. This statement covers:

   (a) Domestic food security and the need to provide for increases in commercial vegetable production;

   (b) How providing for new commercial vegetable production strategically aligns with PC1;

   (c) Providing an exception for commercial vegetable production as a regionally significant industry;

   (d) The treatment of fruit production.

DOMESTIC FOOD SECURITY: THE NEED TO PROVIDE FOR INCREASES IN COMMERCIAL VEGETABLE PRODUCTION

The benefits of fresh fruit and vegetables

10. The health benefits of fruit and vegetables are well documented but include protection against heart disease, strokes, high blood pressure, obesity and diabetes[1]. Low fruit and vegetable intake is identified as a leading risk factor in loss of health. In New Zealand,

[1] Vegetables.co.nz. https://www.vegetables.co.nz/health/the-cost-of-low-consumption/

having a high body mass index (i.e being overweight or obese) has overtaken tobacco as a leading cause in health loss.[2]

11. In 2003, it was estimated that if all New Zealanders ate the recommended servings of vegetables and fruit daily, there would be 1,550 fewer deaths per year. International research also indicates that the freshness of produce has additional benefits including protection from a number of cancers.[3]

Future food demand

12. HortNZ commissioned Deloitte to analyse horticulture in the Pukekohe Hub area[4]. The 2018 report projected that Auckland's food demand will be 33% higher in 2043 than 2018 as a result of a 37% population growth projection (to 2.3 million)[5]**.** In order to meet that demand, the Pukekohe Hub would need to increase 1.2% every year, for 25 years.

13. The report assesses the ability for the Pukekohe Hub to meet the increased demand. Factors such as proposed rezoning of high class soil in the Proposed Waikato District Plan review[6]impacts of reverse sensitivity on operation, increased regulation and PC1 becoming operative were taken into account. Findings showed that such constraints are likely to result in a 46% to 55% reduction in food production.

14. Even if land was not rezoned and regulations stayed static, the report estimated a 36% reduction in food production from 2018. This is due to constraints already being faced, including the immediate legal effect of PC1, impacts of reverse sensitivity on land that has already been rezoned under the Auckland Plan, and issues relating to the accessibility to, and cost of, labour and transport.

15. In more general terms, New Zealand's population is anticipated to increase 21% between 2018 and 2043. By 2048, the population is

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[2] Health Loss in NZ 1990 – 2013. https://www.health.govt.nz/publication/health-loss-new-zealand-1990-2013

[3] https://www.vegetables.co.nz/health/the-cost-of-low-consumption/

[4] The Block 1 Industry Statement identifies the geographic extent of the Pukekohe Hub and outlines key findings of the report.

[5] Deloitte. New Zealand's Food Security Story – The Pukekohe Hub. 2018 http://www.hortnz.co.nz/assets/Deloitte/New-Zealands-food-story-The-Pukekohe-hub.pdf

[6] The Proposed Waikato District Plan proposes to rezone areas of existing commercial vegetable production in Tuakau from rural to residential. The subject land is contained within the Pukekohe Hub area and contributes to the social, environmental, economic and cultural outcomes identified in the Deloitte report.

likely to exceed 6 million[7]. The majority of this growth is anticipated to occur in Auckland, Hamilton, Tauranga and Northland.

16. The Waikato Region's population is projected to increase 20% (95,080) between 2018 and 2043. The majority of this growth is anticipated to occur in Waikato District and Hamilton City areas[8].

17. International trends indicate the demand for fruit and vegetables will increase 90% between 2010 and 2050. Far exceeding the global population growth of 30%[9].

Land supply and expansion to meet future food demand

18. A key constraint in meeting future food demand is access to suitable land. As outlined in the Block 1 Industry Statement, commercial vegetable production is limited in where it can locate due to a number of factors, including soil quality, climate, and access to water.

19. As described in Block 1, commercial vegetable production is most efficient on land identified as Land Use Capability (LUC) 1 – 3. This type of land is in limited supply already with Classes 1 – 2 representing 5% of New Zealand's available land area[10].

20. The availability of this land for vegetable growing is being further constrained by competition between land uses, perceived economic and social value, and restrictions on essential inputs.

21. Vegetable growing land decreased 30% between 2002 and 2016[11]. Currently, less than 1% of New Zealand's land area is used for fruit, including grapes (0.5% or 120,894 ha) and vegetables (0.3% or 69, 686 ha)[12].

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[7] Statistics New Zealand (StatsNZ).

[8] Ibid

[9] http://www.hortnz.co.nz/assets/Deloitte/New-Zealands-food-story-The-Pukekohe-hub.pdf

[10] Fiona Curran-Cournane et al, 2014

https://www.researchgate.net/publication/262490734_Trade-offs_between_high_class_land_and_development_Recent_and_future_pressures_on_Auckland's_valuable_soil_resources

[11] New Zealand's Environmental Reporting Series: Our Land 2018. http://www.mfe.govt.nz/sites/default/files/media/RMA/Our-land-201-final.pdf

[12] New Zealand's Environmental Reporting Series: Aoteraroa 2019 http://archive.stats.govt.nz/browse_for_stats/environment/environmental-reporting-series/environmental-indicators/Home/Land/land-use.aspx

22. The increased cost of operating horticultural activities as a result of increased regulations and labour, has encouraged many businesses and land owners to perceive other land uses to be more viable.

23. Furthermore, due to the relatively flat typography and stability of LUC 1 and 2 land, this land type is often deemed cheaper (in terms of the ability to develop and service it), and therefore better, for urban development than land classed LUC 3 – 8.

24. In rezoning high class land for urban development, many councils have failed to take into account the wider trade-off's, such as, the ability to use land to support food supply for future communities. Once land is converted for urban development, it is essentially lost from production indefinitely[13].

25. In 2010, it was reported that urbanisation rates were highest for Class 1 (5.86% of converted land) and Class 2 (2.96% of converted land) compared to LUC 3 – 8 (ranging from <0.01 to 2.0% of converted land) In 2012, non-productive rural lifestyle blocks covered 10% of New Zealand's LUC 1 and 2 land. In Auckland, 21% of lifestyle blocks occupy 35% of the regions high class land[14].

26. The Government has announced work on a National Policy Statement for Highly Productive Soils. This policy work recognises the value of soils for food production and is looking at reducing inappropriate subdivision. However, if this policy is adopted it is unlikely to prevent all development on existing growing land and is unlikely to result in changing the zoning of land in South Auckland and North Waikato that has already been re-zoned for future urban development.

27. As demonstrated above, increasing population growth increases demand for fruit and vegetables, and results in the loss of vegetable growing land to housing. It is not sustainable from a soil health perspective to further increase the intensity of vegetable growing, and therefore unless some new land is made available for vegetable growing, the supply of fresh food and vegetables will decrease.

28. <u>Land supply in Waikato:</u>

29. The Jacobs 2017 report provides a breakdown of existing commercial vegetable production as a percentage across the sub-catchments. The Whakapipi catchment contains the greatest concentration of vegetable production taking up 21.4% of the catchments land area. Ohaeroa contains the second highest at

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[13] Fiona Curran-Cournane 2014

[14] Ibid

6.1%. 26 of the sub-catchments contain between 0.1% - 4.5% of existing vegetable production. The remaining 46 sub-catchments contain no existing commercial vegetable production.

30. Appendix A in the evidence of Ms Gillian Holmes provides a breakdown of LUC 1 and 2 land across all 74 sub-catchments which is not currently being used for commercial vegetable production. In total, there remains only 1.9% of LUC 1 land and 14% of LUC 2 land potentially available for new or increased commercial vegetable production.

31. Waikato does have some capacity to accommodate an increase in commercial vegetable production to assist in meeting future food demand. However, as shown in Appendix A of Ms Holmes evidence, even this capacity is limited in area and location.

32. Furthermore, this analysis does not take into account whether remaining land is actually suitable for commercial vegetable production. Other factors that would impact suitability include ease of access to good quality water, local climate and access to main transport routes and labour.

33. Also relevant to some sub-catchments is competition for land from urban development. For instance, proposed re-zoning of existing commercial vegetable production land around Tuakau (impacting Waikato at Port Waikato and Waikato at Tuakau Bridge catchments). This not only reduces existing yield but increases reverse sensitivity issues arising from new urban development being located next to suitable LUC 1 and 2 land. Reverse sensitivity matters can often restrict horticultural operations.

34. Accordingly, it may be that there is even less LUC 1 and 2 land actually available for new or increased commercial vegetable production, than what is shown in Appendix A of Ms Holmes's evidence.

35. Vegetable growing is a very productive land use generating much more food on a per hectare basis than other land uses, and while there is limited suitable land available, only a relatively small area of land is required for vegetable growing to provide for domestic supply.. These constraints allow for a more managed approach to a limited increase in commercial vegetable production, while still improving water quality.

The cost of meeting future food demand

36. Meeting future demand with a diminished supply of suitable land could be achieved through a combination of different means:

- Increase imported food from other regions and countries

- Further intensification of existing cropping areas
- Cropping on land classified as LUC 3 or higher
- Continued farming on existing cropping land and allowing limited growth for commercial vegetable production.

37. Each of these scenarios has a range of social, environmental and economic impacts. It is likely that any of the bottom three scenarios would still require increased importing but the degree to which would vary between each scenario.

Increased importing from other regions and overseas

38. Imported fruit and vegetables will be less fresh than those grown within the region. As set out above, there is a correlation between the freshness of produce and greater health benefits.

39. Importation from overseas, reduces the types of vegetables available. As NZ is relatively isolated, canned and frozen vegetables can be imported, and vegetables that store well like potatoes and onions can be imported, or high-value fresh products such as tomatoes which are often air-freighted.

40. Regulations and natural constraints in other regions, means that the growing population in Auckland and Waikato cannot rely on vegetable growing in regions further south to expand to feed them in future. For example:

- Gisborne and Hawkes Bay are important vegetable growing areas. Both of these regions have water availability constraints that mean that unless new water storage schemes are developed, there is very unlikely to be sufficient water for vegetables growing to expand in these Regions.
- The Manawatu Region is important for New Zealand's vegetable supply, however the nitrogen limits within the One Plan, prevent new growing of most vegetables in the Region.
- In Canterbury, a Plan Change is being developed to provide a consenting pathway for crop rotation and for new vegetable growing. However at this stage, the provisions proposed by Environment Canterbury have a narrow focus on N leaching comparing the leaching rates of large enterprises with small vegetable growing blocks. If implemented this approach is likely to provide very limited scope for expansion of vegetable growing in Canterbury.

41. Importing goods from other regions and countries also increases freight costs which are then passed on to the consumer. Total

absorption of costs by horticultural businesses is not possible if business is to continue to operate.

42. The 2018 Deloitte report found that the cost of importing supplementary fruit and vegetables to Auckland could cost $168 million. The report notes that most of this cost would be worn by local residents.

43. Increased freight in itself would have impacts on carbon emissions, polluted waterways from increased road runoff, and add to congestion issues. There would also be impacts on local employment from loss of horticultural operations within the region.

44. Greater reliance on imported goods would also increase the risk and occurrence of supply shortages. Climate events, varying climates across New Zealand and variation in popularity of certain fruit and vegetables, would impact the supply of different crops at different times of the year. In the longer-term, a changing climate is predicted to reduce global food security due to increased storms and droughts. Rules that reduce the ability of New Zealanders to grow their own food, will reduce our national food security.

Further intensification of existing cropping land or cropping on LUC 3 or higher

45. These two scenarios are likely to have similar impacts. Further intensification on existing land area will require increased inputs, resulting in greater costs and potentially greater leaching. Even with increased inputs, it is likely to result in greater risk and occurrence of soil borne diseases with limited flexibility to open up new land, or move between sub-catchments, for rotation requirements. This in turn is likely to result in greater occurrence of supply shortages of certain vegetables.

46. Cropping on land classified as LUC 3 or higher will require a greater land area than commercial vegetables currently occupy. This is largely due to the diminished ability of these land types to be farmed intensively. Even if current good management practices were applied, there is likely to be greater loss of sediment and increased leaching of nutrients from these soil types. Good management practice could be adapted but this takes considerable time and is likely to increase costs for growers and thereby also for consumers.

47. There will be higher costs to the operation for purchasing and maintaining greater areas of land. It is likely that part of this cost will be passed on to the consumer.

Maintain existing cropping and allow limited increase of commercial vegetable cropping

48. The evidence of Ms Holmes demonstrates that allowing an increase of commercial vegetable production can be beneficial in sub-catchments where N is not the main contaminant of concern. Ms Holmes's evidence shows that in such circumstances, the increase of N as a result of increased vegetable production would be negligible at the catchment scale, even taking into account cumulative effects.

49. In the examples provided in Ms Holmes's evidence, an increase in vegetable production assists in restoring water quality by reducing *E.coli*. The increases protect water quality by essentially maintaining contaminants in that only a negligible increase of N occurs.

50. The ability to provide locally grown fresh vegetables at a rate and yield that meets food demand could afford a number of positive social and economic effects including:

- Reduced health issues as a result of meeting food demand
- Fresher food supply increasing the likely health benefits associated with fresh vegetables
- Reduced reliance on importing food reducing the occurrence of food shortages compared to other scenarios
- Reduced freight costs maintaining a steadier consumer price than other scenarios
- Increased opportunities for local employment
- Increased contribution to regional GDP.

PC1 and the ability to provide for future food demand

51. Acknowledging that provisions specifically relating to commercial vegetable production are being dealt with in Block 3 hearings, some of the amendments proposed and the principles applied in the s42A Report have potential implications on the ability to meet future food demand.

52. There has been a clear shift in position from "managing and reducing" contaminants to direct reduction and no increase for all contaminants. This is evident in amendments to Policies 1, 2 and 6 and throughout the s42A Report particularly in the section relating to Land Use Change.

53. Such an approach immediately excludes any increase of commercial vegetable production to meet future demand, whether it

be an increase through establishing new production, or an increase of an existing operation.

54. As demonstrated in paragraphs 12-26 of this statement, maintaining the extent and volume of existing commercial vegetable production is not sufficient to meet future food demand for the Waikato Region, or wider New Zealand. Neither is it environmentally, socially or economically sustainable to rely on importing fresh vegetables to supplement the growing population in both Waikato and beyond.

55. Some increase in commercial vegetable production is required to meet future demand. As discussed below, and in further detail in the evidence of Ms Gillian Holmes, the associated increase of contaminants as a result of increased commercial vegetable production is negligible and can be managed in a means that is still consistent with the Vision and Strategy and the objectives and policies of PC1.

56. It is acknowledged that Block 3 may resolve this issue in providing an exception for commercial vegetable production, similar to that provided for low contaminant activities and land subject to Policy 16.

57. Rule 3.11.5.7 still applies a non-complying activity status to any increase greater than 4.1ha for commercial vegetable production. As I understand it, a non-complying activity status is intended to signal where an activity is unlikely to be appropriate[15]. Additionally, it is likely that for many vegetable crops, an increase less than 4.1ha would be insufficient to meet potential future food demand.

58. I support the comments in Mr Hodgson's evidence, regarding the separation of land use and discharge rules and the need for flexibility in transferring consents.

59. In preparing for Block 3, it is my opinion that it is imperative that Officers and the Panel consider the need for flexibility in transfers for existing commercial vegetable production between sub-catchments.

60. Such flexibility is fundamental to enable crop rotation, particularly given the majority of rotation is undertaken via lease agreements or land swaps as discussed in the Block 1 statement. The evidence of Mr Hodgson discusses the need for flexibility further, providing examples of complications in Canterbury and how the PC1 framework may hinder contractual arrangements.

61. Furthermore, PC1 does not currently provide for off-setting between contaminants. This is discussed further down in this statement. However, providing for off-setting between contaminants in limited

[15] http://www.environmentguide.org.nz/rma/resource-consents-and-processes/

circumstances and where proven to be appropriate, would enable managed increase of commercial vegetable production to meet future food demand.

PROVIDING FOR NEW COMMERCIAL VEGETABLE PRODUCTION ACHIEVES THE OUTCOMES OF THE VISION AND STRATEGY AND ALIGNS WITH OBJECTIVES AND VALUES OF PC1

Vision and Strategy

62. Block 1 hearings dealt with the Vision and Strategy in detail. However, it is still relevant to the discussion in Block 2 and Block 3 topics when considering comments in the s42A Report relating to off-setting between contaminants and cumulative effects (referenced elsewhere in this statement).

63. I agree with the evidence of Mr Chris Keenan that providing for an increase in commercial vegetable production is not contrary to the Vision and Strategy or the National Policy Statement for Freshwater Management (NPSFM) as long as cumulative effects can be managed to uphold the relevant freshwater values and objectives of a water body.

64. The Vision for Waikato River is for *"a future where a healthy Waikato River sustains abundant life and prosperous communities, who in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come".*

65. This encompasses a holistic approach to general wellbeing where the health and wellbeing of the water/environment are inseparable from the health and wellbeing of the people. A similar approach is reflected in the Te Mana o te Wai concept of the NPSFM.

66. Te Mana o te Wai establishes a priority for the health and wellbeing of the water body, but acknowledges an integrated and reciprocal relationship with the health and wellbeing of people. What is relevant here is the balance between the health and wellbeing of water/environment and the health and wellbeing of people. A healthy environment is the foundation for healthy communities, but a healthy environment cannot be maintained without healthy communities.

67. As outlined above, provision of fresh vegetables is essential to sustain human health. In order to continue to provide fresh vegetables for future generations, some increase in commercial vegetable production is required. While there is potential for some impact on the river, the provision of fresh vegetables is also reliant on access to high (or good) quality water and a healthy environment

to support plant and soil health and ensure adequate yield of fresh vegetables to sustain human health.

68. The objectives and strategies to achieve the Vision and Strategy emphasises the need to restore and protect the Waikato River. Strategy (k) for achieving the Vision seeks appropriate management of cumulative effects.

69. As discussed in Block 1 evidence, HortNZ is not seeking an easier or lesser pathway for commercial vegetable production. HortNZ, as an industry body, fully supports the continued development and enforcement of good management practice to improve environmental outcomes.

70. As discussed in the evidence of Mr Barber with regards to erosion and sediment control, the application of HortNZ's Codes of Practices, will be effective in improving long term water quality targets.

71. As outlined in the evidence of Ms Holmes and to be discussed further in Block 3, the cumulative effects of increased commercial vegetable production are negligible and can be managed effectively such as to not compromise the wider wellbeing of the Waikato River.

72. Mechanisms for managing cumulative effects were outlined in Block 1 evidence and will be discussed further in Block 3. These include the application of sub-catchment loads, establishing catchment collectives and enabling off-setting between contaminants.

73. The holistic nature of the Vision and Strategy and the concept of Te Mana o Te Wai highlights the need for balanced decision-making when considering trade-offs between healthy waters, healthy environments and healthy communities.

New commercial vegetable production and PC1 Values

74. HortNZ did not seek significant changes to the proposed PC1 values and did not provide detailed comment on the values in Block 1. However, as with the comments on the Vision and Strategy, it is deemed relevant to Blocks 2 and 3 to provide comment on how an increase in commercial vegetable production aligns with the PC1 values.

75. In particular, an increase of commercial vegetable production aligns with the Cultivation and Primary Production Value. This value recognises the presence of regionally and nationally significant primary production activities which contribute to the economic, social and cultural wellbeing of people and communities.

76. This value focuses on economic wealth as the driver of importance for these industries to local communities. However, as

demonstrated above, an increase in commercial vegetable production will also afford significant benefits in social wealth through on-going supply of fresh vegetables for domestic demand which will support mental and physical wellbeing of communities.

77. An increase in commercial vegetable production to meet future demand, and the mechanisms most suited to enable this (outlined in HortNZ's submission and Block 1 evidence), are also aligned with the overarching concept of 'Hononga ki te wai, hononga ki te whenau – Identity and sense of place through the interconnections of land with water'.

78. PC1 explains this concept as encompassing the holistic relationship between water and sense of community and sustaining community wellbeing. Again reflecting the values ingrained in the Vision and Strategy and Te Mana o te Wai.

79. Of note, the last bullet point in the explanation notes that *"mahitahi (collaborative work) encourages us all to work together to achieve common goals"*. This supports HortNZ's submission points relating to sub-catchment loads and catchment collectives as means to provide for increases in commercial vegetable production while still achieving water quality states. These are discussed in more detail in evidence in Block 1 and will be further discussed in Block 3.

OFF-SETTING BETWEEN CONTAMINANTS TO PROVIDE FOR NON-POINT SOURCE DISCHARGES ASSOCIATED WITH A REGIONALLY SIGNIFICANT INDUSTRY

80. As noted above and discussed in the evidence of Mr Keenan, some exceptions to a "total reduction" approach have been provided for within the PC1 framework. These include low intensity activities, land subject to Policy 16 and continued operation of point-source discharges associated with regionally significant industries/infrastructure.

81. Of particular interest is the exception provided for regionally significant industry (RSI). PC1 uses the same definition of RSI's as the Regional Policy Statement (RPS). That is that RSI's are *"an economic activity based on the use of natural and physical resources in the region, which is demonstrated to have benefits that are significant at a regional or national scale. These may include social, economic or cultural benefits"*.

82. The s42A Report notes that the RPS directs that management of natural and physical resources should provide for the continued operation and development of RSI's and primary production activities (paragraph 1053).

83. I acknowledge that PC1 provides a separate pathway for commercial vegetable production. This goes some way in providing for the continued operation as directed in the RPS. However, for the reasons set out[16] the provisions as notified are insufficient to adequately provide for existing activities and do not enable an increase in commercial vegetable production such to meet future food demand.

84. Paragraphs 1012 and 1054 of the s42A Report note that the RPS also anticipates different management methods for point source and diffuse discharges. I agree with the Report that point source discharges and diffuse discharges are different and should be managed differently. However, this does not discount an exception for commercial vegetable production from the total reduction approach.

85. As mentioned previously, paragraph 489 of the s42A Report notes Officers' doubt that off-setting between contaminants can be justified. I disagree and believe it can be justified for the reasons set out in the paragraphs below.

86. It is evident from the information provided in paragraphs xxx of this statement and paragraphs 29 - 45 of the Block 1 statement, that local commercial vegetable production is a regionally significant industry with social and economic benefits of a regional and national scale.

87. PC1 and the s42A Report support environmental off-setting within the same site, or at different locations, as a means for managing point source discharges associated with regionally significant industry. HortNZ believes that off-setting between contaminants is an equally effective means of managing non-point source discharges associated with regionally and nationally significant commercial vegetable production.

88. This is supported in the evidence of Ms Holmes which demonstrates that an increase in commercial vegetable production has negligible cumulative effects in terms of contaminants and that providing for new commercial vegetable production can improve water quality in some catchments.

FRUIT PRODUCTION AS A LOW INTENSITY ACTIVITY

89. Fruit production has not been a feature of HortNZ's submission and evidence to date. HortNZ interpreted Rule 3.11.5.2 as being applicable to fruit production activities. HortNZ considered that the

[16] In the HortNZ submissions, the industry statement and evidence for Block 1 and elsewhere in this statement and Block 2 evidence of Mr Ford and Ms Holmes.

majority of fruit production activities would have successfully met the notified standards, including the 15kg N threshold, and be deemed permitted activities.

90. Typically, fruit production uses significantly less nitrogen than commercial vegetable production. The application and quantities of nutrients are different for fruit than for commercial vegetable crops.

91. Fruit has low greenhouse gas emissions. If New Zealand is going to reduce its biological emissions, farmers will need to diversify their land use. In the Waikato there is good quality land that could be developed into fruit growing, with benefits for water quality and greenhouse gas emissions. This aligns with the vision and strategy that speaks of generations to come. If the world is to avoid warming more than 1.5 degrees, we all need to take immediate action to reduce our emissions. In New Zealand nearly half of our greenhouse gas emissions are biological emissions from agriculture. Research undertaken for the Biological Emissions Reference Group [17] found that if 1,000,000 ha of additional horticulture could be developed, it would be as effective at reducing New Zealand's greenhouse gas emissions as a methane vaccine. Developing planning provisions that support farmers wanting to diversify into fruit production, is an important way to reducing the impact of our current land use activities on Waikato River and all people in the future.

92. However, in reading the s42A report for Block 2, Officers do not appear to have considered that the rule is applicable to any activities other than pastoral farming.

93. As noted in the evidence of of Mr Keenan, Mr Barber and Mr Hodgson, and supported by HortNZ, it is considered that this rule should and does apply to fruit production activities. Although Mr Barber notes that the cultivation clause would apply to fruit, HortNZ suggests that additional, specific standards could be provided if necessary.

94. Notwithstanding this, as identified in the evidence of Mr Hodgson, HortNZ has concerns relating to the exclusion of enterprises and properties over 20ha from being permitted activities.

95. With regards to the 20ha threshold, the s42A report does not provide any sound scientific reasoning for why a property greater than 20ha would indicate higher intensity activities.

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[17] BERG. (2018). *Report of the Biolgical Emissions Reference Groups*

96. With regards to enterprises it is noted that this will be discussed further in Block 3

Michelle Sands

3 May 2019