Interim Regulatory Impact Statement: Commercial vegetable growing

Coversheet

Purpose of Document	
Decision sought:	*This interim analysis is intended to support Cabinet decisions on which proposals should be progressed to public consultation on freshwater national direction amendments relating to commercial vegetable growing*
Advising agencies:	*Ministry for Primary Industries (MPI)* *Ministry for the Environment (MFE)*
Proposing Ministers:	*Minister Responsible for RMA Reform* *Minister of Agriculture* *Associate Minister for the Environment*
Date finalised:	*19 March 2025*

Problem Definition

CVG is an intensive land use that risks discharges of sediment and nutrients to the environment. CVG is generally concentrated in catchments which are overallocated for discharges.

The current freshwater management system focusses on managing the localised effects of activities (such as CVG) on the environment. There is a tension between freshwater policy direction, which requires reductions in nutrient discharges in order to achieve environmental limits, and the ongoing need to enable the continued domestic supply of reasonable priced fresh vegetables.[1] There is also a tension between community and tangata whenua aspirations for local freshwater in their region, and the fact that current CVG is primarily located in over-allocated catchments.

While this problem is primarily focussed on the key regions where CVG occurs (Pukekohe and Horowhenua), the current framework may present challenges to enabling or expanding CVG in other areas in New Zealand.

Executive Summary

There are no specific provisions to manage (or provide for) CVG under the RMA (eg, through national direction) – although, given its environmental impacts on freshwater, the activity is subject to freshwater management rules in some areas. In particular, some regional plan changes are anticipated to introduce new rules to regulate CVG (particularly in over-allocated catchments) in order to achieve environmental outcomes.

Regional rules may lead to constraints on existing CVG and restrict any future expansion – without consideration of its national economic importance in terms of a supply of fresh vegetables at reasonable prices. Previous governments sought to manage this tension between the national importance of CVG and its environmental impacts through specific direction within the resource management system.

[1] Note that this analysis does not use the term 'food security' to describe this benefit, given the range of components that this term can include (including availability, access, utilisation and stability).

The Coalition agreements include commitments to remove the need for growers to obtain a resource consent to grow food or rotate crops within a catchment.[2, 3]

This proposal considers options that will provide national-level direction on managing CVG at the regional level. These options are:

- Option 1: Status quo
- Option 2(A): Policy direction (amend the NPS-FM)
- Option 2(B)(i): National Environmental Standards (NES) ('More stringent')
- Option 2(B)(ii): National Environmental Standards (NES) ('Less stringent')
- Option 3: National guidance (non-regulatory).

There is no preferred option. A range of options have been proposed for public consultation to both address the coalition commitments and the identified problem.

Targeted engagement highlighted the divergence of views. The horticulture sector seeks an NES that would make existing and future expansion of CVG a permitted activity, subject to good management practice through certified freshwater farm plans. Other primary sector groups expressed concern about the prioritisation of allocation to one sector. Local government representatives generally expressed a preference for the status quo and local decision making.

There are significant challenges and trade-offs for all regulatory options, namely in terms of allocation (ie, prioritising allocation to CVG at the expense of other uses (eg, dairy)) and environmental impacts (ie, prioritising the enablement of CVG above achieving environmental outcomes in some areas).

The options outlined in this interim RIS have benefited from initial targeted engagement with stakeholders (council representatives, industry representatives, and environmental non-government organisations (eNGOs)) and iwi/Māori.

Public consultation, and the feedback / evidence provided by the public, stakeholders and iwi/Māori, will be important in evaluating those trade-offs, associated costs and impacts on different groups. This will inform further refinement of policy options ahead of final recommendations.

Limitations and Constraints on Analysis

The analysis in this interim RIS is constrained and limited by several factors, including:

- Scope set through ministerial direction
- Compressed timeframes
- Stakeholder engagement
- Concurrent policy changes affecting the status quo
- Quality and availability of evidence

[2] Coalition Agreement New Zealand National Party & New Zealand First; Coalition Agreement New Zealand National Party & Act; Action 45 in National's '100 point economic plan' as agreed to be progressed in the National/ Act and NZ First coalition agreements.

[3] Note that National Part pre-election commitments (as specified in the *Primary Sector Growth Plan*) also include introducing a National Environmental Standard (NES) for commercial vegetable production that prevails over existing rules and consents. This commitment differentiated between maintaining and expanding existing activities to protect environmental limits (ie, growers in sub-catchments where nutrients are over-allocated for nitrogen would need a consent to expand production but not to maintain existing production).

Scope

This analysis and the scope of options considered is constrained by Cabinet decisions and Ministerial commissioning. The problem definition and analysis regarding CVG focuses on the resource management system (rather than broader challenges also facing the horticulture sector), and subsequent options are limited to those which can be made through national direction instruments under the Resource Management Act 1991 (RMA), or through the RMA itself.[4]This analysis considers policy features outlined in pre-election manifesto commitments and sought by industry. It also considers policy features to address the identified problem (eg, the tension between achieving environmental outcomes and ensuring a supply of fresh vegetables). However, we note there are constraints under the RMA for how these options can be progressed, and further legislative changes (outside the scope of this analysis) may be required in order for some options to be feasible.

The high-level objectives and criteria (including how to assess and weigh criteria) for this interim RIS are consistent with the National Direction work programme. There is no scope to tailor them for this specific policy area.

Compressed timeframes

Cabinet decisions and Ministerial commissioning set timeframes under which this proposal has been developed, anticipated to be progressed as part of the National Direction work programme with an expected delivery date of mid-late 2025. These constrained timeframes impact the quality of our data and evidence (ie, relying on available data/evidence, with limited ability to procure further evidence), as well as our ability to engage meaningfully with stakeholders and iwi/Māori (discussed below).

Stakeholder engagement

Feedback on these proposals is summarised in section 2. Targeted engagement on policy options commenced in November 2024 and is on-going. Public consultation will be important to ensure that stakeholder and iwi/Māori views are reflected in the development of policy options and recommendations in the final RIS.

Concurrent policy changes affecting the status quo

This analysis considers the status quo as per existing legislation. However, the Government intends to amend and replace multiple legislative instruments (as part of resource management (RM) reform) that will change the status quo, once legislated. These include, but are not limited to, the replacement of the RMA, the replacement of the National Policy Statement for Freshwater Management 2020 (NPS-FM), amendments to the freshwater farm plan system and the NPS-HPL. There remains a high level of uncertainty about these changes, but in some cases (particularly the introduction of a new RM system) they will significantly impact the future status quo. Some options (such as the NES approaches) may also be better suited and aligned with the proposed replacement of the RM system.

[4] Note that, while the National Policy Statement for Highly Productive Land (NPS-HPL) and Freshwater Farm Plans are resource management instruments highly relevant to CVG, regulatory changes to these instruments are also considered out of scope for this analysis.

Quality and availability of evidence

While there is sufficient data to conclude that vegetable growing can have significant impacts on freshwater quality, the analysis of the freshwater quality impacts of vegetable growing is limited by significant levels of variability and uncertainty in available data and information. Observed nitrogen (N) loss could be up to six times higher than the modelled prediction. There is a lack of publicly available data with observed N loss across the range of natural conditions, crops and cultivation practices. This results in significant uncertainty when modelling N loss and the potential effectiveness of mitigations – which means there is a level of uncertainty in terms of the tension between achieving environmental outcomes and ensuring a domestic supply of fresh vegetables and how effective options may be in addressing this. An additional limitation in estimates of mitigation effectiveness is that the current level of adoption of relevant mitigations is not fully understood.

Responsible Managers	
Nik Andic *Manager, Water Policy* *Ministry for the Environment*  *12 March 2025*	*Claire McClintock* *Manager, Water Policy and Adaptive Farming* *Ministry for Primary Industries*  *12 March 2025*
Quality Assurance (completed by QA panel)	
Reviewing Agency:	*Ministry for the Environment and Ministry for Primary Industries*
Panel Assessment & Comment:	***Reassessment Panel statement:*** *"The Ministry for Primary Industries Regulatory Impact Analysis (RIA) Panel has reviewed the "Interim Regulatory Impact Statement: for Commercial Vegetable Growing" produced by MfE. The RIA panel considers that the interim RIS* ***partially meets*** *the RIA quality assurance criteria. While there is a lack of a preferred option at this stage due to data gaps and uncertainty, the RIS acknowledges these limitations and it states that consultation will inform these as well as the costs and benefits of the proposed options.* ***Original panel plus reassessment panel statements:*** *Panel Assessment & Comment: A joint Ministry for the Environment (MfE)/Ministry for Primary Industries (MPI) Regulatory Impact Analysis Panel (RIAP) has reviewed the "Interim Regulatory Impact Statement: for Commercial Vegetable Growing" produced by MfE. The*

	*review team considers that the interim RIS in its current form **does not meet** the QA criteria.* *We considered the problem and status quo was explained convincingly and complete, however, the options presented and the option analysis are not convincing and the linkage to the criteria is not clear. There is no cost benefit analysis of the presented options, and due to this being an interim RIS consultation is not complete.* *Second Panel Assessment & Comment: An additional review/reassessment was undertaken by a MPI Regulatory Impact Analysis Team. The review team considers that the interim RIS now **partially meets** the QA criteria.* *MfE's changes to the RIS has addressed both panels' feedback to more clearly link options to the criteria and objectives. While there is a lack of a preferred option at this stage due to data gaps and uncertainty, the RIS acknowledges these limitations, and it states that consultation will inform these as well as the costs and benefits of the proposed options.*

Section 1: Diagnosing the policy problem

What is the context behind the policy problem and how is the status quo expected to develop?

Commercial vegetable production context and introduction

1. New Zealand is reliant on the domestic supply of vegetables due to its geographical isolation and the short shelf life of certain produce (eg, leafy green vegetables).

2. According to Horticulture New Zealand (HortNZ), over 80% of vegetables grown in New Zealand are produced for the domestic market.[5] The main vegetables exported from New Zealand are onions, potatoes and squash, which are produced for domestic and export markets. By comparison, most fruit grown in New Zealand is exported – for example, kiwifruit amounted to just over 54% of New Zealand's fresh produce export revenue in 2023. [6]

3. Vegetable growers operate within a complex system, with many market drivers and pressures that affect food production and affordability. While the Resource Management Act 1991 (RMA) regulates commercial vegetable growing (CVG) activities, there are many other influencing factors within the wider system that also impact CVG (for example, competition for land, transport costs, labour availability, consumer preferences, severe weather events, soil health, etc). However, this interim Regulatory Impact Statement (RIS) only considers policy interventions available within the resource management system.

4. The RMA regulates land-use activities and discharges of contaminants. CVG is a high-intensity land-use activity, particularly as maintaining high soil fertility through high application rates of fertiliser reduces the risk of crop failure, which can also lead to excess nitrogen leaching into the environment. The environmental impacts are most significant in areas where CVG is highly concentrated – and local decision-makers are required under the RMA to manage these adverse effects.

5. The trade-off between crop survival and freshwater protection presents a tension between:

    - CVG's need for nitrogen discharge allocation to grow crops
    - allocation to other resource users (eg, other industries, such as dairy, also need nitrogen discharge allocation)
    - the need to decrease nitrogen discharges to improve freshwater quality (ie, to meet regulatory requirements under the RMA).

Commercial vegetable growing as a land use

6. The area used for CVG is relatively small. Outdoor vegetable crops occupied approximately 37,400 ha in the 2022 agricultural census, which equates to about 0.28% of the total area used for agricultural production in New Zealand.[7, 8]

7. Despite CVG covering a small area nationally, it contributes significantly to total nutrient loads in some catchments where it is concentrated. For example, CVG in

[5] Annual-Report-2024-final.pdf

[6] Fresh-Facts-2024—-Online.pdf

[7] Fresh Facts 2023. https://unitedfresh.co.nz/assets/site/assets/resources/Fresh-Facts-%E2%80%93-December- 2023.pdf.

[8] Total area used for agricultural production in 2022 was 13.2 million hectares. From Farm numbers and farm size: Data to 2022 | Stats NZ

Pukekohe[9] and Horowhenua[10] contributes approximately 35% and 23% of the respective nitrogen loads.[11] However, these areas are also significant contributors to domestic vegetable supply. Pukekohe produces 26% of the domestic vegetable supply[12] and Horowhenua produces over 20% of New Zealand's broccoli and cauliflower.[13]

8. The concentration of CVG reflects the areas with natural characteristics (eg, soil/climate) to support vegetable growing year-round. Historical government decisions (eg, the 1942 Services Production Scheme which expanded vegetable production in Pukekohe to support the Second World War[14]), along with recent consolidation of the sector (fewer growers on larger holdings), also influence the present-day CVG profile.

9. Another element of CVG is crop rotation. Crop rotation promotes soil health and is used for pest and disease management but complicates resource allocation and managing environmental effects in comparison to other land uses (eg, dairy). Crops can be either grown in a specific sequence, or in rotation with pasture for animals, and can involve leasing land parcels and rotating between catchments and sub-catchments. This can present challenges in terms of discharge allocation, and whether rotating onto a new land parcel (but maintaining the same 'overall' discharge through discontinuing land use on a different land parcel) is considered 'existing' land use, or expansion.

Commercial vegetable growing can adversely affect freshwater quality

10. The impact of vegetable growing on freshwater quality can be significant and is highly variable.[15] A wide range of environmental factors (eg. rainfall, soil drainage, soil nitrogen conditions, soil type and slope, and crop uptake demands) and growing practices (fertiliser use, amount of irrigation, use of cover crops, cultivation techniques, and rotation sequences) contribute to this.

11. Vegetable crops, like all plants, require nutrients to grow (eg, nitrogen and phosphorus). However, when excess nutrients are not taken up by the crop or soil they can 'leach' into groundwater (eg, nitrates) or be otherwise lost to the environment (eg, phosphorus via overland and bypass flows).[16] Excess nitrogen in waterbodies impacts ecological (eg, eutrophication[17]) and human health values (eg, drinking water[18]). Multiple forms of nitrogen are also toxic to aquatic and human life at high concentrations.

12. Maintaining high soil fertility reduces the risk of crop failure. Crop failure comes at a high cost to the grower. This means there is a strong incentive for growers to ensure

[9] Which is an area that crosses Auckland and Waikato regional boundaries.

[10] Horizon Region.

[11] The Agrichain Centre, 2023, *Sensitivity of domestic food supply to loss in vegetable growing production in specified vegetable growing areas*. Prepared for the Ministry for the Environment

[12] Deloitte, 2018, *New Zealand's food story: the Pukekohe hub.* Prepared for Horticulture New Zealand. Available here

[13] HortNZ 2017, *New Zealand domestic vegetable production: the growing story*. Available here

[14] MPI 2020, *Environmental-economic modelling to reduce nitrogen in the Whangamarie stream (Pukekohe). available here;*

[15] See for example The Agribusiness Group (2014) *Nutrient Performance and Financial Analysis of Lower Waikato Horticulture Growers*. Prepared for the Ministry of Primary Industries and HortNZ. page 9. Available here

[16] Rogers KM and Buckthought LE. (2022) *Nitrate source evaluation of surface water and groundwater in the Franklin area using a dual stable isotope approach.* Lower Hutt (NZ): GNS Science. 30 p. (GNS Science report; 2022/02). (Available here).

[17] Eutrophication can be defined as the environmental process in which a water body becomes overly enriched with nutrients (N and P), leading to the excessive growth of algae and plankton. This growth results in the deterioration of water quality and in the depletion of dissolved oxygen in water bodies. Eutrophic waters can eventually become "dead zones" that are incapable of supporting life.

[18] For example Hadfield, J. (November 2022). *Waikato groundwater quality state of environment to 2020 - Waikato Regional Council Technical Report 2022/23.* Waikato Regional Council. page 50 indicates that median N-concentrations are very high in 36% of the wells monitored in the Pukekohe and Pukekawa vegetable growing areas, showing concentrations above the maximum acceptable value for median N- concentrations in drinking water. Available here.

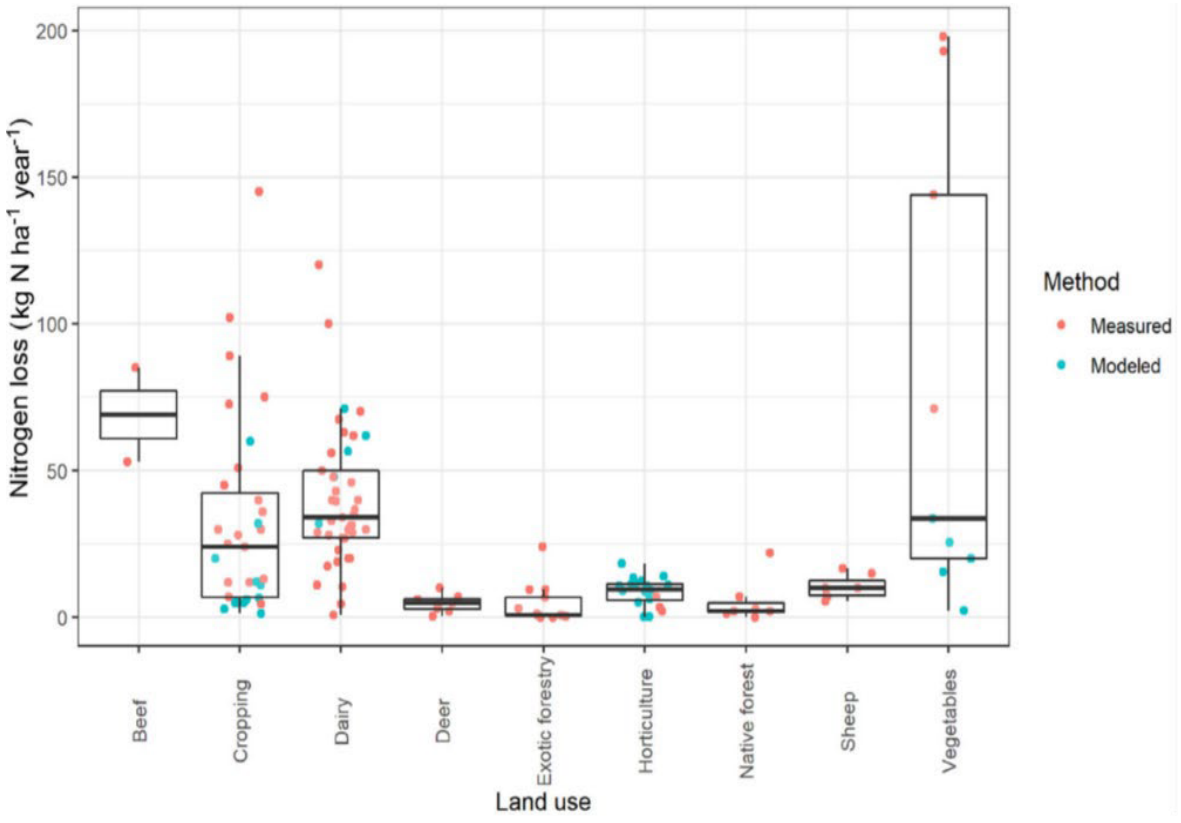
soil fertility levels are high, which encourages high rates of fertiliser application. This results in a heightened risk of nutrient loss to the environment.[19]

13. In comparison with other intensive land uses, including dairying, CVG tends to have a higher risk of nutrient loss on a per hectare basis (see Figure 1). However, when considered at a catchment scale, CVG tends to account for a smaller portion of total N load compared to other land uses.[20]

14. The difference between modelled N loss and observed measurements in figure 1 illustrates the significant uncertainty associated with N loss modelling. This is primarily due to the lack of publicly available data with observed N loss across the range of natural conditions, crops and cultivation practices. This uncertainty also limits the ability to model the potential effectiveness of mitigations.

15. Variability in the impact of vegetable growing on freshwater quality is also partly due to the large number of crop types, and the growing practices adopted for each crop or crop rotation. This is demonstrated in Table 1, which shows the estimated N loss rates (calculated using Overseer) for three crop rotation systems in Horowhenua and Pukekohe vegetable growing areas.

Figure 1: Nitrogen loss rates (modelled and measured) across different land uses[21]



[19] Based on engagement with the horticulture sector to date, officials understand that there is a tendency to apply N when a crop shows signs of stress. It is therefore good practice to test N in soil before each application of fertiliser. This has both environmental and economic benefits but is not general practice.

[20] For example regarding the Waikato River see Keenan; C.M. (February 2019) *evidence provided for HortNZ before Hearing Commissioners on The Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments* – paragraph 53 and 54. Available here. And also: Baker, T., Sands, M., Nation, T. and Sturgeon (08 March 2017). *Values and Current Allocation of Responsibility for Contaminant Discharges.* Jacobs technical report. page 5. available here

[21] Source: McDowell, R. W., Snow, V. O., Tamepo, R., Lilburne, L., Cichota, R., Muraoka, K., & Soal, E. (2025). *A risk index tool to minimize the risk of nitrogen loss from land to water*. Journal of Environmental Quality, 54, 233–245. https://doi.org/10.1002/jeq2.20660; originally from Drewry, J.J., McDowell R., Ghimire C, Noble A. (2022). *Collation of nutrient, sediment, and E. coli losses from land uses to freshwater, and an initial analysis of some factors contributing to nitrogen loss.* A contract report prepared for Ministry for the Environment.

Table 1: Estimated N loss rates for three crop rotation systems in Horowhenua and Pukekohe [22]

Vegetable growing area	Average N loss (Kg/ha/year)		
	Crop rotation 1 (less intensive large-scale crops such as potatoes, onions and carrots)	Crop rotation 2 (relatively more intensive, including more green crops such as broccoli and lettuce)	Crop rotation 3 (including more brassica crops, such as cabbage, broccoli, cauliflower)
Horowhenua	23	65	61
Pukekohe	64	65	73

16. More recent N loss modelling from three different crop rotations in Horowhenua estimated N loss rates without mitigation to range from 21 to 251 kg/ha/year, with an average of 96 kg/ha/year, also on the basis of Overseer modelling. The only known publicly available dataset of observed N-loss over multiple seasons and across multiple areas as well as crop sequences (using measurements of both draining and N concentrations) found average N losses to be 101 kg/ha/year. [23]

17. A key limitation in the modelling of mitigation effectiveness is the lack of information about how much mitigation is already occurring.[24] This adds uncertainty as to how much improvement can occur against existing practice. Information provided by the industry-led New Zealand Good Agricultural Practice (NZ GAP) programme in 2024 showed that the percentage of CVG growers registered with its Environmental Management System (EMS) [25] in the key growing regions of Manawatu-Whanganui, Auckland, Gisborne and Tasman were 53%, 34%, 39%, and 27% respectively. [26] 21% of all growers across New Zealand are registered with EMS.

The resource management system regulates CVG activities to manage these environmental effects

18. Central and local government have distinct functions and powers that relate to managing activities under section 9 (land use), section 14 (water take and use) [27] and section 15 (contaminant discharge) of the RMA. While land use is permitted by default, takes and discharges are restricted unless they are authorised by a national standard, a regional rule, or resource consent. CVG activities primarily relate to the following restrictions (outlined in Table 2).

[22] MPI (2020) *Environmental-economic modelling to reduce nitrogen in the Whangamarie stream (Pukekohe). available here; and MPI 2020, Modelling to provide an indication of the impacts of reducing nitrogen concentrations in Horowhenua (Lake Horowhenua) Available here.*

[23] Norris et al. (2023) *Using drainage fluxmeters to measure inorganic nitrogen losses from New Zealand's arable and vegetable production systems*, New Zealand Journal of Crop and Horticultural Science, 51:2, 274-296

[24] Muller, C. and Inness, M. (2023) *Horticulture Typology Modelling for the FWMT: a technical modelling report*. A report prepared for Auckland Council and Horticulture New Zealand.

[25] NZ GAP EMS is an environmental add-on and provides more detail (eg, nutrient management, soil management, irrigation management, and water body management) compared to the core NZGAP or GLOBALG.A.P. standards.

[26] Note that these figures refer to EMS registration, not EMS certification.

[27] Note that consideration of water takes and use is out of scope of this analysis.

Table 2: CVG-related activities under s9 and s15 of the RMA

Activity type	Description of activity and freshwater quality risks
Cultivation s9 and s15	Preparing land for growing crops and the planting, tending and harvesting of that crop. Risks of erosion and sediment loss, and some stages of cultivation also carry nitrogen loss risks (eg, if land is left in fallow for extended periods following harvest).
Fertiliser/agrichemical application and discharge s15	Application of synthetic fertiliser (predominantly nitrogen) is to support crop growth, while application of agrichemicals is to control pest plants and fauna. When nitrogen fertiliser is not taken up the crop or soil, excess nitrogen leaches into groundwater. Ecological and human health risks if agrichemical application is not managed (eg, spray drift).
Waste management s15	Managing waste products from vegetable growing, including discharges of vegetable washdown/processing water. Risks of sediment, nitrogen and phosphorus losses.

19. National direction instruments support local decision-making under the RMA. Local government develop regional policy statements, regional plans, district plans and coastal plans to regulate activities.[28] Regional councils and unitary authorities also issue resource consents in relation to these activities.

20. Regional plans are most relevant for regulating CVG activities. Regional councils and unitary authorities develop regional plans and set objectives, policies and rules to manage the activities.

21. Operative regional plans have a range of provisions to manage CVG activities. All regions, except for Canterbury and Horizons (which governs Horowhenua) have operative permitted activity rules for CVG activities, meaning there is a limited impact on CVG as it can be undertaken without a resource consent.[29] There is a far greater impact on CVG in Canterbury and Horizons. However, upcoming plan changes to give effect to the 2020 NPS-FM (required by December 2027) may impact these settings (discussed in the next section).

The National Policy Statement for Freshwater Management 2020 (NPS-FM) directs regional councils on freshwater management, but may also require more stringent activity controls to achieve environmental outcomes

22. The National Policy Statement for Freshwater Management 2020 (NPS-FM) sets an objective and policies for the management of water quality and water quantity. The NPS-FM is relevant for CVG because of its direction to manage nitrogen and other contaminants in order to achieve desired outcomes for ecosystem health.

23. The NPS-FM contains compulsory water quality 'attributes', which are the measurable characteristics that provide for ecosystem health (among other values).

[28] National direction can be either: national policy statement (that state objectives and policies for matters of national significance), national environmental standards (regulations that prescribe standards for activities), national planning standards or section 360 regulations.
[29] If permitted activity conditions cannot be complied with, another rule will require a resource consent for the activity.

24. Regional councils must identify the 'baseline'[30] of each attribute and set a 'target attribute state' (to at least maintain this, or improve to a national bottom line, if set).[31] Regional councils must then set limits on resource use to achieve these, which may describe the maximum amount of resource use that can occur while achieving targets (eg, caps on permitted discharges).

25. The NPS-FM previously included specific direction on vegetable growing, by identifying 'specified vegetable growing areas' within Pukekohe and Horowhenua and allowing councils to set targets worse than national bottom lines, if needed. The policy sought to manage the tension between the national supply of fresh vegetables and improving water quality in these areas.[32]However, the Court of Appeal quashed the policy in 2023, due to insufficient engagement by the Minister for the Environment, particularly given the significance of the lake to iwi/Māori and historical degradation of the lake. [33] This policy was therefore effectively never implemented, as the relevant regional councils had not notified regional planning instruments giving effect to it.

26. Converting more land into CVG is likely to increase the overall catchment nutrient losses, because CVG tends to have the highest nutrient losses relative to other land uses. The requirement to maintain or improve the existing baseline state of freshwater therefore means there is unlikely to be any headroom for additional nutrient losses in areas with potential for growth in CVG (or any other more intensive forms of agriculture), unless there is a corresponding reduction in existing nutrient losses to offset the increases associated with additional land use intensification (eg, reducing losses from existing resource users, or through catchment mitigations[34]).

27. In areas where water quality is historically degraded (eg, Horowhenua and Pukekohe), significant reductions are required to achieve bottom lines in the NPS-FM 2020 (73% reduction to meet the bottom line for total nitrogen in Horowhenua, and 83% reduction to meet the bottom line for nitrate toxicity in Pukekohe).[35]

The scale and current management of CVG across New Zealand

28. There is approximately 31,500 hectares of CVG occurring in New Zealand, across approximately 600 farms. CVG is primarily concentrated in key regions, as outlined in Figure 2.[36]

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[30] The NPS-FM defines baseline state as follows*: in relation to an attribute, means the best state out of the following:*

(a) the state of the attribute on the date it is first identified by a regional council under clause 3.10(1)(b) or (c);
(b) the state of the attribute on the date on which a regional council set a freshwater objective for the attribute under the National Policy Statement for Freshwater Management 2014 (as amended in 2017); (c) the state of the attribute on 7 September 2017

[31] A national bottom line means an attribute state identified as such in Appendix 2A or 2B in the NPS-FM. Note that attributes relating to nitrogen generally all have national bottom lines set.

[32] Clause 3.33 and Appendix 5 within the NPS-FM:

a. *required regional councils to have regard to the importance of the contribution of the SVGA to the domestic supply of fresh vegetables and maintaining food security for New Zealanders; and*
b. *allowed councils to set a target attribute state below the national bottom line, if the baseline state of specified nitrogen-related attributes was below the bottom line and achieving the national bottom line would compromise the matters in (a) above; and*
c. *required regional councils to not exempt vegetable growers from requirements (eg, limits) aimed at achieving at target attribute states; and*
d. *expired 10 years after commencement (ie, 2030) or earlier if NES came into force that applied to the SVGA.*

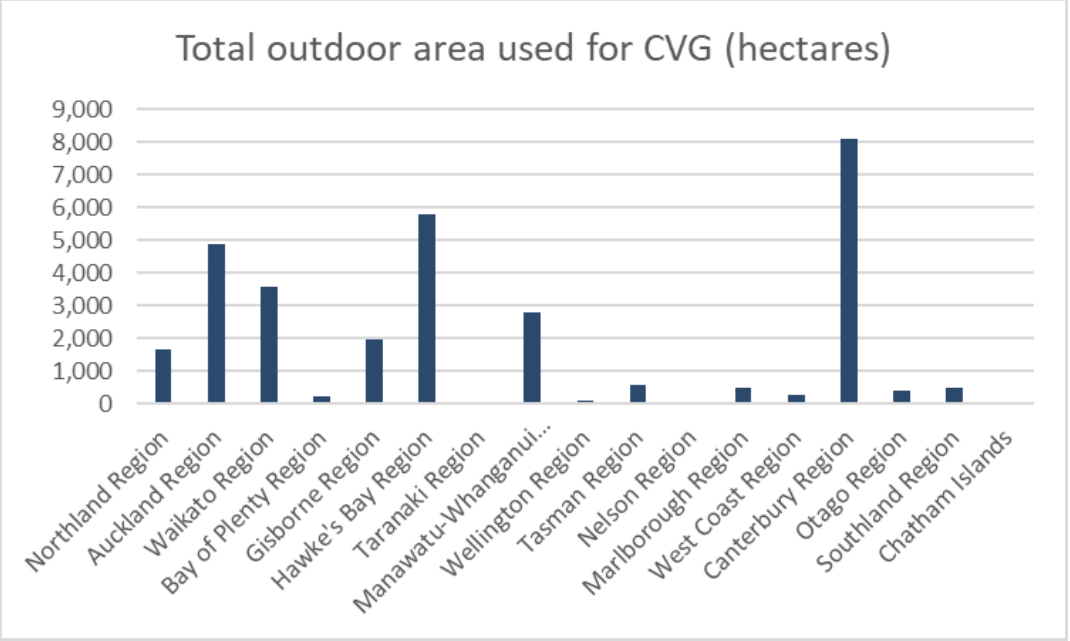
[33] Refer NZCA 641

[34] For example, the Arawhata Constructed Wetland Complex in Horowhenua.

[35] Horowhenua modelling report (mpi.govt.nz); Pukekohe Modelling Report (mpi.govt.nz)

[36] Agricultural production statistics: Year to June 2022 (final) | Stats NZ

Figure 2: Total outdoor area used for CVG (hectares)



29. Canterbury, Horizons, Waikato, and Hawke's Bay regions (some of the key CVG areas) have established, or are establishing, nitrogen discharge frameworks or other rules.[37] A summary of these frameworks and other rules in these regions is provided in Table 3.

Table 3: Operative and proposed regional plan rules to manage nitrogen loss

Region	Description
Horizons (Horowhenua) (operative)	Under the Horizons One Plan, nitrogen discharges are allocated to land, based on the land use capability. Progressive reductions from a baseline loss rate are required over time. Issues with Overseer calibration (which is used to estimate nitrogen discharges) mean that nitrogen limits cannot be met by intensive farming land uses, including CVG – meaning that many growers cannot obtain consents.[38] Plan Change 2 to address this issue was notified in 2018. The decisions version (2021) provides for baseline nitrogen allocation to be calculated for CVG operations using a baseline area. It also allows alternatives to Overseer for estimating nitrogen discharges.
Canterbury (operative)	Under the Canterbury Land and Water Regional Plan, nitrogen discharges are allocated to land at a property scale, with progressive reductions from the baseline loss rate over time. Plan Change 7 is partially operative, providing multiple consenting pathways for CVG. The plan shifted growers' baseline nitrogen allocation to an area-based approach, enabling rotation within nitrogen management zones.

[37] We note that many regions will have at least partially developed plan changes that implement the NPS-FM and consider nitrogen allocation frameworks or other rules.
[38] Overseer is a decision-support tool that models nutrient losses based on practice inputs. The use of Overseer in regulation was reviewed by the Government in 2021. Available here: 46360-Overseer-whole-model-review- Assessment-of-the-model-approach. Consideration of the methods for allocating nitrogen discharges is out of the scope for this analysis.

Waikato (Pukekohe)(proposed)	Plan Change 1 has been underway since 2012. The decisions version (2019) provides a resource consent pathway for existing CVG, and for limited CVG expansion in some sub-catchments. HortNZ has concerns about whether it will enable crop rotation.
Hawke's Bay (proposed)	Plan Change 9 has been underway since 2012. The decisions version (2022) provides for existing CVG as a permitted activity, but CVG expansion will require resource consent.

30. In Canterbury, rules for vegetable have been made operative and growers will already have applied for, or been granted, resource consent. Environment Court decisions on Horizons PC2, Waikato PC1, and Hawke's Bay PC9 are expected in 2025. If these plan changes become operative, we assume that at least some growers will be required to apply for resource consent (ie, from 2025).

31. We cannot estimate the effects of these plan changes on CVG production or area, as decisions are yet to be made. However, as catchments where CVG is concentrated tend to be over-allocated and, in this context, where CVG is a significant contributor to water quality issues, we expect it would be difficult to obtain resource consents, or that conditions will need to constrain CVG to manage discharges. If Horizons PC2 and Waikato PC1 are made operative, we expect growers producing up to 16% of planted vegetable area (but up to 27% of broccoli, cauliflower and cabbage) will be required to apply for resource consent.[39]

Regional council annual reporting demonstrates the problem may also extend beyond key growing 'hubs' in future

32. In April 2023, the then Minister for the Environment requested that all regional councils provide annual reports until May 2025 on how vegetable production is being provided for in the implementation of the NPS-FM.[40] This reporting indicates variable challenges and opportunities for CVG across different regions, particularly given that CVG is not a widespread land-use activity in all regions.

33. A key theme in the reports is the constraints within the NPS-FM that restrict regional councils' ability to provide for CVG and allow for expansion (eg, due to restrictions on water and land use, and need for consistency with provisions such as Te Mana o te Wai[41]). This indicates that the existing regulatory framework may present challenges to enabling CVG, even outside of the regions where CVG is highly concentrated.

What is the policy problem or opportunity?

34. CVG is an intensive land use that risks discharges of sediment and nutrients to the environment. CVG is generally concentrated in catchments which are overallocated for discharges.

35. The current freshwater management system currently focusses on managing the localised effects of activities (such as CVG) on the environment. There is a tension between freshwater policy direction, which requires reductions in nutrient discharges in order to achieve environmental limits, and the ongoing need to

[39] Data from Fresh Facts 2023. https://unitedfresh.co.nz/assets/site/assets/resources/Fresh-Facts-%E2%80%93- December-2023.pdf.
[40] This request was made under section 27 of the RMA.
[41] For example, while the proposal includes an objective to enable the cultivation and production of food as an economic activity, the health of water bodies and freshwater ecosystems, and human health needs, must first be met.

enable the continued domestic supply of reasonable priced fresh vegetables. [42] There is also a tension between community and tangata whenua aspirations for local freshwater in their region, and the fact that current CVG is primarily located in over-allocated catchments.

36. While this problem is primarily focussed in the key regions where CVG occurs, the current framework may present challenges to enabling or expanding CVG in other areas in New Zealand.

Stakeholder views / targeted engagement

37. From November 2024, MPI and MfE officials undertook targeted engagement on freshwater policy proposals (including on commercial fruit and vegetable growing) with the primary sector, local government, iwi/Māori, and ENGOs. The scope of targeted engagement, as determined by Cabinet, was on proposals for new objectives, policies and rules to enable commercial fruit and vegetable growing. Targeted engagement is summarised in Table 4.

38. As outlined in the limitations section, we did not receive substantial feedback from iwi/Māori and ENGOs on this topic (noting the compressed timeframes to undertake targeted engagement, and the breadth of freshwater policy topics available for discussion). Public consultation will be crucial to understanding a broader range of perspectives on policy proposals to enable CVG.

Table 4: Stakeholder feedback summary

Organisation / entity / group	**Feedback**
Horticulture industry	The horticulture industry has proposed an NES that permits vegetable growing, for example, including an enabling provision within the NES- F (or a new NES) that makes existing commercial vegetable production, expansion and crop rotation a permitted activity with a freshwater farm plan. The sector is concerned that regional councils' focus on mitigating the localised environmental impacts from CVG in these areas (without prioritising the economic benefits) and subsequent regulatory requirements (eg, in terms of nitrogen reduction) may limit growers' ability to continue producing. This could have flow-on effects in terms of the availability and price of fresh vegetables.
Other primary sector groups	Other primary sector groups expressed varying degrees of concern about/opposition to prioritising allocation to the vegetable growing sector and strongly supported consistent rules across all sectors, although specific challenges for growers (eg, crop rotation) were noted.
Regional councils	Regional councils expressed concern about the implications of national direction on regional planning – particularly if regional councils cannot be more stringent. This included potential impacts on areas with no specific rules for vegetable growing, and in regions that have already developed detailed rules alongside industry. Preference was expressed for region-specific direction rather than nationally applicable direction.

[42] Note that this analysis does not use the term 'food security' to describe this benefit, given the range of components that this term can include (including availability, access, utilisation and stability).

What objectives are sought in relation to the policy problem?

39. The Government's objectives for Phase 2 of the resource management reform work programme [ECO-24-MIN-0022 refers] are:
    a. Making it easier to get things done by:
        i. unlocking development capacity for housing and business growth
        ii. enabling delivery of high-quality infrastructure for the future, including doubling renewable energy
        iii. enabling primary sector growth and development (including aquaculture, forestry, pastoral, horticulture and mining)
    b. While also:
        i. safeguarding the environment and human health
        ii. adapting to the effects of climate change and reducing the risks from natural hazards
        iii. improving regulatory quality in the resource management system
        iv. upholding Treaty of Waitangi settlements and other related arrangements.

40. The Coalition agreements include commitments to remove the need for growers to obtain a resource consent to grow food or rotate crops within a catchment.[43] The pre-election National Party manifesto document *Primary Sector Growth Plan* also proposes to introduce a NES for CVG that prevails over existing rules and consents. This commitment differentiated between maintaining and expanding existing activities to protect environmental limits (ie, growers in sub-catchments where nutrients are over-allocated for nitrogen would need a consent to expand production but not to maintain existing production).

41. The most relevant objective in relation these proposals is to enable primary sector growth and development (specifically for horticulture). All options seek to maintain existing CVG, and provide for expansion and crop rotation to the extent possible.

42. As noted, there is tension between allowing for existing and expansion of CVG while also achieving environmental outcomes. The options considered will vary in terms of the extent to which they safeguard the environment, and uphold Treaty of Waitangi settlements to varying degrees.

[43] Coalition Agreement New Zealand National Party & New Zealand First; Coalition Agreement New Zealand National Party & Act; Action 45 in National's '100 point economic plan' as agreed to be progressed in the National/ Act and NZ First coalition agreements.

Section 2: Deciding upon an option to address the policy problem

What criteria will be used to compare options to the status quo?

43. The criteria to assess policy proposals across the national direction package are detailed in the table below.

Criteria	Description
Effectiveness	• Does the option achieve the objectives? • Does it provide a solution to the identified problem? Any trade-offs between the objectives should be factored into the assessment of the proposal's overall effectiveness.
Efficiency	• Is it cost-effective? • Extent to which the proposal achieves the intended outcomes/objectives for the lowest cost burden to regulated parties, the regulator and, where appropriate, the courts. The regulatory burden (cost) is proportionate to the anticipated benefits.
Alignment	• Does the option integrate well with other proposals and the wider statutory framework? • Includes impact on existing objectives in current national directions· • Is it reducing complexity and providing clarity for LG on how to address tensions/conflicts between ND instruments.
Implementation	• Is the option clear about what is required for implementation by local government/others and easily implemented? • Is it providing enough flexibility to allow local circumstances to be adequately taken into account/addressed at the local level? • Extent to which the proposal presents implementation risks that are low or within acceptable parameters (e.g. Is the proposal a new or novel solution or is it a tried and tested approach that has been successfully applied elsewhere?) • Extent to which the proposal can be successfully implemented within reasonable timeframes. Regulated parties have the flexibility to adopt efficient and innovative approaches to meeting their regulatory obligations. (NB: A regulatory system is flexible if the underlying regulatory approach is principles or performance based) • Certainty: Extent to which the proposal ensures regulated parties have certainty about their legal obligations and the regulatory system provides predictability over time. Legislative requirements are clear and able to be applied consistently and fairly by regulators. All participants in the regulatory system understand their roles, responsibilities and legal obligations.
Treaty of Waitangi	Refer to the Interim Treaty Impact Analysis for the review and replacement of the NPS-FM

What scope will options be considered within?

44. The scope of feasible options is limited to those which can be made within the Government's resource reform work programme, within freshwater national direction

instruments[44] as per Ministerial direction, and that can address the identified problem. The stages of the work programme include:

- **Phase 2:** Targeted changes to the existing resource management system, to address the most pressing issues. This includes two Bills to amend the Resource Management Act and a package of national direction; and
- **Phase 3:** Legislation to replace the Resource Management Act.

45. Options will be limited to those which relate to managing CVG land use and discharge activities (ie, water take and use activities are not considered). Options will also be limited to those that do not require changes to the core NPS-FM (eg, the National Objectives Framework process). [45]

What options are being considered?

Option One – Status quo

46. This option is to maintain the current situation, whereby CVG activities are managed by regional councils through planning instruments and consents with no specific national direction.

47. Plan changes underway in areas where CVG is highly concentrated may limit (to some extent) vegetable production and the ability for growers to expand in these areas. For example, upcoming Environment Court decisions in Horizons, Waikato and the Hawke's Bay will rule on legal challenges taken by the horticulture sector. The sector has raised concerns around plan changes restricting the ability to continue commercial vegetable production in Horizons and Waikato. These regions have been going through a plan change process for several years and intend to implement more stringent rules (and consent pathways) for vegetable growing. Growers are very concerned about what these rules could mean for their ability to continue existing vegetable production and rotate crops. We have also heard that growers in Horowhenua are currently unable to get a consent for discharges (due to implementation issues with the regional plan), which means that they are technically operating unlawfully.

48. Plan changes to implement the NPS-FM by 2027 (even outside of key growing areas) are likely to generate new requirements and constraints which may limit existing and new vegetable production.

49. Given these plan changes, it is expected that in future CVG will be constrained in its ability to expand to meet population growth (and, therefore, demand for fresh vegetables). Decreased or flat vegetable production may contribute to price inflation for fresh vegetables.[46]

Option Two – National Direction

Option 2(A) – Policy direction (amend the NPS-FM)

50. This option could develop objectives and policies in the NPS-FM to require regional councils to enable commercial vegetable growing.

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[44] Due to scope constraints, this analysis does not consider broader policy interventions, including market-based mechanisms (eg, subsidies and offset credits). Broader allocation policy is also outside of scope of this analysis (but not that allocation will likely be subject to a further policy process).

[45] Note these are being considered in a separate interim RIS, as part of the freshwater policy public consultation.

[46] We note there a range of factors which influence the price of fresh vegetables, and further consideration of this is out of scope of this analysis.

51. An example of a new objective could be: *To recognise and provide for commercial fruit and vegetable growing*

52. An example of a high-level policy could be:

    a. *By every regional council changing their policy statements and plans to the extent necessary to –*
        i. *Include objectives and policies to enable commercial fruit and vegetable growing activities, while avoiding, remedying or mitigating adverse effects on freshwater; and*
        ii. *Include rules to manage commercial fruit and vegetable growing activities, consistent with objectives and policies developed under subsection (i); and*
        iii. *In complying with subsection (ii), the regional council must provide for vegetable growers to undertake crop rotation*

53. The benefits of this option include that it:

- provides clear direction on the importance of commercial vegetable growing nationally, ensuring it is given more weight in regional freshwater and land use planning and decision-making;
- focuses on the desired outcome without being overly prescriptive;
- allows for some flexibility for councils to respond to local pressures and priorities when giving effect to the objectives and policies in the NPS-FM. This is particularly beneficial given the nature of allocation decisions (ie, prioritising CVG above other land-uses), which are complex and region-specific.

54. The limitations of this option include that:

- implementation will vary between regions, and how councils interpret this may lead to inconsistencies that do not meet Government objectives. This will likely be exacerbated if national standards and/or guidance do not underpin the policy direction;
- it will take time (ie, years) for regional councils to update their plans to reflect changes to the NPS-FM;
- in some regions, particularly over-allocated areas where CVG is highly concentrated, it may be challenging for regional councils to give effect to such policies, given the trade-offs that may be required with other sectors in order to achieve environmental outcomes required through the NPS-FM[47];
- it won't address current plan changes that may restrict and / or constrain existing growing and future expansion in some regions.

55. Given the uncertainty when modelling N loss and the potential effectiveness of mitigations, there is a level of uncertainty in terms of the tension between achieving environmental outcomes and ensuring a domestic supply of fresh vegetables and how effective this option may be in addressing this.

Option 2(B) – National Environmental Standards (NES)

56. This option would amend the NES-F or create a new, standalone NES to include

[47] Note that in certain areas, achieving environmental outcomes is still expected to be challenging, even with amendments to the NPS-FM to reflect the 2017 version of the NPS-FM.

activity statuses and conditions for the land use and discharges associated with vegetable growing activities.

57. Generally, the benefits of an NES include:

- National consistency between regions, which will provide the sector with regulatory certainty
- Legislation will take effect immediately, without implementation delays
- The Government can be clear in setting its objectives, and the method through which to achieve them.

58. Generally, limitations of an NES include:

- They can be highly prescriptive, with limited flexibility for local conditions
- Prescriptive standards will be complex and take time to develop, test and implement
- An NES cannot permit an activity that would have significant adverse effects on the environment.

59. There are multiple options in terms of how an NES could be designed, which have associated trade-offs (and different benefits and limitations). Key considerations when designing an NES for CVG include:

- **Minimum standards:** This could include leveraging off regional plans and industry best practice/ guidance. National minimum standards will likely be highly complex and potentially not effective in managing CVG nationally (noting that environmental effects will vary depending on factors including climate, soil and crop type). Minimum standards could consider conditions for activities such as waterbody setbacks, fertiliser application, soil and/or plant testing, irrigations, crop-rotation, post-harvest fallow, area restrictions.
- **Freshwater farm plans:** Freshwater farm plans could be a mechanism to enable a permitted activity pathway in an NES. Freshwater farm plans are currently 'paused' and only assess risks to the environment on a localised scale (rather than cumulatively). However, an NES that requires good management practice (eg, is linked to NZ GAP EMS) could be useful in ensuring that all growers adopt good management practices.
- **Location:** As CVG is highly concentrated in specific regions, it may be appropriate to only apply an NES in specific areas. There are different ways this could be designed – and to different effects. For example, an NES could apply only in areas with high concentrations of CVG to ensure growers can continue to operate there, or it could only apply in areas that are not over-allocated in order to reduce environmental risk in over-allocated areas.
- **Expansion:** An NES could permit expansion, as well as existing CVG, or could require a consenting pathway in specific areas. This could be linked to where the NES would apply.
- **Stringency:** An NES could allow regional councils to be more, or less, stringent. This will have different impacts – particularly as some regional councils have minimal rules for CVG, while others have detailed rules that have been developed alongside industry.

60. For the purposes of this interim RIS, two 'broad' sub-options are considered. These are:

    a. **2(B)(i) 'More stringent' NES:** This option is an NES that sets specific minimum standards (ie, based upon existing plan provisions), and will likely require a consenting pathway (particularly for expansion).

       The key benefit of this option is that it sets specific conditions to manage the risk of significant adverse effect in a nationally consistent way. The key risks are that it is likely to be burdensome for growers (particularly in areas with minimal rules), will be highly complex / take time to develop the standards, and will likely not be suitable for all regions. It may also not fully enable CVG to the extent desired – particularly in over-allocated catchments where (given the cumulative impact) it is likely not possible to make expansion a permitted activity under the RMA, regardless of minimum standards.

    b. **2(b)(ii) 'Less stringent' NES:** This option is an NES that does not set detailed minimum standards and instead permits CVG, provided growers have a freshwater farm plan and / or NZ GAP EMS. This NES would apply broadly and could allow for expansion.

       The benefit of this option is that it ensures all growers are adopting good management practice and as there are minimal regulatory requirements it will likely be easier for growers to maintain their existing production and to expand. However, the key risk is that this option may permit significant adverse effects (particularly as FW-FP do not assess cumulative risk). An associated issue is that it will impact on allocation – particularly in over-allocated catchments – and therefore could adversely impact other sectors (eg, dairy).

61. Given the uncertainty when modelling N loss and the potential effectiveness of mitigations, there is a level of uncertainty in terms of the tension between achieving environmental outcomes and ensuring a domestic supply of fresh vegetables and how effective these options may be in addressing this.

62. Public consultation will allow us to further understand the impacts that variations of features for an NES may have. This will inform more refined NES sub-options in the final RIS.

Option 3 – National guidance (non-regulatory)

63. National guidance could be developed to support an amendment to the NPS-FM (Option 2(A)), and instead of developing an NES (Option 2(B)(i-ii)). Non-regulatory provisions can support the implementation of regulations by providing guidance to regional councils on how to give effect to the NPS-FM.

64. Guidance for CVG could provide an overview of recommended good management practice, to support policies in the NPS-FM that enable CVG while mitigating the effects on freshwater. For example, this could include guidance on how to provide for crop rotation. This will help provide consistency in how regional councils manage CVG in different regions while still providing some flexibility to councils, although a key limitation of guidance is that regional councils are not required to adhere to it.

How do the options compare to the status quo/ counterfactual?

	Option 1 – Status Quo	Option 2(A) – NPS-FM content	Option 2(B)(i) – 'More stringent' NES content	Option 2(B)(ii) – 'Less stringent' NES content	Option 3 – National guidance
Effectiveness	0 Barriers to CVG in some regions, with more likely through future regional plan updates. Would likely limit primary sector growth for horticulture in some areas. Will safeguard the environment to some extent.	+ Better than the status quo, as provides additional direction to regional councils on enabling CVG – although the extent to which this is achieved is likely to vary between regions (and may not address issues in over-allocated catchments). May enable primary sector growth for horticulture in under- allocated areas. Will safeguard the environment to some extent, as CVG will need to be provided for within environmental limits	+ Better than status quo. While imposing conditions on CVG, it will provide a pathway to make CVG a permitted activity, enabling primary sector growth. Will safeguard the environment to some extent, as conditions will seek to mitigate significant adverse effects. Will likely not provide as effective safeguards for the environment compared to status quo and option 2A	+ Better than status quo. It will make all CVG, and expansion, a permitted activity, provided growers adopt good management practices (eg, via a freshwater farm plan). Although a freshwater farm plan will seek to mitigate environmental effects to some extent, this option is likely to degrade freshwater quality (particularly due to expansion).	0 As this is a non-regulatory option (and therefore not a requirement on regional councils) it is not expected to be more effective than the status quo in enabling CVG while maintaining some environmental safeguards.
Efficiency	0 Costs will likely increase as growers are required to apply for consents and / or meet specified requirements to ensure environmental outcomes are achieved. Rules for CVG will be set at a regional level through regional planning process. Significant reductions of discharges may be required in over-allocated catchments (where a large amount of CVG occurs), likely resulting in significant production and revenue decreases.	0 Similar to status quo for overallocated catchments. Costs will be incurred by some regional councils to develop and implement plans to enable CVG within environmental limits. This option will likely impose additional costs on growers (subject to how councils implement direction through rules to manage environmental effects).	+ Better than status quo, as CVG will be able to continue in overallocated catchments, provided they meet the NES requirements. There will be a lower cost burden on councils as standards will be set at a national level, rather than through regional planning process. Will impose additional costs and standardised requirements on all growers – with an increase in cost likely felt by growers who are not meeting good management practice, or those in catchments with minimal regional rules.	+ + Much better than status quo, as it will reduce potential regulatory costs on growers who already follow good management practices. There will be a lower cost burden on councils as standards will be set at a national level, rather than through regional planning process. It may impose some additional costs (in terms of meeting good management practice etc) on growers in regions with minimal requirements who are not already doing good management practice.	0 Same as status quo – there may be additional costs on growers if regional councils adopt guidance in their regional plans.
Alignment	0 Aligns with wider statutory framework, does not provide clarity on addressing tensions / conflicts between ND instruments.	0 Same as status quo, in terms of alignment with wider statutory framework, and providing clarity on addressing tensions / conflicts between ND instruments.	- Slightly worse than status quo, as this option will still be challenging to design in a way that meets the wider statutory framework. Option does not provide clarity on addressing tensions / conflicts with other ND instruments	- - Much worse than status quo, as this option does not align with the wider statutory framework (ie, requirements under the RMA). Option does not provide clarity on addressing tensions / conflicts with other ND instruments	0 Same as the status quo. Aligns with the wider statutory framework. Option will likely not provide further clarity on addressing tension / conflicts between ND instruments.
Implementation	0 NPS-FM provides no specific direction on CVG in terms of implementing the NPS-FM. There is a high level of flexibility in terms of how regional councils can address CVG. In the interim (while regional plans are in development) there may be some uncertainty for growers regarding their regulatory obligations.	+ Better than status quo. Option provides specific direction on providing for CVG but may be some uncertainty in terms of implementing this direction – however, this allows for regional councils to maintain some regional flexibility (rather than being overly prescriptive). Option will take same amount of time as status quo to implement (eg, requires a plan change). In the interim, there may be some uncertainty for regulated parties about the future regulatory system for CVG, and it will not be clear to growers what their legal obligations are.	+ Better than status quo. While more complex to create, this option is likely to be clear about what is required of growers and councils to implement, as standards will be set at a national level. Does not provide for regional flexibility. This option will be immediately available once finalised.	+ Better than status quo. This option is likely to be clear about what is required and is not likely to be complex to implement. Does not provide for regional flexibility. This option will be immediately available once finalised	0 Same as status quo. While it will provide regional councils with guidance on how to enable CVG (in the absence of any regulatory direction), it will not provide certainty to growers regarding their legal obligations. As the option is non-regulatory, regional councils have the flexibility to adopt guidance that suits their region.
Treaty of Waitangi	0	0 Refer to the Interim Treaty Impact Analysis (Appendix *A*)	- Refer to the Interim Treaty Impact Analysis (Appendix *A*)	- - Refer to the Interim Treaty Impact Analysis (Appendix *A*)	0 Refer to the Interim Treaty Impact Analysis (Appendix *A*)
Overall assessment	0	+	+	-	0

Key for qualitative judgements	**++** much better than doing nothing / the status quo / counterfactual	**+** better than doing nothing / the status quo / counterfactual	**0** about the same as doing nothing / the status quo / counterfactual	**-** worse than doing nothing / the status quo / counterfactual	**- -** much worse than doing nothing / the status quo / counterfactual

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

65. There is no preferred option at this stage. This interim RIS is intended to inform decisions to release a discussion document. Feedback received through public consultation is expected to contribute to the final analysis and evidence base, and will influence the final design of options. We will also seek feedback on further evidence relating to the effectiveness of mitigations and reliance on modelling versus collected data for modelling N loss.

66. The proposed options are also not mutually exclusive, and feedback may indicate a combination of options will best achieve the Government's objectives to enable CVG.

67. Feedback will be critical to understanding the impact of the options on different sectors, iwi/Māori, and the environment. This will be important for assessing and refining these options and making final recommendations, as enabling CVG will likely require trade-offs both in terms of allocation and achieving environmental outcomes.

What are the marginal costs and benefits of the option?

68. As outlined above, there is no preferred option at this stage. This section is intended as a high-level assessment to inform decisions to release a discussion document. As part of public consultation, we will seek information from stakeholders (including horticulture sector and local government) and iwi/Māori on what the perceived costs and benefits are for the different options. A more detailed cost-benefit analysis for the preferred option will be included in the final RIS.

69. The NPS approach (Option 2(A)) is likely to have similar marginal costs and benefits to the status quo. Councils will incur costs to develop and implement plans to enable CVG within environmental limits. Costs will also likely be imposed on growers to meet regional rules (ie, if required to apply for consents or meet specified requirements).

70. The NES approaches (Option 2(B)(i-ii)) will have more significant differences to the status quo in terms of marginal costs and benefits. The table below focusses therefore on the marginal costs and benefits of the two NES options. Given the variability within the NES approaches, the table provides a high-level, qualitative assessment only.

Affected groups	Comment	Impact [48]	Evidence Certainty[49]
Additional <u>costs</u> of the preferred option compared to taking no action			
Regulated groups (commercial vegetable growers)	May be some initial (one-off) costs for growers not meeting good management practice and to get a certified freshwater farm plan (if required). Will be subject to how standards are designed.	Low – medium (a more stringent NES may have a higher cost)	Low
Regulators (regional councils)	Initial costs for consent authorities undertaking regulatory changes.	Low	Low
Wider government (eg, Ministry for the Environment, Ministry for Primary Industries)	Initial policy development costs and costs for producing guidance and supporting implementation	Low	Low
Iwi/Māori	Refer to interim Treaty impact analysis		
Total monetised costs	Not available	Not applicable	Not applicable
Non-monetised costs (eg, social, environmental, cultural)	Likely to be environmental costs, particularly in overallocated areas, (subject to how standards are drafted), primarily due to nitrogen losses.	Medium – high (a less stringent NES option would have a higher cost)	Low

[48] For the purposes of this analysis, a high impact is one we expect would be material for the affected party, for example, because a cost would be ongoing, significant or unaffordable relative to other costs they would typically face. Or that environmental impacts would have implications for the catchment and its ability achieve desired outcomes. Conversely, a low impact is one we do not expect to be material for the affected party. For example where costs are one-off, or relatively minor compared to other typical costs.

[49] Note that this assessment is based upon assumptions for the purpose of preliminary impact assessment (and therefore considered to have low evidence certainty across all considerations). For example, we do not have evidence of costs commercial vegetable growers typically face, and as such, our assessments may be inaccurate. We will seek to improve evidence certainty through public consultation.

Additional benefits of the preferred option compared to taking no action			
Regulated groups (commercial vegetable growers)	NES approach will likely result in a lower cost burden (ie, reducing regulatory costs through providing a permitted activity pathway).	Medium – high (a less stringent NES option would be likely to have a higher economic benefit, for some, in the short term)	Low
Regulators (regional councils)	Generally lower cost burden as standards set at a national level, rather than by councils.	Low	Low
Wider government (eg, Ministry for the Environment, Ministry for Primary Industries)	None identified		
Iwi/Māori	Refer to interim Treaty impact analysis		
Total monetised benefits	Not available	Not applicable	Not applicable
Non-monetised benefits	Likely to be societal benefits (in terms of ensuring domestic supply of vegetables at reasonable prices – *although note that a wide range of factors influence vegetable prices*). May be some environmental benefits in areas where growers who adopt good management practices	Medium	Low

Section 3: Delivering an option

How will the new arrangements be implemented?

71. Implementation will vary depending on which option is progressed. All options will include public notification and access to relevant documentation. These are summarised below.

Option	Implementation arrangements
Option 2A – High-level policy direction – amend NPS-FM	Regional councils are required to give effect to national direction through their regional plans. Councils have until December 2027 to notify their plans. The policy changes will then be implemented when regional plans are in place.
Option 2B (i-ii) – Amend the NES-F or develop a new NES	The proposed change requires an amendment to, or development of new, national direction (NES). The changes will take immediate effect when gazetted. National standards will supersede regional council rules in plans, unless they have more stringent rules. Regional councils will be responsible for monitoring and enforcing the national standards. If the use of freshwater farm plans is a feature of the NES, timing will also be subject to the roll-out and implementation of freshwater farm plans.
Option 3 – National Guidance	The proposed change is non-regulatory and requires the development of guidance. This will be developed by government with input from regional councils and growers as the affected groups to which guidance would apply. Guidance will be published.

How will the new arrangements be monitored, evaluated, and reviewed?

72. Monitoring, evaluation and review will vary depending on which option is progressed, and this section will subsequently be more detailed in the final RIS.

73. If a regulatory option is progressed, the Ministry for the Environment and the Ministry for Primary Industries will monitor the effect of the proposal by liaising with regional councils to determine whether:

- it has been effective in enabling CVG
- any unintended consequences have arisen.

74. Implementation reports on national direction can also indicate the effectiveness and impact of the preferred option. [50]

[50] For example, *the National Policy Statement for Freshwater Management Implementation Review* by MfE and MPI (available here: npsfm-implementation-review-national-themes-report.pdf) and *the Progress Report on Regional Planning Implementation of the NPS-FM as at 1 May 2022* by Te Uru Kahika (available here: 220705 NPS-FM progress report as a 1 May 2022 - proofed.docx).

Appendix A: Replacement of National Policy Statement for Freshwater Management 2020: Interim Treaty impact analysis

The Interim Treaty Impact Analysis for the freshwater package can be accessed here.