SUBMISSION ON

Auckland Freshwater Engagement NPSFM 2020

17 July 2022

To: Auckland Council
Name of Submitter: Horticulture New Zealand
Tomatoes NZ, NZ Asparagus Council, Strawberry Growers NZ

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Horticulture™ New Zealand
Ahumāra Kai Aotearoa

OVERVIEW

Submission structure

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2. Part 2: Submission

Our submission

Horticulture New Zealand (HortNZ) thanks Auckland Council for the opportunity to submit on the freshwater engagement and welcomes any opportunity to continue to work with council and to discuss our submission.

The details of HortNZ's submission are set out in our submission below.

PART 1

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.

Industry value $6.87bn

Total exports $4.6bn

Total domestic $2.27bn

HortNZ's Resource Management Act 1991 Involvement

On behalf of its grower members HortNZ takes a detailed involvement in resource management planning processes around New Zealand. HortNZ works to raise growers' awareness of the Resource Management Act 1991 (RMA) to ensure effective grower involvement under the Act.

Executive Summary

Community Engagement

The process that Auckland Council is undertaking is about freshwater values. For any water body there may be many values, and some of these may be competing. The process that occurs within the NOF where values, outcomes, limits and associated attribute states and flow regimes are set, must achieve the freshwater vision.

Collecting information on `values is an important element of setting a freshwater vision, but the vision also requires engagement on what tangata whenua and community want the FMU to be like. The FMU describes the land that is connected to the waterbody within the FMU

How communities want the land in their catchments to be, and their freshwater are interlinked and there are trade-offs, that must be considered within the national objectives framework and in the vision setting process.

In our view more community consultation will be required following this phase of collecting information on values, to meet the requires of vision setting within the NPSFM

Specified Vegetable Growing Area

The specified vegetable growing area includes the national values of the domestic supply of fresh vegetable and maintaining food security. These values must be considered within the specified vegetable growing area.

In our view these values may also be considered in any other catchment. HortNZ considers that domestic food supply is included within the second hierarchy of Te Mana o te Wai. 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"[1].

We note that while the NPSFM 2020 does not require the Council to reflect the SVGA provisions (in the long-term visions) – we consider it would be amiss not to do so. Improved attribute states are to be achieved and vegetable growers are not exempt from limits, action plans and conditions of resource consent which are all requirements that growers already have considerable experience with.

Te Mana o te Wai

The hierarchy of obligations informs how councils identify freshwater values – we note that it is not implicit that all compulsory NPSFM 2020 values are first or second priority TMTOW values.

For example, the compulsory 'human contact' value may include environmental outcomes relating to flows or levels (to support people being able to connect with water). The water quality aspect of this value (i.e people not getting sick from contact with water) would fall under the second priority in the TMOTW hierarchy of obligations, however environmental

[1] MUAŪPOKO TRIBAL AUTHORITY INC v MINISTER FOR ENVIRONMENT [2022] NZHC 883 [29 April 2022]

outcomes related to flows and water levels would not, in our view be a second hierarchy value. Te Mana o te Wai, applies to both the freshwater outcomes and limits.

Irrigation, Cultivation, and Production of Food and Beverages

The value of Irrigation, Cultivation, and Production of Food and Beverages is the most important to the horticulture industry.

Water is essential for food production. Growing fruits and vegetables in Auckland, is reliant on reliable supplies of fresh water that are suitable for sustained crop production, post-harvest washing and processing. This value must recognise both the value of the assimilative capacity of water bodies to support abstractions and discharges. Water is essential for food production.

PART 2

Submission

1 Horticulture in Auckland

Freshfacts[2], published annually since 1999 by Plant & Food Research, provides a year-by-year report on horticulture in New Zealand. This is based on the Statistics New Zealand Agricultural Production Census with most recent data to 2017. The next Agricultural Production Census is being held in July 2022, gathering information about farms, fields, orchards, and forests to identify trends and provide current statistics that benefit the agricultural sector, inform decision-makers, and measure New Zealand's growth.

Table 1: Area planted fruit hectare

Apples	Wine grapes	Kiwifruit	Summerfruit	Avocados	Citrus	Berryfruit	Nuts	Olives	Other	Total
84	836	494	31	281	121	164	86	128	78	2303

Table 2: Area planted vegetables hectare

Asparagus	Broccoli Cab & Coulis	Carrots	Peas & Beans	Lettuce	Onion	Potato	Squash	Sweet Corn	Other	Total
1	1111	255	51	625	1919	2242	300	29	1400	7933

Table 3: Indoor crops hectare

Capsicum	Cucumber	Salad greens	Mushrooms	Tomatoes	Other	Total
403	111	207	23	389	246	1379

1.1 Pukekohe Vegetable Growing Area (PVGA)

The PVGA has around 250+ members and stretches from Warkworth to the southern Waikato. These vary from small family-run businesses to large corporate organisations - some who have operations throughout New Zealand. Most members are inter-generational growers (three to four generations). The PVGA has an active executive committee of around 20 growers who are all volunteers. The association has operated in various forms as a grower organisation since the early 1900's.

Growers in the PVGA produce a large proportion of fresh vegetables for the Auckland region as well as export crops. The exports include onions, potatoes, buttercup squash, capsicums, tomatoes, and carrots.

2 Key high-level issues for horticulture to inform long- term visions and value setting for freshwater in Auckland

2.1 Te Mana o te Wai

The management of freshwater resources must include provision for and recognition of fruit and vegetables – this is in accordance with the concept of Te Mana o te Wai (TMOTW).

[2] Fresh Facts

HortNZ's view is that all is connected in TMOTW, and that vegetables, especially in the Auckland region, take a central role in that – because they are critical for human health, and economic, social and cultural well-being. The domestic supply of fresh vegetables (and more broadly food including fruit) and maintaining food security for New Zealanders is as important as human health needs as water and shelter.

It is HortNZ's view that the hierarchy of TMOTW includes:

- Tier two: fruit and vegetables for domestic consumption is necessary for the health needs of people
- Tier three: fruit and vegetables for export purposes enable people and communities to provide for their social, economic, and cultural well-being.

TMOTW is about restoring and preserving the balance between the water, the wider environment, and the community. HortNZ considers that this requires consideration of other important values as part of that balancing act.

In our view, the specified vegetable growing area provisions in the NPSFM 2020 are a specific acknowledgment of the need to balance different values, while still improving freshwater – it provides in catchments with specific freshwater challenges a means of doing so. To quote the Ministry for the Environment's factsheets and website:

> *The hierarchy does not mean, however, that in every case the water needs to be restored to a pristine or prehuman contact state before the other needs in the hierarchy can be addressed*[3]
>
> *Making this the first priority in freshwater management does not mean that councils will ignore the health needs (or other needs) of people*[4]

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. The High Court (Judicial Review against specified vegetable growing area in Manawatu decision) held that food security and TMOTW are not inconsistent nor unachievable, but that the council must undertake the balancing act.

As noted in the Judicial Review[5] decision (paragraph 175), the requirement in respect of specified vegetable growing areas to have regard to the importance of the contribution of that area to the domestic supply of fresh vegetables and maintaining food security for New Zealanders in implementing 'any part' of the NPSFM 2020 (3.33 sub clause (2) "*does not prioritise those factors over the health and wellbeing of waterways and freshwater ecosystems, but simply adds a further mandatory requirement to the mix*".

There is also a broader value related to the economic and social value of growing as part of the communities which they are part of (for all food production – whether it serves only the domestic market, or also export markets); this aspect fits within the third hierarchy priority.

[3] https://environment.govt.nz/publications/essential-freshwater-te-mana-o-te-wai-factsheet/
[4] https://environment.govt.nz/acts-and-regulations/freshwater-implementation-guidance/clarification-of-the-essential-freshwater-programme-implementation-requirements/
[5] https://www.courtsofnz.govt.nz/assets/cases/2022/2022-NZHC-883.pdf

Outcome sought

Include in the hierarchy of Te Mana o Te Wai:

- Tier two: fruit and vegetables for domestic consumption is necessary for the health needs of people
- Tier three: fruit and vegetables for export purposes enable people and communities to provide for their social, economic, and cultural well-being.

2.2 Wellbeing

People are part of the natural environment, and the social, economic, and cultural wellbeing of all people must be provided for within natural environmental limits. Horticulture produces healthy food to support the essential health needs of people and provides jobs and export earnings which support the social, economic, and cultural wellbeing of our population.

A global study into the gap between fruit and vegetable production and recommended consumption concluded that achieving recommended consumption of fruit and vegetable "*will require concentrated efforts across the food system to reorient investments and interventions to prioritise fruits and vegetables more. It will require additional investments in research and development to encourage more fruit and vegetable production, while decreasing its environmental footprint*". It also noted that greater fruit and vegetable consumption could be 'win-win' for both public and ecological health[6].

2.3 Food Security

Food security is a nationally important issue which needs to be addressed at a strategic level. While New Zealand is a net food exporter, many of the vegetables and some of the fruit that we grow are only for domestic food supply.

Growing of vegetables for domestic supply is integrated with vegetables grown for export in crop rotations. We also have a national food producing system that relies on growing vegetables and fruit in pockets of highly productive land, with good climate and access to freshwater. Fruit and vegetables are essential for the human health of New Zealanders, including those living in Auckland.

Over 80 percent of vegetables grown in New Zealand are for domestic consumption. Deloitte's report on the 'Pukekohe Hub'[7] described three distribution channels: retail, foodservice and exports. In this area, the most heavily used channel was retail which distributes 83 percent of produce. The other two channels – food services and export – distribute 7 percent and 10 percent, respectively.[8] Similarly, KPMG's 2017 report on New Zealand's domestic vegetable production demonstrated that for the ten key vegetables

[6] Mason-D-Croz et al. (2019). Gaps between fruit and vegetable production, demand, and recommended consumption at global and national levels: an integrated modelling study.

[7] The growing area that straddles the Auckland and Waikato boundaries and is a key producer of vegetables in New Zealand.

[8] Deloitte "New Zealand's Food Story: The Pukekohe Hub" Prepared for Horticulture New Zealand (August 2018)

that are staples of New Zealand diets, the vast majority are consumed or processed in New Zealand[9].

For most vegetable crops, the domestic market is the primary market, but many growers produce export crops within their rotations for practical (soil health) and economic reasons. For example, onions which are predominately grown for export are grown with other vegetables crops in rotation. Onions grown in rotation with non-alliaceae crops promote soil health. Export income provides greater economic resilience.

New Zealand also has an important role in exporting fresh vegetables to the Pacific Islands. For example, in 2016 76% of total exported potatoes went to Fiji, 87% of exported Kumara and 82% of exported cauliflower, 75% of exported cabbage went to the Pacific Islands. NZ has an important role in the food security of Pacific Islands[10].

New Zealand and our Pacific Island neighbours are too remote to import many fresh vegetables from elsewhere in the world. Most vegetables that New Zealand imports are processed. In 2019, the most imported vegetables were preserved tomatoes and frozen potatoes[11].

Some fruit crops grown in New Zealand have a predominately export focus – for example, it has been estimated by NZIER that 95% of kiwifruit and 83% of apples are exported[12] . These two crops account for approximately 75% of New Zealand's fruit and vegetable exports[13]. The next largest fruit export crops are avocados, cherries, and blueberries.

Many fruit crops are grown mainly for the domestic supply. For example, nectarines, peaches and plums, oranges, mandarins. feijoas, tamarillos, and strawberries[14].

2.3.1 NATIONAL FOOD SYSTEM

The production of fruit and vegetables (both outdoor growing and covered crops) in New Zealand operates as part of a national system, and therefore warrants planning recognition. Compared to 40-50 years ago, there is a greater reliance now on large food hubs for vegetable growing – such as Pukekohe to feed New Zealand's population[15]. New Zealand's vegetable-growing regions supply markets at different times of the year; a sustainable, year-round supply of produce for New Zealand is only possible if the different growing regions work in conjunction to ensure that seasonality and other variables, such as diseases and weather, do not interrupt that supply.

Similarly, fruit crops are predominately grown in certain regions in response to the specific soil and climatic conditions required, and where key infrastructure exists – for example, avocados are predominately grown in Bay of Plenty and Northland, summer fruit predominately in Hawkes Bay and Central Otago, apples predominately in Tasman and Hawkes Bay, citrus predominately in Gisborne and Northland[16].

[9] KPMG, 2017 New Zealand's domestic vegetable production: the growing story.
[10] https://wits.worldbank.org/CountryProfile/en/Country/WSM/Year/2019/TradeFlow/Import/Partner/all/Product /16-24_FoodProd
[11] Plant and Food, Fresh Facts 2019
[12] NZIER, 2019. Farm share of retail prices. Analysis of domestic farmer margins in a globalised world
[13] Fresh facts 2020 data, as a proportion of total horticultural exports (excluding wine, hops, and 'other horticulture').
[14] FreshFacts 2021
[15] KPMG, 2017 New Zealand's domestic vegetable production: the growing story.
[16] FreshFacts 2021

4.3.2 FOOD INSECURITY AND HEALTH LOSS

Ministry of Health data indicates that only 33.5% of adults and 44.1% of children are meeting fruit and vegetable intake guidelines[17].

Despite this, overall, New Zealand produces more food than we can consume (noting this is not true of all crops). Many New Zealanders live in food insecurity. A 2019 Ministry of Health study analysed household food insecurity among children in New Zealand, it estimated that 174,000 (19%) of all children in New Zealand live in food-insecure households[18].

There is an extensive body of research indicating that children experiencing household food insecurity have lower fruit and vegetable intake, diets higher in fat, and are at an increased risk of obesity.

In New Zealand, for families living in deprived areas, increases in fruit and vegetable prices, especially around their off-season, compel them to substitute the purchase of healthier whole fruit and vegetables with cheap energy-dense and nutrient-poor products[19].

Just as maintaining our environmental brand is of value to our high value export products, so too is ensuring that all New Zealanders have access to the healthy food. This is what we built our export reputation on[20].

There are complex social and economic reasons that people struggle to meet their nutritional needs. Growers are passionate about providing healthy produce. However, it is still a business and for them to continue to grow the healthy food we rely on, it has to be economically viable.

Regulatory pressure is preventing the expansion of vegetable growing from keeping up with population growth. This is predicted to result in increased cost for consumers, with tangible health consequences.

4.3.3 PRESSURE ON FOOD PRODUCTION

New Zealand's existing food production systems, including in Auckland and particularly around Pukekohe, are coming under increased pressure from population growth (and competing land use demands reducing availability of highly productive land), climate change, and the need to improve environmental outcomes.

Supporting evidence to the Climate Change Commissions advice to Government (on emissions reduction) notes that, "… if the production of items grown primarily for domestic consumption (such as some fresh vegetables) contracts, as this could drive prices up and exacerbate existing food and nutrition access for some vulnerable groups". There is a misconception that there is not a risk of reduced food production, as the horticulture industry as a whole is growing. However, it is generally speaking export-oriented crops

[17] New Zealand Health Survey Data. Accessed here: https://minhealthnz.shinyapps.io/nz-health-survey-2019- 20-annual-data-explorer/_w_b6ac76b1/#!/explore-topics

[18] Ministry of Health. (2019). Household food insecurity among children, New Zealand Health Survey

[19] Rush, E., Savila, F., Jalili-Moghaddam, S., & Amoah, I. (2018). Vegetables: New Zealand Children Are Not Eating Enough. Front. Nutr.

[20] https://assets.kpmg/content/dam/kpmg/nz/pdf/2020/05/agri-food-now-normal-future.pdf

which are most likely to expand - this alone does not guarantee New Zealand's food security, as it represents only a subset of the crops grown in New Zealand.

It is also important to highlight the fragility of the vegetable sector particularly. There are number of compounding pressures on growers, including:

- Market dynamics - it is clear in the Commerce Commission's draft report into the retail grocery sector (a critical route to market) that there is limited competition, which gives suppliers few options and creates an imbalance of bargaining power[21]. While it is desirable socially, for vegetables to be affordable for consumers, growers are price takers and often run with very tight profit margins as a result. A more sustainable economic model would include a greater proportion of the profit being returned to growers, to ensure the system is economically sustainable and competition within the growing market is retained
- Increasing competition for natural resources – including land (from urban development both directly and indirectly through reverse sensitivity pressures)
- Competition and availability of water for irrigation, which is essential for growing fruits and vegetables
- Unworkable discharge allocation regulation where vegetables are becoming very strictly regulated within regionally inconsistent frameworks[22]
- Unworkable regulation, that prevents and stifles crop rotation[23]
- Increasing labour availability challenges[24], and labour costs[25], which growers have limited ability to pass on to consumers due to market dynamics
- Disruption of export markets due to Covid-19, impacts on profit margins for businesses[26]
- Subsidised competitors, the European Commission recently announced €270 billion in support for growers and farmers through the Common Agricultural Policy (CAP) from 2023-2027.

In the past ten years due to competition of land, the area in vegetable growing has declined [27], and the price volatility has increased[28]. 76% of vegetable growing area is manged by 115 businesses[29]. In the face of continuing pressures there is a real risk that the exit of only a few large players in the industry would have a significant impact on food supply.

[21] Commerce Commission (2020). Market study into the retail grocery sector. Draft report - executive summary.
[22] For example, PC2 Horizons swww.horizons.govt.nz/HRC/media/Media/One%20Plan%20Documents/One%20Plan%20Reviews%20and%20Changes%20Documents/Horizons-Regional-Council-Plan-Change-2-Recommendations-of-the-HearingPanel.pdf?ext=.pdf
[23] 19 https://www.waikatoregion.govt.nz/assets/WRC/WRC-2019/Volume-2-Proposed-Waikato-Regional-PlanChange-1-Decisions-version.pdf
[24] 20 Skilled labour - tractor drivers, RSE
[25] 2121 Labour intensive, % of wages.
[26] 22 https://www.tomatoesnz.co.nz/latest-news/december-2020-update/
[27] https://www.stats.govt.nz/indicators/agricultural-and-horticultural-land-use
[28] 24 https://www.stats.govt.nz/indicators/consumers-price-indexcpi?gclid=Cj0KCQjw6eTtBRDdARIsANZWjYYzWVW0UmAjVys4HN_NlOFzElbLZmxuI9ladZmkXB2K6nyffRSoQxQaAtz8EALw_wcB
[29] NZGAP data

2.4 Specified Vegetable Growing Area (SVGA) provisions in the NPSFM 2020 and reflection in long-term visions

Pursuant to 3.33 of the NPSFM 2020, Auckland Council is required to have specific regard to the contribution the SVGA makes to *the domestic supply of vegetables* and *maintaining food security for New Zealanders,* when implementing the NPS-FM 2020.

The SVGA provisions in the NPSFM 2020, are a reflection that there is a national value for domestic supply of fresh vegetables and maintaining food security for New Zealanders (in a similar way that there is a national value associated with large hydro-electric generation schemes), despite the reality that in a freshwater management sense the activity is managed at a regional, catchment or FMU scale which can create a tension

2.5 The Existing Growth Management and Resource Management Frameworks in Auckland

The food production values of Auckland are already well recognised in growth management and resource management strategies adopted for the region. It is HortNZ's opinion that visioning and value setting for freshwater management cannot be disassociated from the broader resource management outcomes sought for food production in the region.

The Auckland Plan 2050[30] described the horticultural production scene in Auckland (in 2018) as follows:

- Auckland's horticultural production
- Over 7000 hectares of land in Auckland is used for horticultural production
- Auckland's main horticultural produce includes onions, potatoes, kiwifruit, lettuce, broccoli, wine grapes, cabbage, olives, cauliflower, pumpkin, carrots, avocados and strawberries
- Horticultural production relies on access to fresh water and quality soils
- Franklin in the south has most Auckland's quality soils and a significant proportion of Auckland's horticultural produce is grown here. Vineyards are becoming a feature of Auckland horticulture – there are now over 100 vineyards in Auckland, including notable activity in Matakana, Kumeū, Clevedon and Waiheke Island
- Technological change, such as enhanced harvesting efficiency, packaging and sorting, has resulted in productivity gains in the horticultural industry
- In the medium to long-term, more technological change is expected. This will impact on how food is grown and processed, and will meet a growing demand for safe, fresh and healthy foods. It will also enable the production of larger volumes of food at a lower price.

[30] The Auckland Plan (aucklandcouncil.govt.nz)

The Auckland Plan 2050 Evidence Report Development Strategy[31], states as follows:

- Horticulture requires flat or rolling land along with good quality soil, and a reliable high quality water supply (Sinclair Knight Merz, 2011). The average horticulture property size is 8-9 hectares (since 1996). Although Auckland grows most of the vegetables it consumes, and supplies significantly to the national food supply, growers have become increasingly concerned about the finite suitable growing land being encroached on by urban expansion and rural-residential activity (Gray, 2017a)
- Auckland contains 39 per cent of the nation's tomato production area, 33 per cent cabbage, 32 per cent lettuce, 28 per cent onion, 25 per cent broccoli and cauliflower, 19 per cent of potatoes, and 10 per cent of carrots (Horticulture New Zealand, 2016, 2017). It is also notable for its production of kiwifruit, wine grapes, olives, avocados and strawberries
- A significant horticulture trend has been consolidation in the industry. Horticulture in Auckland, once comprised of many growers, has now reduced to fewer and larger enterprises, sometimes operating several geographically separate properties, and employing vertical integration (growing, harvesting, packing and marketing) (Westpac, 2016). Operators are now keen to acquire sufficient land to meet growing demand but are concerned about the threat Auckland's growth poses to some of the most productive horticultural land in the country, particularly around Pukekohe.

The Auckland Unitary Plan provides a robust objective, policy and rule structure that puts the Rural Environment as a topic within issues of regional significance are set out. Key objectives and policies from B9. *Toitū te tuawhenua- Rural environment Me tupu te ora ki te tuawhenua Grow your livelihood inland*, are set out below:

B9.2.1. Objectives

- *Rural areas make a significant contribution to the wider economic productivity of, and food supply for, Auckland and New Zealand*
- *Areas of land containing elite soil are protected for the purpose of food supply from inappropriate subdivision, urban use and development*

B9.3. Land with high productive potential

B9.3.1. Objectives

- *Land containing elite soils is protected through land management practices to maintain its capability, flexibility and accessibility for primary production*
- *Land containing prime soil is managed to enable its capability, flexibility and accessibility for primary production*
- *The productive potential of land that does not contain elite or prime soil is recognised*

[31] Long Form Document Template - Light Blue (aucklandcouncil.govt.nz)

B9.3.2. Policies

- *Avoid new countryside living subdivision, use and development on land containing elite soil and discourage them on land containing prime soil*

- *Encourage activities that do not depend on using land containing elite and prime soil to locate outside these areas*

- *Recognise the productive potential of land that does not contain elite or prime soil and encourage the continued use of this land for rural production*

- *Provide for non-soil dependent rural enterprises (including post-harvest facilities) on land containing elite or prime soil where there are economic and operational benefits associated with concentrating such enterprises in specific rural localities*

- *Encourage land management practices that retain the physical and chemical capability of rural soils*

B9.5. Principal reasons for adoption

- *Auckland, especially areas in Franklin, has land of high productive potential for farming classified as elite land (Land Use Capability Class 1) and prime land (Land Use Capability Classes 2 and 3). This land is mapped on the Land Use Capability maps. The priority in these areas is to maintain the potential for these high-quality soils to be used for agricultural purposes, rather than activities that are not dependent on soil quality. There are other areas of rural Auckland that support specialised horticultural production which are not on Class 1, 2 or 3 soils*

- *These areas have other advantages such as climate, drainage, water availability or established infrastructure that are equally beneficial as soil quality. No matter what type of rural production occurs, retaining land with high productive potential for primary production provides flexibility to improve economic performance, sustainably manage land resources and enable communities to pursue sustainable lifestyles.*

The Auckland Unitary Plan then recognises the relationship between freshwater and food production values through other provisions of the Plan, including for example:

E2 Water quantity, allocation and use

E2.3 Policies

Efficient allocation and use
(4) Promote the efficient allocation and use of freshwater and geothermal water by:

- *Requiring the amount of water taken and used to be reasonable and justifiable with regard to the intended use, and where appropriate*

- *Providing for storage and harvesting of fresh water.*
- *Temporary water shortage, including minimum flow and groundwater conditions*
- *Consider the use of water shortage directions under section 329 of the Resource Management Act 1991 to impose temporary restrictions on water take, use, allocation, damming or diversion or discharge of contaminants into water in times of serious temporary water shortage, including where a river is at or below its Table 1 River and stream minimum flow and availability specified in Appendix 2 River and stream minimum flow and availability or groundwater levels are below the Table 2 Interim aquifer groundwater levels in Appendix 3 Aquifer water availabilities and levels having regard to the following priority uses*
- *Takes for irrigating water sensitive crops for human consumption.*

There are critical areas of regulation that HortNZ will advocate for in regional plans that will support ongoing horticulture production for vegetables and fruit – for domestic supply and to meet export market requirements.

<table>
<tr><th colspan="2">Outcome sought</th></tr>
<tr><td>Vegetable crops
Discharges and impacts on water quality
Policy and methods for diffuse discharges that enable crop rotation across owned and leased land, recognise horticultural systems and differing risk between different types of systems/crops
Policy and methods provide for consideration of domestic food supply and food security
Practical policy and methods for cultivation
Practical policy and methods for wash water discharges
Policy and methods enable (not disincentivise on-farm mitigations)
Abstractions and impacts on flow regimes
Water security/reliability or irrigation takes
Rules that enable crop washing</td><td>Fruit crops
Discharges and impacts on water quality
Diffuse discharge policy and methods recognise typically low water quality impacts of perennial crops
Practical policy and methods for land preparation and orchard redevelopment
Abstractions and impacts on flow regimes
Water security/reliability or irrigation takes
Rootstock survival water</td></tr>
</table>

2.6 Vision Statements

Long-term visions are ultimately linked to environmental outcomes and limits, and therefore need to respond to values in water bodies and values associated with the use of water (assimilative capacity of freshwater to support abstractions and discharges) in catchments – in a manner consistent with TMOTW.

Currently water resources in Auckland are managed primarily as they relate to and support existing urban activities and future urban growth. End use considerations (e.g. municipal, domestic, drinking, sanitation, commercial, industrial) are lost in broad sourcing and delivery of water to satisfy urban requirements. Future management will be guided by the Long-Term Vision Statements for Freshwater.

Relationship between long term visions and values
Long term visions are required in our view, to consider and reflect the values of the catchment. This is because long-term visions are given effect to through the framework determined through the NOF process - e.g environmental outcomes must when achieved fulfil the relevant long-term visions, in turn environmental outcomes must be identified for every value).

In addition to the human health values associated with the domestic supply of food and maintaining food security for New Zealanders there are also a broader value related to the economic and social values of growing as part of the communities which they are part of (for all food production – whether it serves only the domestic market, or also export markets). This is true of both fruit and vegetable crops.

Council has asked Hort NZ to provide vision statements that reflect horticulture. We have provided an example below:

Food production in the is supported by innovative and sustainable land and water management practices that:

- Provide for the domestic supply of fresh vegetables
- Maintain food security for New Zealanders
- Improve resilience to the effects of climate change.

As part of council's engagement, submitters are being asked to rank in importance values for the waterbodies they use. While it is expected that growers will provide specific information in relation to the water bodies they use, HortNZ response is more generic.

It is worth noting that understanding how visions and values apply to water bodies and what it means in terms of policy is not easy for growers and in fact submitters to understand. The engagement from council on this could have been more comprehensive and notice of the Pukekohe webinar more substantial.

IMPORTANCE OF VALUES
The value of Irrigation, Cultivation, and Production of Food and Beverages is the most important to the horticulture industry.

Water is essential for food production. Growing fruits and vegetables in Auckland, is reliant on reliable supplies of fresh water that are suitable for sustained crop production, post-

harvest washing and processing. This value must recognise both the value of the assimilative capacity of water bodies to support abstractions and discharges. Water is essential for food production.

There are particular values expressed through s3.33 of the NPS-FM 2020 that need to be recognised specifically in the SVGA but also regionally:

- The domestic supply of fresh vegetables; and
- Maintaining food security for New Zealanders.

FUTURE STATE OF WATER BODIES

The council website states that irrigation consents across the Auckland region make up 16.2 percent of total takes with a total volume of 0.02 billionm3[32]. High yielding aquifers in the Auckland region provide water supplies and are valued for supporting horticulture. Many of these aquifers are at or nearing full allocation. Urban development (particularly around Pukekohe) is competing for water resources.

The Aqualink Future Water Demand Study of 2014 included the now SVGA and noted that groundwater takes account for 80% of the total takes (374 out of 466) and contributes to 60% of the annual takes. In terms of number of consents issued, horticulture consents dominate in the area, accounting for 77% of all consents.

With the effects of climate change, water reliability is a key focus, and the future state of water bodies need to provide:

- Reliable source of water
- Fair allocation for food production and processing.
- Clean water for food production (management of microbials)
- Maintain assimilative capacity.

FRESHWATER MANAGEMENT UNITS

HortNZ supports the inclusion of the SVGA being within one FMU given the food production values associated with this area are unique and nationally significant. Notwithstanding this, food is produced in all FMUs and that production has an inherent relationship with the water resources in those areas and the visions and values should reflect this.

While HortNZ supports the three freshwater management units, care needs to be taken to select FMU's that reflect surface water and groundwater relationships. FMUs need to be sufficiently large for some flexibility of land use within them.

The size of the water course where monitoring occurs will have a considerable impact on the likelihood of bottom lines being met, national guidance on the establishment of site selection should be provided. Where the monitoring network is skewed to large rivers, where small streams are monitored, their quality is often much poorer than larger rivers.

[32] https://www.lawa.org.nz/explore-data/auckland-region/water-quantity/

Water quality management decisions in rivers and streams cannot be compared, without consideration of hydrology. The number of attribute states that are required to be linked to outcomes and monitored is significant. The cost and effort in collecting and analysing this data set will be considerable and must be well directed.

The state of environment monitoring sites, with the longest and most reliable data may not always be truly representative of the hydrology and contaminant load sources at an FMU scale. This is particularly true for background loads, small streams, urban and peri-urban environments, and for those attributes where a significant load is delivered in rain events. We anticipate that over-time changes will need to be made to the monitoring network to make it fit for purpose for the FMU process.

Outcome sought

The value of irrigation, cultivation and food production be identified within FMUs and be considered when establishing the outcomes and limits
Recognition of the below in vision setting:

- Provide for the domestic supply of fresh vegetables
- Maintain food security for New Zealanders
- Mitigate the effects of climate change
- Improve resilience to the effects of climate change.

3 The Importance of Freshwater to Horticulture

The reliability of water supply for vegetable crops during growth periods is very important to ensure quality as well as yield. During dry periods, access to water is essential to sustaining crops and maintaining quality and quantity of supply required by the market. Horticulture crops are generally grown on flat land which can be vulnerable to flooding.

Water is used throughout the horticultural supply chain; from growing the plants, to frost fighting (some fruits), and washing and processing for market. To service these activities, the industry requires enough water supply, particularly in summer. For crops that are grown above ground – such as lettuce, broccoli, cauliflower, and cabbage – the quality of water is also critical in terms of food safety.

Plants and seeds are ordered well in advance (six months up to a year). Growers need to have water reliability to produce high quality fruit and vegetables for the domestic and export markets. If less water is available, yields and the quality of produce will be impacted which will have a flow on effect to consumers e.g higher prices and growers economic bottom line is affected which has a flow on effect throughout the supply chain.

Growers don't waste water – vegetable water requirements are quite specific and there is a risk of under or over irrigating - over irrigating is just as harmful as under irrigating.

Growers are committed to providing food security for New Zealand consumers and to satisfy export demands however they need the resources (water)- to operate productively.

In the future, and as we see the effects of a hotter drier climate, there will be more reliance on water to sustain domestic food supply and exports which sustain economic growth. Growers will be seeking longer consent timeframes – five years consents limit the ability for growers to plan for development and ongoing growing operations. Regulation needs to enable a level of flexibility – to respond to market, environmental and other drivers.

The reliability of water supply for vegetable and fruit crops during growth periods is very important to ensure quality as well as yield. During dry periods, access to water is essential to sustaining crops and maintaining quality and quantity of supply required by the market.

3.1 Rootstock Survival Water

Root stock survival water is a sub-set of a consent holders' allocation that is available below the minimum flow – for the sole purpose of avoiding plant death or plants sustaining damage to the degree that they require removal. The root stock survival allocation is not to maintain productive capacity. It is important to enable a horticultural producer to retain the core of their business, namely, their root stock.

It is a critical aspect in the respect that water is the only option for keeping plants alive, it is not always possible or feasible to have access to water storage to meet this need, and the impact of the loss of root stock has a prolonged impact on a horticultural operation (e.g. years before the next harvest is possible).

The provision for rootstock is analogous to "survival water" for livestock farming but applies to the rootstock of permanent horticultural crops. Essentially, it is recognition of an imbalance that leaves crops at a disadvantage to animal farmers and other privileged uses. The provision of this water is very important for the horticulture growers because of the inability to move the crops in times of drought or provide an external food source to maintain farm viability.

HortNZ seeks that there are provisions in the Regional Plan for specific recognition of the need to maintain the investment in the rootstock and allocate a portion of water for rootstock survival in times of water shortages. This means that in a water permit consent, the ability to continue to take some water when minimum flows are reached for the purpose of keeping rootstock alive. The Environment Court decision[33] (Water Use, Allocation and Quantity of the Northland Regional Plan) accepted that there are times where water takes are essential for the survival of horticultural activity, and that providing for rootstock water within defined limits represented a 'pragmatic and responsible approach'.

In the operative Auckland Unitary Plan (E2.3 Temporary water shortage, including minimum flow and groundwater conditions) there is allowance survival water in times of water shortages for water sensitive crops. HortNZ supports the retention of this provision.

Provision for rootstock survival water is critically important for horticultural crops, domestic food supply and the economic wellbeing of Auckland.

[33] https://www.hortnz.co.nz/assets/News-Events/News/2021-NZEnvC-001-Minister-of-Conservation-Ors-v-Northland-Regional-Council.pdf

3.2 Highly Productive Land

Highly productive land (HPL) is identified using the Land Use Capability (LUC) classification system and consideration of other factors such as: the size of the property; water availability; and access to transport routes and appropriate labour markets.

HPL is a finite resource and intergenerational asset that is under threat in New Zealand – most significantly due to urban development, as reported in 'Our Land 2021' which states that the area of HPL that was unavailable for horticulture because it had a house on it increased by 54% from 2002 to 2019[34].

HPL can be lost directly to urban development and inappropriate subdivision creates reverse sensitivity issues (complaints about spray, noise, and amenity).

The importance of HPL, and the need to manage this natural resource strategically, was clearly articulated in the consultation on the proposed NPSHPL, including that the lack of clarity under the RMA means HPL is given inadequate consideration by local government[35]:

> *"The value of this land for primary production is often given inadequate consideration, with more weight generally given to other matters and priorities. This absence of considered decision-making is resulting in uncoordinated urban expansion over, and fragmentation of, highly productive land when less productive land may be available and better suited for urban use. This is preventing the use of this finite resource by future generations… National direction on highly productive land could provide councils with a clearer framework for managing this resource and assessing trade-offs between competing land uses …"*

There are many examples of HPL being lost in New Zealand. HortNZ seek that the outcome related to the protection of HPL is focused on protecting the productive capacity of HPL from inappropriate subdivision, use and development and seeks an amendment so that the Act promotes the use of HPL for food production, both for domestic and export.

In our view, HPL includes the key natural and physical resources that contribute to the land's productivity. We also recognise that some of these natural and physical factors can be modified with policy and investment, and that all these factors contribute to the productive capacity of land. However, the one key constant that enables the productive capacity of HPL to be achieved is freshwater.

Council has recognised the importance of food security by protecting HPL. Council's food priority webpage states that:

> *Only one per cent of Auckland's soils are considered Class 1 (elite) and suitable for vegetable production. These are mostly in the Pukekohe hub, which is under pressure from urban development.*

[34] Our Land 2021. Ministry for the Environment.

[35] Valuing Highly Productive Land: A discussion document on a proposed national policy statement for highly productive land, Ministry for Primary Industries, August 2019.

Soils play a critical role in meeting our emissions targets as carbon is stored in soils. The more soil we lose, the less chance we have of meeting our emissions targets.

Local, sustainable food production can secure our food supply and reduce emissions. We need to restore, rejuvenate and replenish mahinga kai – our soils and ecological systems that support the production and gathering of food.

Outcome sought

Recognition of reliability of water and including water storage as a key contributor to highly productive land and to minimise effects of climate change

Precognition of the importance of recharge and the adverse impact impervious surfaces can have on this process

Protection of highly productive land for primary production and domestic food supply

Retain provision for rootstock survival water in the Auckland Unitary Plan

4 Good Management Practice and Environmental Outcomes

The Ministry for the Environment has two longer term outcomes for fresh water:

- Quality of fresh water maintained and improved
- Optimal availability of freshwater.

These two longer term outcomes are affected by another three outcomes:

- Well-managed undesirable effects of land use on water
- Appropriately managed increasing demands
- Efficient use of fresh water.

The horticulture industry achieves environmental outcomes by meeting strict assurance schemes that have been accepted by government as meeting compliance. Such initiatives include:

- Farm Environment Plans
- Good Management Practice
- NZGAP and GLOBALGAP accreditation
- HortNZ Erosion & Sediment Control Guidelines for Vegetable Production
- A Code of Practice (and growers guide) for the Management of Greenhouse Nutrient Discharges
- HortNZ Vegetable Washwater Discharge Code of Practice
- Kiwifruit industry Water Strategy
- Code of practice for Nutrient Management

GAP schemes provide assurance for the safe and sustainable production and supply of fruit and vegetables in New Zealand and are independently audited self-management assurance schemes which provide a pathway for members to demonstrate compliance with regulatory and market requirements.

GAP schemes are already recognised by New Zealand regulators as meeting equivalent compliance outcomes. Growers who meet GAP standards can demonstrate that required practices are in place to produce New Zealand fresh produce to meet local and international regulatory and market requirements. GAP standards in New Zealand horticulture are benchmarked to internationally recognised standards including GLOBALG.A.P.

GLOBALG.A.P is reviewed regularly with new standards added to it as part of the review process. From May 2023, there will be increased water management requirements that growers exporting into international markets will be required to comply with. In essence, the requirement will be for growers to have a freshwater farm plan which they will be audited against.

NZ GAP has an environmental management system (EMS) add on which is for growers who wish to manage their regional council's environmental requirements alongside their usual NZGAP audit. This includes environmental issues of concern to the council include nutrient management, soil management, irrigation management, and water body management. The EMS is:

- An accepted pathway for enable growers to meet local authority requirements for Good Management Practice (GMP) and reduce their environmental impact
- Available as an add-on for all NZGAP, NZGAP GLOBALG.A.P.
- Simplifies complex environmental issues in the NZGAP assurance framework
- Enables growers to improve sustainability and measure their success Builds on the standards already applied by the grower
- Focused on outcomes of improved environmental performance.

Outcome sought

Recognition of GAP schemes as a pathway to meet regulation, environmental outcomes and achieve good management practice

5 Climate Change

A key theme in several of our submissions on climate related policy is the need to provide for our ongoing domestic food security. The Paris Agreement recognises the fundamental priority of safeguarding food security Article 2b[36], specifically seeks that our adaptation and resilience is achieved in a manner that does not threaten food production. It is important that New Zealand retains the ability to provide for our own fruit and vegetables – in terms of availability, but also affordability. We consider that there is a need to protect New Zealand's food security and resilience of food production – as an important social and

[36] https://unfccc.int/sites/default/files/english_paris_agreement.pdf

human health value. Diversification to horticulture presents an opportunity to reduce emissions while increasing food production.

Climate change projections for Auckland show a hotter and drier climate with short duration intensive rainfall events[37]. Drought like conditions will mean water shortages. Water storage infrastructure will be critical to capture rainfall to sustain domestic supply of fruit and vegetables and to retain highly productive land.

5.1 Effects on Highly Productive Land

Horticulture occurs on our most HPL. These highly productive soils have formed over thousands of years and HPL is a natural resource that will need to be carefully managed with a changing climate so the land can continue to meet the reasonably foreseeable needs of future generations. With a changing climate we can expect the following impacts on:

- Increased risk of flooding and poorer drainage threatening the viability of some HPL for horticulture
- Increased drought, reducing the capacity of receiving environments to assimilate abstractions to support fruit and vegetable production
- Increased temperatures, reducing the capacity of receiving environments to assimilate discharges associated with fruit and vegetable production.

Water infrastructure will be critical in enabling the horticulture sector to adapt to the changing climate, while reducing impacts on ecosystems and safeguarding HPL for future generations.

> *"Our ability to meet future demand faces many pressures. In addition to climate impacts, we are seeing rapid population growth and a loss of productive soils from unsustainable farming methods and land development[38]" (Auckland Council).*

5.2 Water Storage

In the face of climate change, water storage infrastructure is essential as part of New Zealand's adaptation response. As reported in the MPI Water Availability and Security in Aotearoa New Zealand (WASAG) report[39],climate trends indicate that New Zealand is getting warmer and drier and more prone to climate extremes (e.g. flood and drought) – this poses significant challenges in terms of water availability for the food and fibre sector and rural communities (as well as urban communities). Water storage is a key climate change adaptation option.

Water storage is a key infrastructure for enabling the development of productive land. Water storage facilities will enable the region to grow by:

[37] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/aucklands-climate-plan/preparing/Pages/auckland-climate-change-future.aspx

[38] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/aucklands-climate-plan/food/Pages/about-food-priority.aspx

[39] https://www.mpi.govt.nz/dmsdocument/47770-Water-Availability-and-Security-in-Aotearoa-New-Zealand

- Unlocking long term productive outcomes
- Improving environmental outcomes
- Building community resilience
- Supporting Māori achievement of higher returns from their land

Policy rationale for proposed changes to provisions in the NPSFM 2020 and NESFM 2020 (including a proposed change to provide a consenting pathway for water storage infrastructure that meets certain policy criteria) recognises that water storage is 'an essential and growing part of New Zealand's infrastructure in the face of climate change'. While many water storage projects are driven from the perspective of rural water security and enabling land-use change potential – they also play an important role in urban water supply for drinking water.

HortNZ supports provision for water storage. Water storage is critical infrastructure to ensuring managing changing water needs in the face of climate change and population growth.

HortNZ is mindful of the need for water storage development to be consistent with Te Mana o Te Wai principles and hierarchy of obligations. It is important that in discussions around water storage, the hierarchy of obligations does not mean that uses 'higher-up' in the hierarchy should be immune to sharing in the cost of such projects – which ultimately can enable freshwater to be provided for while also providing for other uses in a less water secure environment.

5.3 Transition to a Low Emissions Economy

In the context of greenhouse gas emissions reduction targets, the Paris Agreement highlights the importance of food production and food security, recognising the "fundamental priority of safeguarding food security …" and noting the need to adapt and foster resilience and lower emissions, in a manner that does not threaten food production. This same consideration is relevant to resource management more broadly.

5.4 Enabling Land Use Change to Horticulture

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' includes the assumption (in the Demonstration Path) that 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[40].

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.

[40] https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-lowemissions-future-for-aotearo

5.5 Food Production in a Low Emissions Economy

The emissions trading scheme was established as a market instrument for managing emissions. The experience of the glass house sector has been that the Emissions Trading Scheme (ETS) price has not driven reductions in emissions, because currently there are few viable alternatives for heating glass houses. The glasshouse sector is at risk of becoming economically unviable due to ETS costs. If growers no longer produce these crops in NZ, this will result in lesser variety of fruits and vegetables available to NZ consumers, and substitution with imported products. It is our opinion, that the transition to developing indoor growing and outdoor food systems that have lesser emissions, will require an integrated approach, that includes behaviour change, investment in research, infrastructure, and technology as well as regulatory signals.

The primary sector partnership for managing agriculture emissions is an example of integrated approach.

He Waka Eke Noa

He Waka Eke Noa is a climate action partnership with the primary sector, government and Maori, of which HortNZ is a partner. The partnership is designing an alternative to the ETS for reducing and offsetting agricultural emissions. The He Waka Eke Noa system includes a price and farm planning to drive on-farm behaviour change. The He Waka Eke Noa approach acknowledges that a price in isolation cannot drive the systems wide change required to reduce agricultural emissions, and what is needed to achieve change is an integrated approach including farm planning supporting behaviour change. The farm level response through He Waka eke Noa, will need to be supported by a wider network of changes including investment in research, infrastructure and technology as well as strategic planning and regulation.

Outcome sought

Recognition of water storage as a key contributor to highly productive land and to minimise effects of climate change

Greater policy direction and investment (and alignment of policy direction) to support alternative land uses such as horticulture, to realise the potential for our highly productive land, to be economically productive and generate lesser emissions