

# **SUBMISSION ON** Integrated Planning Framework

August 2023

**To:** Environment Canterbury

**Name of Submitter:** Horticulture New Zealand

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# OVERVIEW

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# HortNZ's Role

## Background to HortNZ

HortNZ represents the interests of approximately 5,500 commercial fruit and vegetable growers in New Zealand who grow around 100 different fruit, and vegetables. The horticultural sector provides over 40,000 jobs.

There is approximately, 80,000 hectares of land in New Zealand producing fruit and vegetables for domestic consumers and supplying our global trading partners with high quality food.

It is not just the direct economic benefits associated with horticultural production that are important. Horticulture production provides a platform for long term prosperity for communities, supports the growth of knowledge-intensive agri-tech and suppliers along the supply chain; and plays a key role in helping to achieve New Zealand's climate change objectives.

The horticulture sector plays an important role in food security for New Zealanders. Over 80% of vegetables grown are for the domestic market and many varieties of fruits are grown to serve the domestic market.

HortNZ's purpose is to create an enduring environment where growers prosper. This is done through enabling, promoting and advocating for growers in New Zealand.



# Submission

## 1. Horticulture in Canterbury

There are approximately 386 horticultural operations in the Canterbury Region which include a wide variety of vegetable and fruit crops. Large commercial vegetable operations include:

- Onions with nearly 4000ha of brown and 600ha of red
- Canterbury is the biggest potato producer in New Zealand with 65 percent of potatoes grown in the region or 5818ha
- Cucumbers grown in Canterbury supply most of the South Island

There are a number of other greenhouse operations which grow:

- Courgettes, capsicums, lettuce, herbs

Fruit grown in the region includes:

- Apples, Pears, Plums, Melons, Blackcurrants

Canterbury is a growth area for horticulture. Both Progressive Enterprises and Foodstuffs South Island headquarters are located in Christchurch and there is also a strong support for local farmers markets in the district. There is easy access to State Highway 1, which runs through the district as well as Christchurch Airport and Lyttleton Port.

## 2. Survey questions

HortNZ has responded to the surveys by way of submission which allows us to provide more detailed information which can assist council in their planning. This approach also allows growers to contribute to the submission as well as completing their own surveys.

HortNZ has responded to the water, land, climate change and air surveys - these being the most critical to growers.

### 3. General Questions

Q1

Is this feedback on behalf of an organisation, association or community group?

The feedback is from Horticulture NZ with input from growers

Q2

What areas of Canterbury are of interest to you.

All of Canterbury

Q3

Would you be interested in opportunities to participate in group workshops or community panels we may hold in the future to work through topics, issues or opportunities

Yes

## 4. Climate Change

Climate change has profound implications for horticulture, impacting various aspects of crop production, plant health, and practices. Growers are facing new challenges as they adapt to changing climatic conditions and work towards resilient growing systems.

Growers may need to explore innovative techniques such as controlled-environment growing (e.g., greenhouses, vertical farms) to mitigate the effects of extreme weather and provide consistent growing conditions.

A planning pathway should support innovative growing which in turn supports food security for New Zealanders.

Q4

Environment Canterbury helps to look after the wellbeing of the environment and of people in Canterbury. We do this by managing risks from natural hazards like flooding, providing public transport, and promoting sustainable resource use by regulating people's activities.

Climate change will have increasing impacts in Canterbury, including for the work that Environment Canterbury does.

What do you like most about Canterbury?

From a horticultural perspective, Canterbury provides food production capability and contributes to the domestic supply of fresh fruit and vegetables and maintaining food security for New Zealanders including overseas markets. This enables benefits from horticultural activities to be provided to communities.

Q5

How much do you think Canterbury is affected by the impacts of climate change and why?

Canterbury is starting to see the effects of climate change with prolonged dry spells and more intense weather events.

NIWA climate projections<sup>1</sup> are for warmer, drier winters and less rainfall particularly on the plains however with increased rainfall in the alps which will bring extreme flood events.

The impacts of climate change that will likely impact the hort sector include:

- **Altered growing seasons:** Changes in temperature and precipitation patterns can disrupt traditional growing seasons. Warmer winters and earlier springs can lead to shifts in planting and harvesting times, affecting crop yields and quality

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<sup>1</sup> <https://niwa.co.nz/sites/niwa.co.nz/files/ClimatechangeprojectionsfortheCanterburyRegionNIWA.PDF>

- **Temperature extremes:** Extreme heat events can damage plants, reduce yields, and impact fruit development. High temperatures can also affect pollination and lead to stress-induced diseases
- **Water availability:** Changes in rainfall patterns and increased evaporation due to higher temperatures can affect water availability for irrigation. Droughts and water scarcity can stress crops, leading to reduced yields and quality
- **Pest and disease dynamics:** Warmer temperatures and altered humidity levels can influence the prevalence and distribution of pests and diseases. New pests and diseases may emerge, and existing ones may become more challenging to manage
- **Shifts in plant hardiness zones:** As temperatures change, plant hardiness zones may shift, impacting the suitability of certain crops for specific regions. Growers may need to select different crop varieties or species that are better adapted to new climate conditions or adopt new ways of growing - covered cropping as an example
- **Pollination disruption:** Climate change can affect the behavior and distribution of pollinators, potentially disrupting pollination processes and reducing fruit set for many horticultural crops. Financial institutes considering the impacts of climate change in lending decisions
- **Conservative lending:** Lenders will likely consider physical risk to land, infrastructure, stock or crops from extreme or repeat weather events or longer term predicted change in environmental conditions for a particular land use when it comes to lending risk assessments

Q6

Reducing our emissions now is the best way to minimise the impacts of climate change in the future. The biggest ways people in Canterbury can take climate action to reduce emissions include:

- Reducing car and plane journeys
- Reducing coal and concrete use
- Reducing emissions from livestock and fertiliser
- Planting more trees
- Restoring ecosystems
- Reducing the amount of organic waste that goes to landfills

What would help you to reduce your emissions?

HortNZ strongly supports recognition of industry led initiatives to improve practice and achieve environmental outcomes including reduction of emissions. Such initiatives include:



- NZGAP Environmental Management System<sup>2</sup>, and GLOBALGAP<sup>3</sup> accreditation
- A Lighter Touch programme<sup>4</sup>

Diversification to horticulture presents an opportunity to reduce emissions while increasing food production, as identified by the Climate Change Commission. 'Ināia tonu nei: a low emissions future for Aotearoa'<sup>5</sup> includes the assumption that nationally, 2,000 ha of land will be converted to horticulture per year from 2025 and notes that the Commission expect this could increase if "barriers - such as water availability, labour, supply chains and path to market - are addressed".

Opening up more opportunities for conversion to lower emissions production systems and land uses, including horticulture, is listed as a critical outcome. The advice also notes that further land use change from livestock agriculture into horticulture and forestry (from 2021, additional 3,500 ha per year converted from dairy) would be required to meet the more ambitious end of the 2050 methane target if new technology does not come through.

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<sup>2</sup>[https://www.nzgap.co.nz/NZGAP\\_Public/Programmes/Environment\\_Addon/NZGAP\\_Public/Programmes/Environment\\_Addon.aspx?hkey=ff760aa0-c86d-4b8e-b929-c62701395a86](https://www.nzgap.co.nz/NZGAP_Public/Programmes/Environment_Addon/NZGAP_Public/Programmes/Environment_Addon.aspx?hkey=ff760aa0-c86d-4b8e-b929-c62701395a86)

<sup>3</sup> [https://www.globalgap.org/uk\\_en/what-we-do/globalg.a.p.-certification/](https://www.globalgap.org/uk_en/what-we-do/globalg.a.p.-certification/)

<sup>4</sup> <https://a-lighter-touch.co.nz/>

<sup>5</sup> <https://www.climatecommission.govt.nz/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf>

## 5. Water

Water is used throughout the horticultural production process; from growing the crops, washing, and processing produce for market, to fighting frosts (some fruits). To service these activities, the industry requires enough water supply at specific times, particularly in summer.

For some crops, such as vegetables that are grown above ground and fruit with skins that may be eaten, the quality of the irrigation water is important to manage food safety risks.

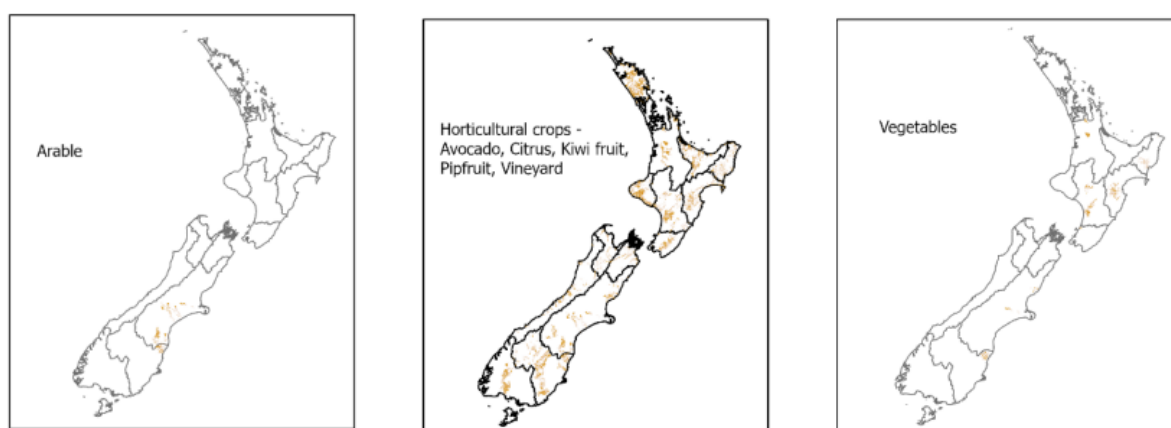
The reliability of water supply for crops during growth periods is very important to ensure quality as well as yield of each crop. During dry periods, access to reliable water at specific times in a crop's growth cycle is essential to sustaining crop yields and maintaining quality and quantity of supply required by the market. Over irrigating can be just as harmful to crop yields and quality as under irrigating. Growers are already efficient users of water.

If there isn't sufficient water reliability to produce a marketable yield, it can impact on the quality of produce which will have a flow on effect, both to consumers through higher prices, and to the price and margin received by growers and the flow on effect throughout the supply chain.

While horticultural crops are efficient users of water compared with pastoral irrigators, the need for a reliable supply of water for horticultural crops is higher than for pastoral farming, because pastoral agriculture is not solely dependent on irrigation and has alternative means of providing the feed to produce the gains made from irrigation

A recent study funded by MPI<sup>6</sup>, looked at the opportunity to expand horticulture if more water storage was provided. This study indicated that horticulture was profitable if there is 95% water security (irrigated water supply). Based on the study, Canterbury is one of four regions that would require medium to large storage infrastructure to enable a water security of 95% or greater.

Table one: Potential new land use on newly identified irrigated areas with 95% or greater supply reliability



<sup>6</sup> <https://www.mpi.govt.nz/dmsdocument/47770-Water-Availability-and-Security-in-Aotearoa-New-Zealand>

Q7

These are our targets to give effect to national legislation:

- Manage water in a way that gives effect to Te Mana o Te Wai.
- Meet new national bottom lines for water quality within a generation.
- Manage water in accordance with the new national hierarchy of obligations.

Priorities in this order:

1. The health and wellbeing of water bodies and freshwater ecosystems.
2. The health needs of people (such as drinking water).
3. The ability of people and communities to provide for their social, economic, and cultural wellbeing, now and in the future.

Water bodies are considered any river, lake, stream, wetland or aquifer.

With these priorities in mind, what do you think our goals for freshwater should be?

HortNZ's view is that all is connected in Te Mana o te Wai, and that the production of fresh vegetables and fruit take a central role because they are critical for human health, as well as economic, social and cultural well-being. The domestic supply of fruit and vegetables and maintaining food security for New Zealanders are as important as providing drinking water and sanitation.

The fundamental concept of TMOTW is that when managing freshwater, TMOTW ensures the health and well-being of the water is protected and human health needs are provided for before enabling other uses of water.

While food production matters sit within the third priority, HortNZ consider that food production for domestic food supply (and food security) is a critical part for providing an essential human health need, and accordingly that it fits within the second hierarchy priority. Food production for export sits within the third hierarchy - the ability of people and communities to provide for their social, economic and cultural well-being.

The food security of New Zealand is achieved through both self-sufficiency and self-reliance. Some foods (most fresh vegetables and some fresh fruit) are produced predominately for domestic supply and cannot easily be replaced by imports. These food support food security through self-sufficiency. Freshwater management has the potential to have a stark impact on the cost and availability of these foods. Other foods produced mainly for export (meat, milk, kiwifruit), support the food security of New Zealanders by supporting self-sufficiency and self-reliance through trade.

Freshwater management has the potential to impact on the production and trade of these foods, but the influence of freshwater management decisions on the cost and supply of these foods for New Zealanders is lesser.

HortNZ consider that food production for domestic food supply (and food security) is a critical part for providing an essential human health need, and accordingly that it fits within the second hierarchy priority.

From a horticulture perspective, council's goal for freshwater in the region should include: Food production in the region/FMU is supported by innovative and sustainable land and water management practices that:

- Maintain food security for New Zealanders
- Support the transition to low emissions land use
- Improve resilience to the effects of climate change
- Support the use of Highly Productive Land for primary production.

**Q8** What goals do you think we should aim to achieve within a generation?

This will depend on water quality and quantity for each freshwater management unit however HortNZ would like to see innovative land and water management practices that support food production and provide for the health and well-being of water bodies, freshwater ecosystems and improve resilience to the effects of climate change.

**Q9** Rivers, lakes, streams, wetlands and aquifers can have a range of values such as: natural character, drinking water, wai tapu, boating and tauranga waka, fishing, hydroelectric generation, irrigation, stock water, and commercial and industrial use. What are the most important freshwater values to you?

Irrigation, cultivation and production of food and beverages is a value set out in Appendix 1B of the NPSFM:

*Water quality and quantity is suitable for irrigation needs, including supporting the cultivation of food crops, the production of food from farmed animals, non-food crops such as fibre and timber, pasture, sports fields and recreational areas.*

In our view food production and cultivation should be afforded values and outcomes separate to other irrigation needs. We believe there should be a focus on food production. The issues are different from for example sports field irrigation needs. Appendix 1B of the NPSFM unhelpfully bundles many uses but in Canterbury there is the opportunity for a more refined approach :

Food Production Value

*The FMU or part of the FMU supports food production*

*Water quality and quantity supports food production including: the domestic supply of fresh vegetables, food security for New Zealanders, low emissions food production, climate change resilient food production and food production on highly productive land.*

The other value which is of critical importance for horticulture is the Commercial and Industrial Use value. This relates to flow regimes that provide the volume and reliability abstraction to support the activity for commercial matters such as frost fighting and crop washing, post-harvest and food processing.

Q10

Through our previous Long-Term Plan consultations, Canterbury Water Management Strategy community engagement and Rangiora Reach process, we've heard that you value a wide range of things when spending time in our region's rivers. Things we've heard so far include:

- Biodiversity
- Drinking water
- Tangata whenua responsibilities as kaitiaki
- Recreation and amenity (birdwatching, swimming, fishing, boating, horse riding, park activities, picnics, cycling and driving)
- Irrigation
- Creating hydro-electricity
- Collecting resources
- Mahinga kai, and
- Landscapes.

Is there anything you value missing from this list?

Food production as per the reasons outlined in question 9

Q11

Based on the goals within the current Regional Policy Statement that state things we must do - this is very strong policy direction that is required to be implemented:

- Ensure we put in place ways to preserve the natural character of rivers, lakes and wetlands and their margins, including those in the coastal environment.
- Engage with Ngāi Tahu to identify values relevant to the protection and enhancement of rivers and lakes.
- Provide for appropriate activities that support the wellbeing of our communities, in particular for management of flood risk and for essential structures.
- Support appropriate existing public access to and along rivers and lakes.

Things we should do - this policy direction is strongly encouraged:

- Provide greater protection where significant natural character values exist.
- Provide for the integrated nature of whole catchments in managing and enabling activities in rivers and lakes.
- Support appropriate new access to and along rivers and lakes.
- Promote further initiatives to incentivise the preservation of the natural qualities of our region's water bodies.

Do you think our goals are doing enough, not enough or too much to address our resource management issues?

Council is not doing enough

Plan Change 7 to the Canterbury Land and Water Regional Plan (decisions version) provided a particular resource management response for commercial vegetable production (CVP) in Canterbury. The regulatory framework includes:

- Recognition of the importance of CVG for domestic food supply within the policy
- Three consenting pathways open to CVG - Irrigation Scheme permit, Farming land use consent or CVG permit
- Exclusion of a nutrient budget in the body of the rule (thereby not triggering a non-complying activity status if not provided)
- A move in the permitted activity status threshold from 0.5ha to 5ha
- Existing CVG provided for as a restricted discretionary activity and movement not limited to a sub-catchment or nutrient allocation zone. Existing CVG can move across the region
- New or expanded CVG provided for as a discretionary activity, subject to having a FEP and meeting lawful nitrogen loss rate
- Any CVG that does not meet the discretionary activity is non-complying activity.

Food production, food security, food supply values must be recognised in the regional policy statement and those values reflected in the freshwater policy. This includes protection of highly productive land.

## 6. Air Quality

Q12

Based on the goals within the current Regional Policy Statement that state:

Things we must do - this is very strong policy direction that is required to be implemented:

- To control the discharge to air of contaminants.
- In consultation with interested parties, to develop a framework for managing industry offsets.
- To maintain ambient air quality, only allow discharges to air where the effects are minor, and give priority to ensure PM10 ambient air quality improvements are achieved in Rangiora, Kaiapoi, Christchurch, Ashburton, Timaru, Geraldine and Waimate.
- To promote measures, including the transfer to cleaner technology and fuel sources, that reduce the adverse effect on ambient air quality from the use of solid and liquid-based fuels.

Things we should do - this policy direction is strongly encouraged:

- Engage with Ngāi Tahu as tāngata whenua, including by recognising iwi management plans, when determining localised adverse effects on cultural values.

Do you think these goals are doing enough, not enough or too much to address our resource management issues

Council is not doing enough

The air key Issues paper identifies that we must:

- Avoid, remedy or mitigate localised adverse effects on air quality, including the proximity of discharges to sensitive land-uses
- Avoid adverse effects from the drift of agrichemical sprays.

The influence of legacy subdivision and land use policy, has introduced and continues to introduce, activities sensitive to the effects of primary production into Canterbury's rural environment. We would not support more controls on air discharges related to primary production activities but would support the greater use of methods such as zonings and setback distances for sensitive activities (eg, residential activities, educational facilities, community facilities, tourist activities etc) within areas of primary production.

Q13

Air quality contributes to the social, economic, environmental and cultural wellbeing of our communities. For example, clean air is important for human health and our enjoyment of the environment.

Tell us what issues relating to air matter most to you and what you would like us to address as a priority.

Clean air is important for human health and our enjoyment of the environment. However, discharges to air are also necessary to support other values such as food production (domestic and export) and economic outputs. These values should be recognised. Discharge effects from these activities can be managed in a manner that avoid adverse effects.



## 7. Land

Soil underpins New Zealand's agriculture, horticulture and forestry and contributes to healthy ecosystems by helping to clean water, cycle nutrients, store carbon and grow plants and animals. Creating new soil is a slow process and can take hundreds to thousands of years, which effectively makes soil a non-renewable resource in our lifetimes. Protecting soil is essential for food security and a sustainable future.

The importance of our soil resource and the current issues faced are recognised by the government in the National Policy Statement for Highly Productive Land.

There is an extensive range of crops which are grown in Canterbury. Some which are very frost sensitive and some of which require considerable winter chilling. Some crops can be grown continuously in the same land and some crops require considerable periods before they can be grown in the same ground again to avoid disease pressure. This means that the total area of land which is used for growing in any one year will be less than the total footprint of vegetable production land. The commercial vegetable production sector tends to operate at about half the land owned by the business and half which is leased both long and short term. However, some growers operate solely on leased land. Access to the right number of suitable soils on a lease basis is a serious issue for this sector.

Parts of Canterbury have top quality soils and mild climatic conditions that are vital, but increasingly hard to come by. Other factors that limit access to quality growing environments include; land ownership, district plan zoning, access to water, access to labour, transport networks and previous land use (such as housing). Access to this type of growing environment needs to be enabled to ensure New Zealanders have fresh affordable food. All these factors mean that suitable growing land is limited and therefore Canterbury growing operations often grow across multiple water zones or catchments in order to meet demands. This is a common practice.

Q14

Based on the goals within the current Regional Policy Statement that state:

Things we must do - this is very strong policy direction that is required to be implemented:

- Ensure contaminated land is investigated, appropriate management methods, and monitoring is undertaken as appropriate, when contamination is found.
- Put in place additional controls on activities using hazardous substances in sensitive environments, such as areas with significant human health or environmental qualities.
- Engage with Ngāi Tahu to assist in identifying areas that may be sensitive to activities using hazardous substances.

Things we should do - this policy direction is strongly encouraged:

- Ensure processes are put in place to identify and investigate contaminated land in the region.

- Engage with Ngāi Tahu to provide guidance on cultural values associated with contaminated sites.
- Provide information to the public outlining the risks to health associated with contaminated land.
- Promote an integrated approach to the contaminated land and hazardous substance management in the region
- Promote further initiatives to incentivise the remediation of existing contaminated land, hazardous substance best management practice and emergency response management.

Do you think these goals are doing enough, not enough or too much to address our resource management issues

As noted under question 12, the influence of legacy subdivision and land use policy, has introduced and continues to introduce, activities sensitive to the effects of primary production into Canterbury's rural environment. We would not support more controls on agrichemical use related to primary production activities but would support the greater use of methods such as zonings and setback distances for sensitive activities.

Agrichemicals have a significant role in modern horticulture, aiding in pest and disease management as well as nutrient enhancement. Their use is managed to mitigate potential risks to human health and to the environment. As consumer demands change and a focus on more reduced chemical free produced food, the horticulture industry is proactively looking at ways to reduce the agrichemical footprint on food production. An example of this is a \$27 million, seven-year, programme jointly funded by government and industry (A Lighter Touch). The programme will address the challenge of meeting consumer demands for safe food that is produced under sustainable pest management programmes while also being gentle on the environment.

In addition, growers need to meet good agricultural practice standards which provide assurance for the safe and sustainable production, packing and distribution of fruit and vegetables. Horticultural businesses that achieve compliance with GAP assurance standards demonstrate that management systems, procedures and practices are in place to meet relevant regulatory and market requirements.

GAP programme covers environmental risk assessment for the responsible use of agrichemicals and fertiliser and protection of land and water

**Q15** The way we manage and prevent land contamination contributes to the social, economic, environmental and cultural wellbeing of our communities. For example, keeping land free from contamination in areas where we build houses and grow food is important for protecting our health.

Tell us whether managing land contamination is important to you and what related issues we should address as a priority.

- Provide information to the public outlining the risks to health associated with contaminated land.
- Promote an integrated approach to the contaminated land and hazardous substance management in the region.

- Promote further initiatives to incentivise the remediation of existing contaminated land, hazardous substance best management practice and emergency response management.

Do you think these goals are doing enough, not enough or too much to address our resource management issues

Keeping land free from contamination in areas where we grow food is important for protecting our health. Land contamination threats can be from inappropriately located activities in rural environments (e.g some non-rural related industry) or as a result of the rural environment being a receiving environment for contaminant discharges from other areas or infrastructure e.g roads or stormwater from urban activities.

The food production capability of rural resource should not be compromised by land contamination. Hort recommends including an additional goals that supports food production free from contaminated land.

Q16 Based on the goals within the current Regional Policy Statement that state:

Things we must do - this is very strong policy direction that is required to be implemented:

- Ensure we manage activities to provide for long term soil conservation, such as by managing soil erosion and maintaining soil qualities, for example by managing land to avoid significant induced soil erosion.
- Engage with Ngāi Tahu to identify cultural values in relation to soil.

Things we should do - this policy direction is strongly encouraged:

- Identify and safeguard important areas of soil for use by primary production and areas at risk of the accumulation of hazardous substances.
- Recognise that the way we manage soils can have impacts on other values such as freshwater and air.
- Look to match land-use activities with land-use capability, for example by allowing the most productive soils to be used for growing and less productive soils to be used for activities that are not dependent on the soil resource.
- Promote further initiatives that encourage activities way that supports healthy soils in the long-term such as particular land-use practices that maintain and improve soil quality and prevent excessive discharge of hazardous substances that accumulate in soils.

Do you think our goals are doing enough, not enough or too much to address our resource management issues

Council is not doing enough

The goals state that the following policy direction should be encouraged when it is actually set out in regulation via the National Policy Statement for Highly Productive Land (NPSHPL) which councils are required to act upon:

- Identify and safeguard important areas of soil for use by primary production and areas at risk of the accumulation of hazardous substances.
- Look to match land-use activities with land-use capability, for example by allowing the most productive soils to be used for growing and less productive soils to be used for activities that are not dependent on the soil resource

Policy 3.2 of the NPSHPL sets out direction for councils in identifying highly productive land : Regional councils and territorial authorities must identify highly productive land, and manage the effects of subdivision, use, and development of highly productive land, in an integrated way, which means:

- a) considering how land-based primary production, including supporting activities, interact with freshwater management at a catchment level; and
- b) providing co-ordinated management and control of the subdivision, use, and development on highly productive land across administrative boundaries within and between regions; and
- c) taking a long-term, strategic approach to protecting and managing highly productive land for future generations.

The NPS-HPL already promotes a more nuanced approach to the highly productive land resource that needs to be reflected in future policy. This is to match land-use activities with land-use capability by allowing the most productive soils to be used for growing and less productive soils to be used for activities that are not dependent on the soil resource.

Q17

Soil health is important for the social, economic, environmental and cultural wellbeing of our communities. For example, healthy soils allow us to grow crops safely to feed our communities and contribute to our economy.

Tell us whether soil quality is important to you and where we should focus our efforts to maintain high- quality soils.

Soil quality is important for a range of primary production activities with high-quality soils supporting land-based primary production and other activities.

In determining how to give effect to the NPSHPL by enabling land-based primary production activities on highly productive land, consideration will need to be given to how other rural activities will be enabled in areas that are not highly productive land. This may include a review of provisions that manage primary production activities in non highly productive land areas and considering whether sufficient non highly productive land has been provided to accommodate rural activities and industries that do not meet the definition of land-based primary production.

Some rural production activities may be accommodated within urban environments in the future (e.g., hydroponic growing of vegetables in 'vertical farms' within industrial areas).

However, the functional and operational needs of other rural production activities may require a rural location

- Greenhouses can require a pastoral activity relationship for nutrient solution discharge. In an urban environment, these activities may need to discharge as trade waste to a municipal wastewater system and for other waste management (e.g., plant bedding) transfer material offsite
- Sensitivity at interfaces may be a constraint where amenity and character expectations differ
- Physical separation between farms for biosecurity which would need to be a consideration for spatial planning
- A significant influence on the viability of alternative locations is land price which may be a barrier for some activities.

A refreshed policy approach may need to be directive on outcomes for particular rural activities and industries as they relate to and need highly productive land.

## 8. Final comments

The production, supply and security of food is a resource management issue of concern that has in the past had little direct attention and assumed to be dealt with broadly in planning instruments. There has been a shift in recent times with the value of domestic food supply being recognised within a series of policy instruments including:

- National Policy Statement for Freshwater Management 2020 Cl 3.33 Specified Vegetable Growing Areas;
- Proposed Change 1 to the Waikato Regional Plan: Healthy Rivers (decisions version).
- Proposed Change 7 to the Canterbury Land and Water Regional Plan (decisions version).
- Proposed Plan Change 2 to the Horizons One Plan (decisions version).

More direct recognition of the supply of fresh fruit and vegetables matters have been included in the Natural and Built Environment Bill which provide mandatory direction on enabling supply of fresh fruit and vegetables.