

**BEFORE THE HEARING COMMISSIONERS
DUNEDIN**

IN THE MATTER of the Resource Management Act 1991
(**RMA** or **the Act**)

AND

IN THE MATTER of Proposed Otago Regional Policy
Statement 2021 (Freshwater Planning
Instrument)

**STATEMENT OF EVIDENCE OF LEANNE CLAIRE ROBERTS ON BEHALF
OF HORTICULTURE NEW ZEALAND**

28 JUNE 2023



ATKINS | HOLM | MAJUREY

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EXECUTIVE SUMMARY

1. pORPS has the opportunity to recognise and reward uses of the environment that appropriately support the community within its limits, especially those primary production uses which work within the natural environment to produce food for the population.
2. The community has been clear in providing direction to recognition of food production as a value in their local FMU and rohe through an extensive community consultation process. HortNZ believes the notified visions for FMU and rohe should be retained. HortNZ also believes this gives ORC the mandate to recognise and prioritise food production in those FMU's as priority users of water, providing they can demonstrate efficient use.
3. Water quality requirements for the production and preparation of fresh produce for human consumption need to meet food safety standards, which includes ensuring water is tested for contaminants.
4. Crop demand dictates the irrigation and nutrient requirements of a crop. Reduction in water access will likely have an impact on the production of a non-marketable yield.
5. HortNZ believes the production of fresh produce for direct human consumption meets the ingestion test similar to that of drinking water. This is because the freshwater requirements to cultivate, grow and pack fresh produce needs to be of a standard that is safe for human consumption. This particularly applies to produce grown for domestic consumption.

INTRODUCTION

1. My name is Leanne Claire Roberts. I am a Senior Advisor Environmental Policy at Horticulture New Zealand (HortNZ). I work within the Environmental Policy Team in national, regional, and district planning processes across New Zealand. I have been in this role since July 2022.
2. Ko Piripiri me Oteauheke ngā maunga, Ko Waitohi me Awaiti ōku awa, Ko Waikawa me ōnuku ōku marae, Ko Te Ātiawa me Ngāi Tahu ngā iwi.
3. I hold a Bachelor of Arts (Honours) from Victoria University. I am a former hydroponic grower of salad and herb products with nine years growing experience in the horticultural industry. I am a former industry representative who served as an elected representative on the Vegetables New Zealand Inc. Board from 2015 until 2022.
4. I have worked in local government as a Policy Analyst and Deputy Electoral Official, Primary Health in Māori Health Development, as a consultant to community groups, projects and organisations and as a horticultural business owner.
5. 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. I have travelled to Otago and met with growers and visited horticultural operations.

Involvement in the proceedings

6. When I joined HortNZ in July 2022, I took on the role of supporting pORPS proceedings.
7. I have had regular meetings and conversations with local growers, planners, and other advisors since July 2022, seeking information to support the HortNZ submission and evidence produced for this process.
8. I prepared evidence and attended hearings for the pORPS (non-freshwater) proceedings on behalf of Horticulture NZ.
9. I have also been a contributing author for the Horticulture chapters of the Phase 1: Farmers and Growers in Otago and Phase 2: economic report for Otago Regional Council as part of the Land and Water Plan process.

10. In preparing my evidence I have read:
- (a) The non-Freshwater parts of the pORPS;
 - (b) The Freshwater Planning Instrument Parts of Proposed Otago Regional Policy Statement (**pORPS FW**);
 - (c) The Section 42A report and appendices;
 - (d) The New Zealand National Policy Statement for Freshwater Management 2020 (**NPSFM**);
 - (e) The New Zealand National Policy Statement for Highly Production Land (**NPSHPL**);
 - (f) The New Zealand Government's Emissions Reduction Plan;
 - (g) The New Zealand Government's National Adaptation Plan; and
 - (h) The following statements of evidence on behalf of HortNZ on the pORPS:
 - i. Vance Hodgson (planning);
 - ii. Stuart Ford (economics); and
 - iii. Grower statements from Earnscy Weaver, Kris Robb and Simon Webb.

PURPOSE AND SCOPE OF EVIDENCE

11. My evidence describes the horticulture sector in the Otago region as follows:
- (a) The scale and key components of the Otago region horticultural production sector and its national significance;
 - (b) A description of natural resources that underpin the sector, including matters relating to the freshwater aspects of pORPS;
 - (c) Response to the S42a report for the pORPS FPI; and
 - (d) A summary of the HortNZ position on pORPS.

OVERVIEW OF HORTICULTURE NEW ZEALAND

12. HortNZ is the industry good body for the horticulture sector, representing growers who pay levies on fruit and vegetables

sold either directly by growers to customers or through a post-harvest operator, as set out in the Commodity Levies (Vegetables and Fruit) Order 2013.

13. HortNZ is affiliated with the following key local associations representing growers within the Otago Region: Teviot Fruit Growers Association, Ettrick Fruit Growers Association, Central Otago Fruit Growers Association, Otago Vegetable and Produce Growers. Alongside these local associations, several Product Groups representing specific product categories are also affiliated to HortNZ, for example: Summerfruit NZ, and Vegetables New Zealand Incorporated.

KEY CONCERNS WITH THE PORPS

14. pORPS needs to retain the notified vision and values for FMU and rohe, as these had been developed in consultation with the community. HortNZ notes the substantive changes to these, such as the removal of food production as a value in each FMU it has been specified in.
15. Planning evidence from Vance Hodgson discusses retention of the notified visions statements for FMU and rohe further.
16. Growers evidence from Earnscy Weaver, Kris Robb and Simon Webb discuss local community participation in the ORC consultation exercises and growers' contribution to developing their local community visions.
17. Horticultural orcharding operations are long-term investments into a community, for a small geographic area, they have a relatively large economic contribution to the Otago economy and have a low environmental impacts and are efficient users of water.
18. HortNZ believes there needs to be recognition of efficient uses of water and these should be prioritised when considering water allocation. There are also considerable efficiencies in modern approaches to orcharding that can support further efficiencies in water use and fertiliser application.
19. Economic evidence from Stuart Ford discusses efficiencies and innovations further.
20. Grower evidence from Kris Robb highlights innovations and efficiencies in contemporary growing methods further.
21. The relationship between water and growing horticultural crops is binary and as water application is matched to crop

demand, any reduction to the amount of water an operation accesses will likely result in the production of a non-marketable yield.

22. On-orchard decisions such as investment into infrastructure, are linked with water security and confidence of supply. Short duration consents provide less confidence on a return on investment as there is a short time period to plan for this.
23. The evidence of Stuart Ford discusses the economic relationship between water and horticulture and the impacts of reduction and uncertainty of water supply.
24. Grower evidence from Earnscy Weaver and Simon Webb discuss crop water requirements and impacts on business confidence resulting from regulatory uncertainty.
25. Commercial vegetable production requires a degree of flexibility to enable crop rotation. This includes recognising water use on a parcel of land will change from season to season and commercial vegetable growing incorporates use of lease land to achieve effective rotations.
26. Otago's population is supported by fresh produce produced in other areas of the country and transported into the region and this requires other regions to be cognisant of the food supply chain.
27. Quality of water required for horticultural operations and preparation of fresh produce to meet consumer standards needs to be of a high standard as per food safety requirements.
28. HortNZ believes the production of fresh produce for direct human consumption meets the ingestion test similar to that of drinking water. This is because the freshwater requirements to cultivate, grow and pack fresh produce needs to be of a standard that is safe for human consumption. We believe this meets the requirements for produce intended for direct human consumption to be included as a second-tier priority under Te Mana o te Wai.

Food Production

29. There is an estimated 3442 hectares¹ of horticultural land in Otago. There has been an overall reduction in the horticultural

¹ www.freshfacts.co.nz/files/freshfacts-2021.pdf

land use area in Otago between 2002 – 2019.² Stuart Ford's evidence details the composition of horticulture in Otago.

30. The Otago region has a degree of crop diversity – pip fruit, summerfruit, brassicas and potatoes are significant crops within the region, in addition to other crops including berryfruit, tomatoes, and other vegetable crops.
31. Specialised post-harvest pack houses add significant value after the farm gate and many growing organisations are now integrated into the post-harvest chain. This is discussed further below.

Summerfruit

32. Summerfruit includes cherries, apricots, nectarines, peaches and plums.
33. Central Otago is the largest summerfruit growing area in New Zealand, followed by Hawkes Bay. There are 1144ha of summerfruit in Otago. Central Otago accounts for 50% of New Zealand's summerfruit production.³
34. About half of the summer fruit area in New Zealand is used to grow cherries. Cherries are 70% exported. The other summerfruit are mainly grown for the domestic market: Nectarines (100% domestic), peaches (97% domestic), plums (99% domestic) and apricots (70% domestic).⁴

Pip fruit

35. Pip fruit refers to the apple and pear industry.
36. There are 470ha⁵ of pip fruit production in Central Otago, up from 427ha in 2017.⁶ Otago is the third largest production area of pip fruit in New Zealand, after Hawkes Bay and Tasman. Approximately 67% of New Zealand's apple crop is exported each year.⁷

² [Agricultural and horticultural land use | Stats NZ](https://www.freshfacts.co.nz/files/freshfacts-2020.pdf)

³ www.freshfacts.co.nz/files/freshfacts-2020.pdf

⁴ www.freshfacts.co.nz/files/freshfacts-2020.pdf

⁵ Apple and Pear Board grower data.

⁶ www.freshfacts.co.nz/files/freshfacts-2020.pdf

⁷ www.freshfacts.co.nz/files/freshfacts-2020.pdf

37. New Zealand is one of the most efficient producers of apples in the world – producing 61 tonnes per hectare (compared to an international average of 23.4 tonnes per hectare).⁸

Fresh vegetables

38. Vegetable production occurs mainly in North Otago – Oamaru and Kakanui areas. There is approximately 428ha of vegetable growing in the Otago region⁹ and there can be slight variations year to year due to crop rotation.
39. Dunedin and its surrounds – including Mosgiel, Taieri and Stirling – have previously been vegetable growing hubs. However, land used for vegetable production in Otago has halved in the last twenty years.¹⁰

Post-harvest facilities

40. Packhouses and other post-harvest facilities enable crops to be appropriately washed and packed according to consumer and market specification.
41. Export markets have packing and import health standard requirements specific to each receiving country.
42. Fresh produce has a short-shelf life. Time is a critical factor to ensure produce reaches consumers in the best condition and quality possible.
43. Packhouses and post-harvest facilities need to be located close to those orchards and crops which they specialise in packing to ensure produce is packed and handled in the most appropriate methods for each crop. Proper packing and post-harvest treatment of produce such as apples and cherries can help manage shelf-life and quality issues.

Research

44. Plant and Food research has two sites in Otago (Dunedin and Clyde), and a third site based in Gore.¹¹
45. The Dunedin site is co-located in the chemistry department at the University of Otago. Research interests include bioactive

⁸ <https://www.tupu.nz/en/fact-sheets/apples-and-pears>

⁹ [freshfacts-2021.pdf](#)

¹⁰ [Fresh Facts – 2001 - 2021](#)

¹¹ [Locations · Plant & Food Research \(plantandfood.com\)](#)

natural products, taonga native species and fast analytical methods. There are three staff based at this site.

46. The Clyde site is an important site for perennial research. Part of this research includes research orchards and is based over an area of 57ha. Research areas include breeding, bioprotection, and production systems. There are nine full time staff employed there as well as several casual staff. Key crops include kiwifruit, summerfruit, and pip fruit crops.

Economic Contribution

47. Orchardling (summerfruit and pipfruit) and vegetable production are different subsectors within horticulture. Both have very different pressures and needs. Key differences that need to be considered include:
- Climatic and environmental needs;
 - Location (static versus dynamic);
 - Scale, growth and opportunities; and
 - Environmental effects.
48. Growers need secure and reliable access to water to produce marketable crops. Water is used for frost fighting, irrigation, and washing produce.

Orcharding

49. Orchardling in Otago refers to the production of pipfruit¹² and summerfruit¹³ and is predominantly located in the Clutha Mata-au Freshwater Management Unit. Orchardling is predominantly in the Dunstan, Manuherekia and Roxburgh Rohe¹⁴ around the towns of Roxburgh, Ettrick, Alexandra, Cromwell and Wanaka. Table 1 below shows the planted area of apples and summerfruit in Otago compared with the total planted area in New Zealand in 2021.
50. Table 1: Area planted (ha) of Summerfruit and pipfruit in Otago and New Zealand¹⁵:

Crop	Area planted (ha) Otago in 2021	Area planted (ha) NZ 2021
Apples	427	8,615

¹² Pipfruit refers to Apples and Pears

¹³ Summerfruit refers to stonefruits such as: cherries, apricots, plums, peaches, nectarines

¹⁴ [Find your area | Otago Regional Council \(orc.govt.nz\)](#)

¹⁵ [freshfacts-2021.pdf](#)

Summerfruit	1,144	2,140
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51. Summerfruit production in Otago is in a growth phase. This is largely in the growth and expansion of cherry production in the Central Otago area. Some fruit is destined for the domestic market, but the expansion in summerfruit is largely driven by the demand from export markets such as Taiwan, China, Vietnam and Thailand.¹⁶ New Zealand also has a growing population that needs to have access to fresh fruit and produce.
52. The below table outlines the growth in the export market of fresh summerfruit:

Crop	Export sales 2018-19 (kgs)	Export sales 2021/22 (kgs)
Cherries	2,682,370	3,219,229
Apricots	317,135	168,057
Nectarines	3,840	1,364
Peaches	43,058	31,778
Plums	21,156	10,580

53. The expansion of summerfruit has led to the development of new orchards in Central Otago to meet the demand. New developments can challenge the traditional view of what an orchard can look like. For example, training trees to grow on 2-D structures enables production efficiencies through mechanisation and automation. 2-D structures, such as those found on Upright Fruiting Orchards (**UFO**), also allow a higher plant density, and greater pruning and tree maintenance to allow for light and airflow to reduce pest and disease pressure.¹⁷
54. These new approaches to orcharding also create significant environmental efficiencies, including reduced water consumption in growing operations, increased percentage of marketable yields with more consistent size, and improved

¹⁶ [2018-19 Season - Summerfruit NZ; 2021-22 Season - Summerfruit NZ](#)

¹⁷ [Witford-Simon Establishing-and-operating-a-Sweet-Cherry-orchard_Kellogg-report.pdf \[ruralladers.co.nz\]](#)

fruit quality. This also contributes to less waste as more fruit can successfully make it to market.¹⁸

Relationship between consent length and orchard planning and investment

55. There is a direct correlation between consent length and economic decisions made on orchard. Many factors will be considered and planned for before an orchard is planted out.¹⁹
56. Witherford discusses some of the considerations when selecting a site for orchard development, including:²⁰
- (a) climatic requirements of crop;
 - (b) soil type;
 - (c) water availability;
 - (d) topography;
 - (e) growing risk; and management options; and
 - (f) cultivar and root stock.
57. Once an orchard of trees is planted, it can take five years before a tree crop will produce a marketable yield. This means that orchards are long-term investments.
58. The duration of a consent will influence decisions about the level of investment into infrastructure of both existing and new orchards. Orchard trees are permanently in place for the duration of their life and so a key consideration when developing a new orchard is having access to a secure and reliable water supply when the trees need it, and growing methodology.
59. Productivity of stone fruit trees can diminish after 15 years; however, this is dependent on variety, style and tree care.²¹ The lifespan of orchard trees is linked to their productive capacity, and blocks of trees are replanted on this basis. Commercial orchards comprise several blocks of trees of

¹⁸ [Kris-Robb_What-Goes-in-Must-Come-Out_-Protecting-Our-Social-License-to-Grow-Cherries_Kellogg-Report.pdf \(ruralleaders.co.nz\)](#)

¹⁹ [Witthford-Simon_Establishing-and-operating-a-Sweet-Cherry-orchard_Kellogg-report.pdf \(ruralleaders.co.nz\)](#)

²⁰ [Witthford-Simon_Establishing-and-operating-a-Sweet-Cherry-orchard_Kellogg-report.pdf \(ruralleadeOrcharding is a long term investment into a community. rs.co.nz\)](#)

²¹ [The summerfruit industry – Te Ara Encyclopedia of New Zealand](#)

varying ages, and so its lifetime, and long-term infrastructure investment decisions, can be multi-generational.

60. Short duration consents are those of ten years or less. If short duration consents are issued, a business has a limited window for a return on investment. This is assuming other factors such as adverse weather events and market disruptions do not impact on the ability of growers to produce and sell a marketable yield once the tree is at production age. These factors, combined with others identified by Witherford and listed above, need to be considered by growers in their long-term business planning.

Water quality requirements for horticultural production

61. Horticultural production of fresh produce requires consideration of food safety and risks to food safety from contaminated water, including through pollution.
62. There are two main requirements for water in the production of fresh horticultural produce – water for irrigation and water for washing and packing fresh produce to meet consumer and food safety standards.
63. Consideration also needs to be given to water quality for water that will be applied direct to a crop – particularly orchard crops for frost fighting.
64. Growers need to ensure produce is fit and safe for direct human consumption. Some growers may produce 'ready to eat' products. This will involve more involved testing and certification processes to provide consumers with confidence of the safety of the produce they eat. Other growers opt to supply produce that is 'wash before use.' Wash before use produce is grown and supplied on the assumption that consumers will wash produce at home before consuming, however, this produce is still grown to New Zealand Food Safety standards and sent to market on the basis it is safe for human consumption.
65. NZGAP certification enables growers to achieve both market access and regulatory compliance in one food safety system. NZGAP has been approved by the Ministry of Primary Industries (MPI) as meeting requirements of the Act as a section 40 Food Control Template.²²

²² [Food Act \(nzgap.co.nz\)](http://nzgap.co.nz)

- 66. As part of the programme, growers are required to regularly test the water used for irrigation and washing of produce. Part of these tests include testing for contaminants such as e. coli.
- 67. NZGAP growers are independently audited to ensure they meet all the requirements of NZGAP, including the Food Safety requirements set out the Food Act 2014.

Naming conventions and mana whenua relationship with the area

- 68. HortNZ agrees with Kai Tahu's request that place names should be changed to reflect Kai Tahu's recommendations. We believe this is correct and also helps reinforce the importance of the relationship of Kai Tahu with the whenua and awa of Otago.

Economic snapshot

- 69. In SRMR-16 there is reference to the impacts of freshwater quality decline and primary production. HortNZ notes that in the s42a report the FMU's and rohe that have a higher presence of horticulture, and in particular orcharding, such as Dunstan, Upper Lakes, Manuherekiā and Roxburgh', have good levels of water quality. This speaks to horticulture in these areas, and orcharding, having a low environmental impact on water quality.

Food production as a value

- 70. This will also be covered further in the section about Te Mana o te Wai.
- 71. The tone of the S42a report in the SRMR section indicates the use of the environment is always a negative relationship. HortNZ encourages thinking to be reframed towards use of the environment to appropriately support the community within its limits. Primary production uses, and works within, the natural environment to produce food for the population.
- 72. Communities and populations have always relied on the environment to provide and sustain them. HortNZ notes that many areas in Otago give reference to Mahika kai in their names (e.g. kaituna). The interrelationship between use of the environment to sustain populations is well established.
- 73. HortNZ submits that the pORPS needs to retain the notified versions of the vision statements. HortNZ notes the s42a report writer has removed food production as a value from the

following FMU's LF-VM-O2 Clutha Mata-au FMU vision, LF-VM-O3 North Otago FMU vision, LF-VM-O4 Taieri FMU vision, LF-VM-O6 – Caitlins FMU vision.

74. HortNZ understands that these communities went through a rigorous consultation process to inform the values they see as important for their areas.²³ By removing specific reference to food production, ORC is undermining the public consultation process and community input.
75. HortNZ notes that food production was not sought as a value in the Dunedin and Coast FMU and we note this is an area where there has been a decline in vegetable production over the last few years. HortNZ believes the community are the best source of what should be included as a value for an FMU and we don't believe food production should be added if the community had not expressed a desire for this. However, HortNZ also would not like to see the door closed on a reinvigoration of horticulture in the Dunedin and Coast FMU in the future.
76. HortNZ sees this is an opportunity for ORC to recognise that some uses of freshwater are considered important to a community and should be prioritised. Given the environmental pressures of an FMU or rohe, the ORC may need to assess some activities as being more appropriate than others. The community provided a clear signal to support this approach through these vision statements.
77. Further, we note that the Natural and Built Environment Bill Select Committee report has recommended the Natural and Built Environment Act must provide direction on enabling supply of fresh fruit and vegetables. We support this position and Vance Hodgson discusses this further in his evidence.²⁴

Te Mana o te Wai

The first obligation to the health of water

78. Te Mana o te Wai establishes a hierarchy of obligations. The first priority is to the health and wellbeing of water bodies and freshwater ecosystems.

²³ See the Grower's evidence of Earnscy Weaver, Simon Webb and Kris Robb.

²⁴ <https://www.parliament.nz/en/pb/sc/select-committee-news-archive/natural-and-built-environment-bill/>

79. The six principles of Te Mana o te Wai provides guidance on who makes resource management decisions and the matters to be considered.
80. HortNZ supports Kai Tahu's position that each waterway, has a unique whakapapa and characteristics²⁵, and as such, approaches to each waterway should be approached individually when assessing freshwater outcomes and limits.
81. HortNZ agrees that *water* and *land* have a connectedness that supports and perpetuates life.²⁶ We believe this includes the role water has to play in supporting land-based activities that support food production.

The second obligation to human health

82. The second priority obligation under the Te Mana o te Wai framework is the health needs of people (such as drinking water).
83. HortNZ believes the production of fresh produce for direct human consumption meets the ingestion test similar to that of drinking water. This is because the freshwater requirements to cultivate, grow and pack fresh produce needs to be of a standard that is safe for human consumption.
84. HortNZ sees a distinction between the ability of people to generally provide for their social, economic and cultural well-being, now and, in the future. Access to healthy fresh produce is a fundamental requirement of a healthy population the same as access to safe drinking water.
85. Generally, food production and supply can fit within the third tier priority. However, access to fresh fruits and vegetables is a fundamental requirement of a healthy population and human health needs and requirements.^{27,28}
86. The Phase 1 Farmers and Growers report the s42A writer refers to also highlighted that summerfruits such as apricots, plums, nectarines, and peaches are produced for the domestic market,²⁹ and while cherries and pipfruit are grown and exported, some are also grown for the domestic market. The report highlights the importance the Otago fruit production

²⁵ LF-WAI-O1 – Te Mana o te Wai (3)

²⁶ LF-WAI-O1 – Te Mana o te Wai (4)

²⁷ [Vegetables and fruit - NZ Nutrition Foundation](#)

²⁸ [Eating and Activity Guidelines for New Zealand Adults | Ministry of Health NZ](#)

²⁹ P.144 [phase-1-farmers-and-growers-in-otago-report.pdf \(orc.govt.nz\)](#)

region has in extending the harvest season, and making sure New Zealanders have access to fresh fruits and vegetables.

87. The same report also highlights those vegetables grown in Otago tend to be for the domestic market³⁰ and that there has been a decline in the scale of the industry in Otago. This is due to urban development on vegetable crop growing land and increased uncertainty caused by regulation changes. The local Otago population now relies on the importation of fresh produce to meet the population's needs from other production areas such as Canterbury.³¹ The risks associated with this reliance have been seen through the last few years due to supply chain disruptions and weather events affecting larger growing hubs.
88. HortNZ believes the community has clearly mandated recognition of food production through their vision and values process to support elevation of food production for direct human consumption to the second tier.

Fruit and Vegetable consumption is essential for human Health

89. Food, and in particular vegetables and fruit, is an essential human health need.
90. Low vegetable and fruit consumption is associated with increased risk of developing some cancers, type 2 diabetes, cardiovascular disease, and obesity.³²
91. Data from the New Zealand Health Survey indicates that in 2018/19 and 2019/20, only 33% of adults in New Zealand met the combined fruit and vegetable intake guidelines (3+ vegetables, 2+ fruit servings per day), and this has been decreasing over time.³³
92. The price of meeting micronutrient requirements is very expensive in New Zealand compared to other countries. Without changing the land use, the situation is unlikely to get better, and could get worse.³⁴ Affordability is a key factor in why people eat less than the recommended intake of fruit and vegetables. If fruit and vegetable growing capacity cannot expand to meet the growing demand with an

³⁰ P. 146 [phase-1-farmers-and-growers-in-otago-report.pdf \(orc.govt.nz\)](#)

³¹ P. 151 [phase-1-farmers-and-growers-in-otago-report.pdf \(orc.govt.nz\)](#)

³² [www.health.govt.nz/system/files/documents/publications/adults-dietary-habits-oct22.pdf](#)

³³ [www.health.govt.nz/system/files/documents/publications/adults-dietary-habits-oct22.pdf](#)

³⁴ Moore, D., Barton, B., & Young, M. (2019). The value of local vegetable production. Sapere.

increased population, the reduced availability of vegetables and fruit and the resultant increased price would impact on the health of the most vulnerable people.³⁵

93. Otago University has recently modelled the potential health impacts of increased vegetable prices related to freshwater regulations preventing expansion of the vegetable growing area (due to grandparenting and/or pastoral nutrient allocation frameworks). This study found that an increase in vegetable prices of 43 - 58%,³⁶ would result in a loss of 58,300 – 72,800 Quality Adjusted Life Years and health costs of \$490 - \$610 million across the population.³⁷

Providing for the health of the Nation under Te Mana o te Wai

94. HortNZ seeks that the production of vegetables and fruit for domestic supply are recognised within the second priority obligation of the Te Mana o te Wai hierarchy.
95. The recent high court decision relating to the Specified Vegetable Growing Area Policy in the NPSFM 2020 notes “*Continuity of supply in fresh vegetables is important for national food security and human health*”.³⁸
96. The Te Mana o te Wai principles most relevant to providing for the health needs of people are Manaakitanga, and Care and Respect.
97. The principle of Manaakitanga includes ‘*generosity and care for freshwater and for others*’. The principle of Care and Respect includes ‘*care for freshwater in providing for the health of the nation*’.
98. The term ‘*nation*’ within the care and respect principle indicates that freshwater decisions need to consider both the local and national scale health benefits that are achieved through catchment activities, and ‘*providing*’ for the discharges and allocations that support the health of the nation.
99. New Zealand is geographically isolated. We cannot import most of the fresh fruits and vegetables our people need to

³⁵ Ibid.

³⁶ 2018 Deloitte The New Zealand Food Story, Pukekohe Hub

³⁷ Cleghorn, Cristina. 2020. The health and health system costs of increasing vegetable prices over time. Wellington: University of Otago, 2020.

³⁸ *Muaūpoko Tribal Authority Inc V Minister for Environment* [2022] NZHC 883 [29 April 2022].

eat, because most fruits and vegetables are too perishable to be efficiently transported to New Zealand.

100. New Zealand's national food system relies on reciprocity between regions, and a responsible approach to the management of natural resources to provide for the health of the nation.
101. The principles of Manaakitanga and Care and Respect express that care for freshwater is part of how the health of the nation is provided for. However, the application of this principle is not limited to human health associated with in-stream freshwater values such as swimming and collecting mahinga kai from within waterbodies.
102. Under clause 3.2.2.c.ii of the NPSFM, Councils must apply the hierarchy of obligations to the National Objectives Framework, this includes applying the hierarchy of obligations to limit setting.
103. Enabling communities to provide for their social, economic, and cultural wellbeing in a manner consistent with the NPSFM, requires that second and third priority obligation activities are differentiated. The concept of health under the second obligation includes the health of the nation.
104. Given the importance of fruit and vegetables to domestic health, HortNZ considers it appropriate to recognise fruit and vegetables within the second priority obligation of Te Mana o te Wai. This recognition would not negate the need for fruit and vegetable growers to manage their environmental effects through good management practices and to operate within the freshwater limits of the catchments they are located within.

Recognising the importance of food supply for Aotearoa within the Otago RPS

105. HortNZ seeks that the pORPS acknowledge the national importance of the summerfruit sector in Otago in supporting national food security and the health of the nation, by including a new issue statement for Food Production, Food Supply and Food Security.
106. Otago consumers rely on growers elsewhere in New Zealand for most of their year-around fresh fruit and vegetables. The vegetable sector in Otago has reduced and is not large

enough to support the nutritional needs of the Otago population.

107. Otago, as a region, does not have a favourable climate for the year-round production of fresh fruit and vegetables. The population of Otago will therefore rely on other regions to provide sufficient supply.
108. The continued supply of fresh produce to Otago from other regions is reliant on this being recognised and provided for in other regions RPS processes.
109. The value of domestic food supply in resource allocation decision making has been recognised within a series of policy instruments including:
 - (a) NPSFM specified vegetable growing areas;
 - (b) Waikato PC1 Policy 3;
 - (c) Horizons PC2 Policy 14-6; and
 - (d) Canterbury PC7 section 42A reply, Policy 4.36A.

The third obligation to social, cultural and economic wellbeing.

110. The third hierarchy of the Te Mana o te Wai is the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.
111. Except for food produced for the domestic market, most food production and primary production more generally is managed within the third priority obligation of Te Mana o te Wai.

Freshwater Visions

112. The regional value of food production is expressed specifically in the Visions of four of the five Freshwater Management Units.
 - (a) Clutha Mata-au FMU;
 - (b) North Otago FMU;
 - (c) Taieri FMU; and
 - (d) Catlins FMU.
113. Achieving these freshwater visions requires a policy framework that recognises and supports food production. This framework

includes freshwater limits, but other non-freshwater policy settings have a considerable impact on food production.

114. HortNZ believes the notified values for FMU's should be retained, as any change to these undermines the community's input and values as expressed during the public consultation exercise.
115. HortNZ believes Kai Tahu can make additions to a FMU value, but not remove or delete value statements a community has already decided on.
116. We do not believe food production and the importance of horticulture is reflected clearly enough in the proposed LF-FW-OIA and think reference to food production needs to remain in the FMU values as per the notified version of pORPS.
117. Freshwater visions and food production is discussed in the evidence of Vane Hodgson.

Climate change

118. The RMA Amendment Act 2020 includes the requirement to have regard to the Emissions Reduction Plan and the National Adaptation Plan when making and amending regional policy statements, regional plans and district plans.³⁹
119. The Emissions Trading Scheme and the system for pricing agricultural emissions, that will come into effect in 2025, provide a market system for disincentivising higher emissions activities.
120. Analysis to support He Waka Eke Noa, has shown there is a strong link between achieving freshwater outcomes and reducing agricultural emissions.⁴⁰ The link between freshwater and climate requires an integrated approach to freshwater and climate policy.
121. HortNZ considers that the pORPS approach to climate change should complement the disincentive provided by emissions pricing, by enabling lower emissions activities and enabling infrastructure, activities and practices that support climate change adaptation.

³⁹ See the RMA Amendment Act 2020 section 18 amending section 66 of the RMA.

⁴⁰ [/https://hewakaekenoa.nz/wp-content/uploads/2022/06/FINAL-He-Waka-Eke-Noa-Recommendations-Report.pdf](https://hewakaekenoa.nz/wp-content/uploads/2022/06/FINAL-He-Waka-Eke-Noa-Recommendations-Report.pdf)

122. Covered cropping is seen as a potential solution to the growth and supply of fresh fruits and vegetables. Covered crops have an important role in extending the seasonal availability of fresh produce for New Zealanders. This can come in two forms:
- (a) covered structures to protect soil grown crops from adverse weather and help provide a successful marketable yields; or
 - (b) soil-less hydroponic production of crops in a semi-controlled environment.
123. If vegetable production is to re-establish, it is likely to have a higher level of investment in tools, and structures that gives greater certainty to the grower of achieving a marketable yield.
124. New orcharding developments are expected to incorporate newer innovative methods such as retractable roofing, or 2-D structures to support more efficient production.
125. There is an opportunity for pORPS to support and encourage innovative and sustainable production practices, especially those that can address some of the freshwater pressures in FMU's.

Emissions Reduction Plan

126. The Emissions Reduction Plan includes a key action to transition to lower emissions land uses and practice.⁴¹
127. The Biological Emissions Reference Group report found that very large-scale diversification into horticulture could be as effective as a methane vaccine in tackling New Zealand's greenhouse gas emissions.⁴²
128. Supporting land use diversification to lower emissions land uses such as horticulture is critical to New Zealand achieving our 2050 emissions reduction targets within the Climate Change Response Act.
129. The opportunity that horticultural expansion provides for reducing emissions was canvassed in the Climate Change Commissions advice to Government. This advice assumed

⁴¹ [/https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf](https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf)

⁴² <https://www.mpi.govt.nz/dmsdocument/32125-BERG-Report-FINAL-for-release-6-Dec>

conversion of 2,000ha to horticulture annually between 2025 and 2035 (and noted that land use change would need to play a larger role than this if new technologies to reduce livestock emissions do not eventuate).⁴³

National Adaptation Plan

130. The National Adaptation Plan recognises the important role our planning and investment systems have in guiding how we use our land and resources, and that current regulatory systems do not always account for changing risks.⁴⁴
131. It is important that the pORPS, is mindful of our changing climate, and provides direction and flexibility to support and enable the climate change adaptation.
132. According to Plant and Food Research, climate change is expected to have an impact on the future suitability of growing areas within New Zealand. The Otago region, and particularly Central Otago, will see the suitability of its growing areas increase as the effects of climate change become apparent.⁴⁵ Otago will retain sufficient 'chill' requirements that crops need as part of their annual growing cycles.
133. Horticultural adaptation to climate change will include:
- (a) Plant breeding (more heat/drought resistant varieties), and the use of crop protection products such as agrichemicals, biopesticides and biological controls to manage new and increasing pest threats.
 - (b) Infrastructure investment, including crop protection structures, such as wind and hail shelters and plastic and glasshouses, to protect crops from more erratic weather. Infrastructure investment will also include water storage to provide irrigation reliability while supporting the freshwater ecosystem health.
 - (c) Land use change, crop changes within growing systems and crop rotations to match crops with the

⁴³ www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaiia-tonu-nei-a-low-emissions-future-for-aotearoa/

⁴⁴ [/https://environment.govt.nz/assets/publications/climate-change/MFE-AoG-20664-GF-National-Adaptation-Plan-2022-WEB.pdf](https://environment.govt.nz/assets/publications/climate-change/MFE-AoG-20664-GF-National-Adaptation-Plan-2022-WEB.pdf)

⁴⁵ Plant and Food Research (November, 2021). *Fact sheet: Climate change impacts on cherry*

changing climates and manage new and increasing pest threats.

134. The policy framework sought and relevance of climate change to food production is discussed in the evidence of Vance Hodgson.

Land and Soil

135. The objective of the National Policy Statement of Highly Productive Land (**NPSHPL**) is: highly productive land is protected for use land-based primary production, both now and future generations
136. In Otago, soils other than LUC 1, 2, and 3 are highly productive. Those soils that support horticulture and viticulture, should be recognised through the pORPS, to ensure these highly productive soils are not lost before the mapping required by the NPSHPL is complete.
137. The NPSHPL requires an integrated approach for the management of highly productive land, freshwater and urban development.
138. The NPSHPL seeks that reverse sensitivity is managed so as not to constrain land-based primary production activities on highly productive land. Horticultural practices such as frost-fans, bird scarers, crop protection products and crop protection infrastructure, should be provided for to ensure horticulture is not constrained in highly productive land.
139. The policy framework sought to implement the National Policy Statement for Highly Productive Land and to manage reverse sensitivity was discussed in detail in the non-freshwater pORPS process. It is important to note in this process that protecting highly productive land for production, also requires the provision of freshwater to enable the use of that productive land.

Conclusion

140. The pORPS process is an opportunity to recognise and reward uses of the environment that appropriately support the community within its limits. This is especially relevant to primary production uses which work within the natural environment to produce food for the population.
141. Community consultation has shown how the community recognises food production as a value in their local FMU and

rohe. HortNZ believes the ORC should retain the notified visions for FMU and rohe to reflect this.

142. HortNZ also believes the community consultation has given ORC the mandate to recognise and prioritise food production in those FMU's as priority users of water, providing they can demonstrate efficient use.
143. HortNZ believes there is a basis for including the production of fresh produce for direct human consumption in tier 2 of the Te Mana o Te Wai priorities, given that freshwater for this purpose must meet the ingestion test similar to that of drinking water. This particularly applies to produce grown for domestic consumption.
144. HortNZ submitted extensively on the implementation of the National Policy Statement for Highly Productive Land in the non-freshwater pORPS process. The acknowledgement of highly productive land gained during the non-freshwater process should carry through into this freshwater process.

Leanne Claire Roberts

28 June 2023