SUBMISSION ON

Improving the protection of drinking-water sources

6 March 2022 (submitted 4 March 2022)

To: Ministry for the Environment
Name of Submitter: Horticulture New Zealand
Supported by: Onions New Zealand, New Zealand Avocado, Katikati Fruitgrowers Association, Summerfruit NZ, Citrus NZ, Te Awanui Huka Pak Ltd, Persimmon Industry Council and NZ Feijoa Growers Association

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Horticulture™ New Zealand
Ahumāra Kai Aotearoa

OVERVIEW

Submission structure

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Our submission

Horticulture New Zealand (HortNZ) thanks the Ministry for the Environment for the opportunity to submit on the proposed amendment to the National Environmental Standards for Sources of Human Drinking Water (NES-DW).

We welcome any opportunity to discuss our submission.

The details of HortNZ's submission and decisions we are seeking are set out in later sections of our submission.

PART 1

HortNZ's Role

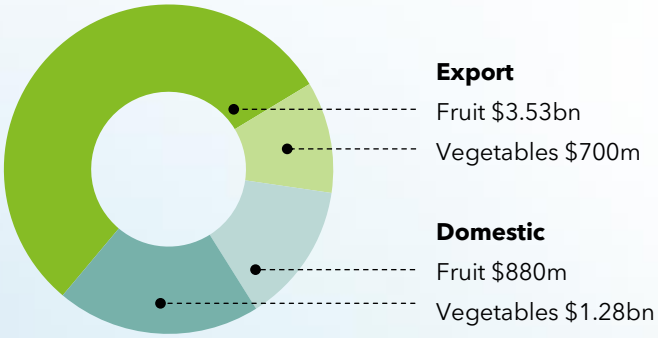
Background to HortNZ

HortNZ represents the interests of 6000 commercial fruit and vegetable growers in New Zealand, who grow around 100 different crop types and employ over 60,000 workers.

There is approximately 120,000 hectares of horticultural land in New Zealand - approximately 80,000 ha of this is fruit and vegetables. The remaining 40,000 ha is primarily made up of wine grapes and hops, which HortNZ does not represent.

It is not just the economic benefits associated with horticultural production that are important. The rural economy supports rural communities and rural production defines much of the rural landscape. Food production values provide a platform for long term sustainability of communities, through the provision of food security.

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 $6.39bn
Total exports $4.23bn
Total domestic $2.16bn

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

At the outset, we express our support for the intent of ensuring people have safe drinking water – growers have a vested interest in this, as consumers of water.

While we agree that aspects of the National Environmental Standards for Sources of Human Drinking Water (NES DW) could be improved – our overall comment is that the proposed changes are too wide-reaching, broad/vague in some areas and need greater nuance and definition in respect of the management regime proposed.

General comments

- In principle, we support the approach of spatially defining different risk areas – but support a bespoke methodology being an option (with greater clarity on this process), and that all source water risk management area (SWRMA) arising from currently unregistered water supplies are mapped at the same time.
- There needs to be a risk-based, effects-based approach to the management of activities within SWRMA areas – i.e managing activities which present a direct risk to the drinking water source/intake that are not already subject to suitable management.
- Greater clarity is required in the activities intended to be managed within SWRMA 1 and 2, and the approach that Councils will be expected to take in SWRMA3. We consider that the focus should be defining the specific activities to be managed in SWRMA 1 and 2 through the NESDW and beyond that, the consideration should largely be at the plan making stage, rather than consent-by-consent. There needs to be the ability to weigh up and provide for multiple values, in a way which is not provided for currently in the proposed changes.
- Particularly in respect of SWRMA3, the focus should be on managing source water (in a drinking water context) through the NPSFM 2020 process and through other tools, such as freshwater farm plans.
- Retrospective application of any changes to the NESDW need to be very carefully considered and should be very limited in application.
- The engagement provisions with Drinking Water Suppliers need greater nuance, and risk undue influence on a very wide remit of activities.
- There needs to be greater consideration of the framework for 'new' drinking water supplies, and requirements on these to be located appropriately and sufficiently secure, and the process for how these would be mapped (or vice versa, removed).

An integrated management approach is required

HortNZ is concerned about the lack of integration with other national direction/legislation – the amended NESDW need to be well-targeted, clear and aligned with other regulation (including for example the NPSFM 2020 and other closely related legislation such as the Water Services Act).

- There is not a clear assessment of whether additional regulation for the activities which will be captured by the NESDW proposed changes is required to manage risks to source water.
- The interface with the NESDW (particularly the implications of SWRMA 3) and the NPSFM 2020 process is not particularly clear.

There needs to be an integrated management approach and alignment with other policy direction – most notably relating to freshwater, highly productive land and urban development (areas where there may be value conflicts). We seek to ensure that various regulations affecting the sector are aligned and does no lead to unnecessary duplication or inefficient consent processes.

The management outcome of the NESDW is not well defined and the controls proposed lack a 'risk-based' approach

The management outcome/criteria is not well defined or clear (i.e it is not clear whether the current 'health quality criteria' approach will be retained). We have concerns that for this reason some of the proposed controls may be far to blunt, and could lead to inefficiency and a number of costly consents for limited benefit.

The NESDW must explicitly set out discrete aims matters of focus and which are sought to be managed. Open ended aims or matters could lead to unintended consequences captured within resource consents which could impose conditions unrelated to the core aims of the NESDW.

HortNZ calls for further detailed engagement on the proposed changes to the NESDW

The vague manner in which the proposed management controls are described in the consultation document leave a degree of uncertainty/ room for interpretation – made evident by the case study report (released 2 March, the same week submissions were due).

HortNZ request additional future consultation on the exact proposed drafting of the NESDW – as the proposals in the consultation document are high-level in some areas (making it difficult to assess the full impact and any unintended consequences).

Submission

1. Horticulture in New Zealand

Horticulture is a diverse industry - from fruit orchards to outdoor vegetable cropping rotations (including production for fresh and processed vegetables), through to covered crop greenhouses.

Fruit and vegetables grown in New Zealand play an important part in domestic food supply and food security. Some horticulture crops also make a significant contribution to New Zealand's export earnings.

Water is essential for the production of food – to grow crops, and also for postharvest washing and processing. The quality of this water is important to enable this use. Food cannot be grown without water and therefore cannot occur without discharges. The values of land and water are therefore interlinked.

1.1. Food security

Food security is a nationally important issue which needs to be addressed at a policy level; it is integral to human health.

New Zealand's existing food production systems are coming under increased pressure from a number of factors - population growth (and competing land use demands reducing availability of highly productive land), climate change, water concerns, ETS costs and the cost of energy, and the need to improve environmental outcomes. There are societal and health costs to increases to the prices of vegetables in New Zealand and a decline in availability.

HortNZ seeks that the proposals to amend the NESDW are cognisant of food security and any impact on the ability to grow fruit and vegetables.

1.2. Highly productive land

For future generations, it is critical that Highly Productive Land (HPL) is protected and its value for current and future generations for food production is recognised and it's use for food production is enabled.

There is a risk that controls relating to drinking water can conflict with the other values of this land, creating a new type of 'reverse sensitivity'.

1.3. Climate change adaptation and mitigation

Diversification to horticulture presents an opportunity to reduce emissions while increasing food production. In New Zealand there is 1,000,000 ha of land that could potentially be converted to horticulture. If this land was converted to horticulture it would be as effective at reducing New Zealand's agricultural emissions as a methane vaccine.[1]

[1] BERG. (2018). The report of the biological emissions reference group. https://www.mpi.govt.nz/dmsdocument/32125/direct

It is important to retain opportunities for land use change to horticulture, to support New Zealand in moving towards a low-emissions economy.

2. Drinking water suppliers in a horticulture context

Recent changes to the framework for managing drinking water in New Zealand – through the Water Services Act 2021 has expanded the definition of who will be considered a 'drinking water supplier'.

This means growers in the following situations are now more than likely a 'drinking water supplier':

- A grower who has a source of water (e.g bore, rainwater) that supplies farm/orchard buildings which staff drink from (e.g. staff room).
- Two or more properties who share water supply (for domestic supply) from the same supply/abstraction point (e.g. bore)
- Seasonal worker accommodation supplied with water that is from the same source as a house.

This along with the other rural examples of drinking water suppliers (e.g. irrigation schemes etc.) mean there will be a much larger number of drinking water supply source points in the rural environment.

This is an important consideration in terms of the NESDW framework, which has focuses largely on large supplies. There is also a need to be cognisant of the vested interest that growers have in protecting drinking water – as consumers of this water.

PART 2

Response to Consultation Questions

THE DEFAULT METHOD FOR DELINEATING SWRMA

Q. 1	Domestic and international evidence suggests that delineating three at-risk areas is a good approach for protecting sources of drinking water. Do you think this is a good approach for protecting our source waters? What other approach can you think of that could contribute to protecting our drinking water sources? Do you think that three areas (and therefore levels of control) are sufficient to protect our drinking water sources?

In principle, we support the approach of spatially defining different risk areas – a 'one-size-fits all' zone would be likely to be inefficient and difficult to establish a sensible framework for. We agree that the current approach in the NESDW does leave room for differing interpretations and inconsistency.

The advantage of using spatial zones to delineate risk is that is can be clearly and consistently communicated to, and interpreted by, resource users and councils.

The nature of spatially defining zones using default methodology is such that it may not be a perfect fit for all scenarios, for this reason we consider that:

- It is important to provide a bespoke methodology pathway as an option (within parameters which ensure consistency in the management outcome achieved),
- In designing a framework for managing activities within SWRMA, we need to be cognisant of the different situations/circumstances around the country and that a 'prohibited' activity approach has risks in this regard.

We also note however the need to consider how the NESDW (and the SWRMA) proposed will integrate with other national direction – namely the National Policy Statement for Freshwater Management 2020. This is not sufficiently considered in the consultation document, other than noting that these exist.

Q. 2	In your view, is the method to determine each SWRMA, for each type of water body, the best option? — Should other factors be considered in determining size? — What challenges can you foresee in delineating SWRMAs? — Do you have any comments or feedback on the detail contained in the technical guidance materials? — Should SWRMA for all aquifers be bespoke so their unique features, depth and overall vulnerability can be considered?

HortNZ do not have the technical expertise to comment on the detail. However, we do have significant experience in relation to freshwater management under the RMA. With regards to the fourth point there does need to be flexibility in any regulatory framework to ensure that it is fit for purpose across all the unique characteristics that make up the sources of our drinking water.

We support having a default methodology, but also an option for a bespoke/site-specific approach based on expert evidence and the ability of landowners to challenge the default with a more site-specific evidence-based approach.

Q. 3	For lakes, do you agree that SWRMA 2 should include the entire lake area? — What might be an alternative approach?

HortNZ have not sought technical input in this but note that the entire lake area may be suitable as a default option – but there should also be a bespoke option available.

Q. 4	SWRMA 1 for lakes and rivers is proposed to extend 5 metres into land from the river/lake edge. This contrasts with 3 metres setback requirement of the Resource Management (Stock Exclusion) Regulations 2020. SWRMA 1 is proposed to be used as a basis for controlling activities close to source water intakes, and applies to a wide range of activities. Do you think these differing setbacks will cause confusion or result in other challenges?

For clarity and consistency across regulation, a 3m setback would be preferable. The NESDW, alongside recent freshwater NES and regulations, does risk creating a complex and overlapping system that will be difficult for plan users and Councils to reconcile and implement.

We note that there are already setbacks required in most areas through either (or a combination of) district plans, regional plans and the NESFW 2020 regulations. This will add to complexity and confusion.

Q. 5	There is evidence suggesting that a 10–30-metre radius around source water bores is a preferable way to delineate the area where activities would be heavily restricted (SWRMA 1). However, expert advice suggests a 5-metre radius is the most workable option. — Do you agree that a 5-metre radius around a source water bore gives enough protection? Why or why not? — If not, what alternative would you suggest?

HortNZ support a distance no greater than 5m.

We note that when prescribed in regulation setbacks are a very inflexible tool, that can become cumbersome and, in some cases, unnecessary. This should be kept in mind (from an efficiency and effectiveness perspective) if a distance greater than 5m is decided on,

this would have significant implications for the ability to use productive land. A distance larger than 5m would require careful consideration of the management regime within that distance and would need to be carefully targeted to certain activities (and flexible enough), to ensure it doesn't capture low risk activities such as cultivation or other day-to-day productive land use activities (or structures).

Q. 6	While water takes from complex spring systems or wetlands may require a bespoke SWRMA to ensure consideration of any contamination pathways present, a default method is necessary to ensure interim protection. Do you think a default method is practicable in most situations? — Do you think a regional council should determine (on a case-by-case basis) the most applicable default method: for a river, lake or aquifer, or is a different default approach necessary? — If so, what alternative would you suggest?

We note that the methodology for shallow bores adjacent to a river is a hybrid of groundwater and surface water. This is a common issue, that needs to be considered in the NESDW.

REGIONAL COUNCIL MAPPING OF SWRMA

Q. 10	Do you think consideration should be given to mapping currently unregistered supplies as they register (but before the four-year deadline provided under the Water Services Act), or do you think that waiting and mapping them all at the same time is a better approach?

HortNZ consider that that the most efficient approach would be to map all SWRMA arising from currently unregistered water supplies at the same time – otherwise the approach will be piecemeal and create a lot of uncertainty for resource users (due to constantly changing/new SWRMA).

It is also worth noting that regional councils are already under pressure from other RMA legislative requirements – this would require support from other agencies.

Additional comment - process for mapping new drinking water supplies beyond this time

There also needs to be consideration of the process which may be set out for reflecting new SWRMA after the initial requirement reflecting the registration dates in the Water Services Act, as there will continue to be new drinking water supplies established beyond 2025 (when all unregistered suppliers are required to be register with Taumata Arowai. This should consider how impacted resource users are notified of any changes and implications for existing resource consent applications.

BESPOKE METHOD FOR DELINEATING SWRMA

As a general comment – HortNZ supports amendments to the NESDW providing for a 'bespoke methodology' option, we consider this necessary to enable a response to unique or site-specific local conditions where required.

Q. 11	If a regional council has already established local/regional source water protection zones through a consultative process, should there be provision to retain that existing protection zone as a bespoke method without further consultation or consideration against new national direction?

Yes, we consider that there should be provision to retain existing protection zones as a bespoke method – however there needs to be clarity around whether this applies indefinitely and a requirement to review whether these zones remain appropriate.

- A benefit of enabling regional councils to retain existing source water protection zones, would be avoiding the need for an additional change process where an RMA Schedule 1 process has already been gone through to set out the zone. However we consider there should be some caution in this approach where it means that the protection zone may not align with national direction.
- This could be a suitable interim solution (particularly in light of the substantial amount of work currently required for NPSFM2020 plan changes), but there may also need to be a specified time period by which a Council is required to review their existing source water protection zones to determine whether they continue to be appropriate in the context of an amended NESDW.
- Either way, it is important that there are clear and transparent expectations/requirements for resource users.

Other comments/feedback on bespoke methodology for SMRMA

The consultation document states that where the default method is used, there would be no requirement for regional councils to consult on the SWRMAs through the RMA Schedule 1 process. However the consultation document lacks detail on the decision-making process related to a regional council adopting the default approach, or undertaking a bespoke methodology ('where appropriate'), noting that:

> '*As part of this proposal, the NES-DW may specify minimum requirements, and is supported by guidance on the methodologies for defining these bespoke SWRMAs. A bespoke approach may be proposed at any time; however, the default approach would apply until any bespoke approach is formally established*.'
>
> '*Regional councils wishing to adopt bespoke SWMRAs may need to use the full RMA Schedule 1 process and seek approval from the Minister for the Environment, so these areas can be gazetted.'*

We seek clarity on whether the NESDW will include criteria or set out circumstances where a bespoke methodology may be pursued, whether this includes input from the community, or whether this is left to the discretion of councils? The document implies that an application may need to be made to the Minister for the Environment – would the NESDW specify criteria for assessing these requests?

The process for implementing a bespoke methodology is not clear and whether this would need to follow RMA Schedule 1 process (the freshwater plan change process?) or via some other means.

SWRMA 1 CONTROLS

Q. 12	Do you think national direction on activities within SWRMA 1 is necessary? — If so, what activities should it address? — How restrictive should controls be in SWRMA 1, for resource users other than water suppliers? — Are there any activities you believe should be fully prohibited in this area? — Are there any activities you believe should be permitted or specifically provided for or acknowledged in this area?

Yes, if the NESDW is to set out a SWRMA 1 zone, accompanying national direction for the management of activities within the SWRMA (be that high-level or prescriptive) would be beneficial in order to have a degree of consistency in approach across the country.

What activities should national direction on activities in SWRMA 1 address

HortNZ consider that the focus of the SWRMA 1 should be managing activities which present a direct risk to the drinking water source/intake.

Before determining what activities need to be addressed in SWRMA 1, we consider a clear description of the purpose of management within the SWRMA 1 area and its vulnerability is required (and that this should be set out clearly in the NESDW).

For example, one of the references technical reports refers to, for groundwater the aim being to protect from spills immediately adjacent.[2]

Having a clear management purpose will aid in determining an appropriate management framework.

The proposal significantly widens the scope of activities that would be subject to the NESDW. The activities mentioned in the consultation document are very wide reaching – capturing all activities managed by the RMA.

The activities that are managed need to be relevant to the management purpose of the NESDW (the management objective needs to be clear), and therefore management needs to be restricted to activities that have the potential to affect a drinking water supply.

It is critical that the NESDW is focused on managing risk (i.e what is the risk that an activity poses) – a risk assessment approach should be undertaken to provide further clarity.

[2] *"The aim of this protection area is to protect the source from the possibility of spills immediately adjacent to the wellhead being able to migrate down to the pumped horizon or directly into the well. … "*

Proposed scope of activities managed within SWRMA 1	HortNZ comments on scope of activities managed in SWRMA 1
Land uses including drilling of bores and earthworks over vulnerable aquifers (section 9)	There needs to for greater clarity as to the land uses of concern (and the source water environments). As noted above, if a distance greater than 5m – this will necessitate that this is narrowed down to the activities of concern (and whether there is a need for additional regulation over and above which exists already). For example – are all earthworks a risk to drinking water? Regional and district plans (as well as the NESFM 2020 for natural wetlands) already regulate earthworks for reasons relating to freshwater quality/ecology, biodiversity, flood hazard for example. There are already a number of layers of regulation. There needs to be a reason (from an effects-based perspective) for any new regulation. This aspect has not been sufficiently assessed in terms of a cost/benefit analysis (for example, the case study report does not assess at all the potential land uses which may occur within an SWRMA 1 and how these might already be managed – for example, activities such as cultivation, land preparation, structures such as crop protection structures). There is the potential for unintended consequences in our view.
Uses of the beds of rivers and lakes (RMA section 13)	As above there needs to be an effects-based reason for any new regulation, although not that in most cases these activities will already require consent.
All restrictions on water (RMA section 14)	There needs to be a clear scope of activities intended to be managed, we do not consider that water take consent renewals should be captured by this, or quantity -related restrictions for this reason. We are concerned to see no mention, or assessment of the potential effect of the NESDW on water takes (in the case study report), when may well be impacted by SWRMA 1 areas when all drinking water supplies are mapped.
Discharges, excluding to air (RMA section 15).	It seems logical to manage some discharges within SWRMA 1 (particularly direct discharges).

	However, clarity is required as to how diffuse discharges would be manged within this – as discussed later in this submission we consider these should be addressed through catchment limit setting processes. **Inconsistency in what discharges are intended to be managed** We also note there an apparent inconsistency (or further level of interpretation) applied in the case study report, which applies this as a restriction on discharges to water – "*the proposed amendments to the NES-DW restrict discharges to water within SWRMA1* " (pg.4 and 37)– and noting that stormwater discharge to land in the rural area wouldn't be captured). This is despite on pg. 7 stating "Discharges to land will have strict standards and require consent."

The RMA specifically requires that conditions of resource consents must be directly connected to an adverse effect of the activity on the environment or directly connected to a national environmental standard.[3] "Directly" suggests that the linking must not be indirect or remote.[4] This emphasises the need to ensure the activities that are managed must have a clear and direct connection to the matters sought to be managed by the NESDW. To ensure that this occurs, the NESDW must explicitly set out discrete aims matters of focus and which are sought to be managed. Open ended aims or matters could lead to unintended consequences captured within resource consents which could impose conditions unrelated to the core aims of the NESDW.

Controls in SWRMA need to be evidence based – the risk of throwing the scope too wide is otherwise a proliferation of unnecessary resource consent applications.

How restrictive should controls be?

Due to the wide range of activities that are proposed to be managed within SWRMA 1 we consider that there is a need for different levels of restriction – based on the nature/risk of the activity.

Some activities may not need additional controls where already managed by default through existing regional plan rules – the implementation approach anticipated by the NESDW and how plans will remain cohesive needs to be considered.

We offer the following thoughts:

- Where specific activities are known to need specific management within this zone, a non-complying (or potentially prohibited activity status for some activities) activity status could be appropriate. This could include activities such as storage of hazardous substances, wastewater discharges.

[3] Resource Management Act 1991 s108AA(1).
[4] *Lindis Catchment Group[Inc v Otago Regional Council* [2020] NZERnvC 130 at [67].

- Other activities which are managed within SWRMA1 but may not be likely to have adverse effects on source water and/or are not specifically identified, could be addressed through a catch all rule e.g. Restricted Discretionary Activity to enable effects to be considered.
- It could also be appropriate to use permitted activity rules with permitted activity conditions, where there are clear best practice controls which would mitigate risk.

Are there any activities which should be prohibited?

There should be caution in using a prohibited activity status in the NESDW – due to how absolute this mechanism is - unless there is complete certainty that an activity would not be appropriate in that zone. As noted above, a prohibited activity status may be appropriate for some activities, but only where there is a clear and unacceptable risk that would be avoided.

Note: The case study report language implies a heavy use of prohibited activity status, which may not be appropriate for all activities.

Q. 14	In and around freshwater, control of pest species (including aquatic pest species) may be necessary, including through physical control (removal, that may include bed disturbance) or chemical control (discharge). How much of an issue is this in and around abstraction points? — How critical is that work? — How often is this work mandated by other regulation or requirements? — How frequently is this work undertaken by parties other than the drinking-water supplier (or their contractors)?

It is difficult to quantity in the absence of all the drinking water supplies that are now defined as such by the Water Services Act – but it is safe to assume that this will mean that will be a greater number of abstraction points in and around productive rural land.

'Drain' clearance/maintenance as well as pest plant management is an important activity, including for flood management purposes (and for the health of the waterway) – activities such as these are often undertaken by farmers/growers as part of sustainable land management.

As above – it is difficult to determine how much of this activity would occur within SWRMA1 areas, however, HortNZ considers that the provisions should anticipate that such an activity might be required (and will not always be undertaken by the drinking water supplier). A notification requirement, and conditions on the activity, could one means of addressing concerns.

The application of agrichemicals is clearly intended to be managed, we note that the scope of the controls leave very little if any alternatives when all activities in SWRMA 1 when all activities are singled to be *'prohibited or have strict controls'* – there needs to be a reasonable pathway provide for pest management. Unintended consequences – such as degradation of a freshwater environment, or impediment of a biosecurity response – would otherwise result.

SWRMA 2 CONTROLS

Q. 15	Do you think national direction on activities within SWRMA 2 is necessary? — If so, what activities should it address?

In general, we think that if the NESDW sets out SWRMA zones, it should also be accompanied by direction on the management expected within that zone – to avoid inconsistency and inefficiency in determining the approach in each region. However, in saying that there needs to be some degree of flexibility to response to regional/local circumstances (which it appears enabling a bespoke methodology provides for).

SWRMA 2 zones are potentially quite a significant geographical area. The management as noted above – needs to be focused on the management outcome of the NESDW. The management focus should be clearly articulated. From the technical reports, we understand that these areas is predominately about managing microbial contamination.

What activities should the NESDW address in SWRMA 2

Proposed management within SWRMA 2	HortNZ comments
Activities that have been identified as potentially high-risk within SWRMA 2 are:	
• direct discharges of contaminants to water	Not all contaminants are equal (e.g. water to water), this necessitates a risk-based approach. **Clarity on 'direct discharge to water'** It also needs to be very clear the activities intended to be captured, this needs to be cognisant of differing interpretations/understandings in practice of what constitutes a 'direct' or 'point source' discharge. It is a concern to us the potential grey area here – for example, what does this mean for discharges to land that might enter water, stormwater discharges etc. **We are concerned about the interpretation of these controls in relation to agrichemicals in the case study report** The case study differs significantly from the consultation document in stating that "Discharges from application of agrichemicals will have strict standards and will require consent." – seemingly applying this to application to land or water (although it is not clear).

	Refer to specific commentary below in respect to the current management frameworks for agrichemicals under Q.16.
• land disturbance over vulnerable aquifers (being the drilling, construction and maintenance of bores, or earthworks that damage aquitards)	Land disturbance is a broad term – the provisions should clearly exclude cultivation and land preparation for horticulture (i.e ancillary rural earthworks). We agree with the intent of managing earthworks that would pose a risk to aquitards – however greater specificity over the proposed way of managing this within the NES is required.
Intent that that all consenting in this area actively consider the effects of the activity on source water.	The most preferable approach in the NES is to specifically target activities (and on plans to appropriately identify activities which require management) – rather than relying too much on case-by-case consideration in consenting. Specific areas which we consider should be excluded from this requirement: • Water permit (takes) e.g irrigation consents • Rural land use diffuse discharge consents (as explained further elsewhere in this submission). • Construction of buildings or structures This is due to a concern as to how this may be inefficiently applied to unrelated activities and/or lead to inconsistent approach. Direct discharges to land it may be easier to draw a conclusion/make an assessment on any effects on source water that may need to be addressed. We consider that some activities (particularly land use activities such as the construction of buildings or structures for example) would be excluded from this requirement to have a more efficient regime.

Q. 16	In your view, how much will this proposal impact the current situation in your region? — What discharges to water are currently permitted? — Should provision be made to continue to permit those activities? What controls are typically used to ensure potential adverse effects are managed?

Specific commentary on management of agrichemical application

The use of agrichemicals is highly regulated. Agrichemicals are managed in a number of areas including through the RMA in regional plans and the Hazardous Substances and New Organisms Act 1996 (HNSO) legislation.

Very few agrichemicals are allowed to be applied directly into or over water, in addition for agrichemicals used on land there is a strong emphasis on implementing practices to avoid potential contamination of water.

Regional plan rules for agrichemical use typically include permitted activity rules, with conditions that ensure good management practices are followed and requiring notification procedures.

The EPA assessment evaluates the risks of an agrichemical through an assessment process before approving it's use in New Zealand (and determining controls on its use):

> *"Controls are restrictions or conditions that state how a hazardous substance can and cannot be used, if it is approved for manufacture or import in New Zealand. Their purpose is to prevent or manage the risks of a hazardous substance, to the health and safety of people, and to the environment. A product that is used in line with all of its controls should be safe for people and the environment.*
>
> *Controls could include, for example, limits on where the substance cannot be used (such as, not in waterways or near an open fire), or a maximum concentration or amount per product volume, or maximum amount that can be applied in a certain area, or that it can only be handled by someone with suitable training or qualifications.*
>
> *An application will be approved only if the decision makers – when considering the risk assessment – are satisfied that the benefits outweigh any residual risks and costs after the controls are applied, and that these residual risks are acceptable given the proposed uses …"*[5]

We also note that the Resource Legislation Amendment Act 2017 removed the explicit function for councils to control hazardous substances from the RMA, as explained in the MfE factsheet –

> *"When developing and considering new or revised objectives, policies and rules in RMA documents, policy and decision-makers should consider what controls already exist in other legislation (for example, the Building Act 2004, Hazardous Substances and New Organisms Act 1996, and Health and Safety at Work Act 2016). Regulatory duplication should be avoided. Any additional controls proposed under the RMA should be justified in relation to the purpose of the RMA, and considered through an assessment under section 32."*[6]

[5] Environmental Protection Authority (January 2020), Risk Assessment Methodology for Hazardous Substances
[6] https://environment.govt.nz/assets/Publications/Files/Fact-Sheet-2-Revised-functions-for-RMA-decision-makers-amended.pdf

In summary, we consider that any additional requirements or controls in the NEWDW (relating to agrichemicals specifically in this case) need to be evidence-based and ensure that they do not create unnecessary duplication with existing regulation.

We consider that the role of RMA regulation largely sits in the domain of ensuring good management practice requirements apply, setting out notification expectations and in some cases managing the storage of hazardous substances and significant hazardous facilities in sensitive environments.

Typically, agrichemical application to water (or land) is provided for within regional rules as a permitted activity with conditions – we consider that this is an appropriate approach in the SWRMA 2.

Additional commentary in response to case study report (released 2 March)

As noted above, we were concerned to see the apparent restriction on any agrichemical application in SWRMA 2: "*The proposed amendments to the NES-DW also require application of agrichemicals within SWRMA2 to have a resource consent. Since the SWRMA2 areas are quite large, it may not be practicable for Resource Users to avoid carrying out the application of agrichemicals and there would be additional costs to apply for resource consents and complete risk assessments*."

It is not clear if this is limited to agrichemical application directly to water, or also to application to land (but reads as though it does include application to land). This activity was otherwise a permitted activity in plans looked at in these case studies, with conditions.

There does not seem to be any indication of why this approach has been taken or evidence to support such a control. As noted above, there is already a suite of comprehensive controls in place to manage agrichemicals.

In addition, this would be a significant cost – the report estimating that a $10,000 - $30,000 for application and a risk assessment estimated to cost $30,000 – a total cost of up to $60,000 for a 'low complexity' consent application for this type of activity would have a huge impact.

Q. 18	The original intent of SWRMA 2 was to manage microbial contamination. However, there are indications that protections against other contaminants may be required. What contaminants do you think should be controlled in SWRMA 2?

The intent of the SWRMA 2 area should be clear, so the management framework can align to this. As noted above – we do not consider the SWRMA 2 area to be the appropriate spatial areas for managing diffuse discharges such as nitrate.

We are also concerned about the proposed approach in relation to agrichemicals – as noted above.

Q. 19	What other challenges do you see when making a consent application within SWRMA 2?

As raised above – we see issues with scope if activities are not related to source water quality but may end up with conditions relating to this. This is of concern, as this could lead to onerous conditions unrelated to the NESDW being imposed in resource consents. This highlights the need to have clear aims and matters of focus listed in the NESDW. We seek that the NESDW set out matters of control for resource consent conditions.

Variance and inconsistency in approach to assessing source water effects on activities which have limited or no impact on source water. The draft RIS states– "*There is also no easy way of predicting how regional councils will exercise their discretion in consent decisions, and what mitigation measures regional councils will require from resource users to manage risks to source waters*." We consider this to be a risk in SWRMA 2 and 3.

Resource consents may require costly technical advice – to enable this to be efficient and effective, a clear expression of the management outcome is required (as expressed elsewhere).

We discuss elsewhere the challenges with managing diffuse discharges (such as nitrate) on a consent-by-consent basis, and consider this should be addressed through catchment limit setting processes.

SWRMA 3 CONTROLS

Q. 20	Do you think any additional controls, other than broad consideration of the effects of the activity on source water, are required in SWRMA 3?

No we do not think additional controls should be implemented in SWRMA 3 and it needs to be far clearer what the intended impact of mapping SWRMA 3 areas is, rather than leaving this up to interpretation

SWRMA 3 is the entire catchment area for the source water. These will be extremely widespread areas (especially once unregistered water suppliers are required to register under the WSA – should the NES adopt the same scope, additionally new supplies will also likely be established in the future). It could be possible that every catchment in New Zealand is a SWRMA 3 area.

In addition, the contaminants set out to be managed in this area are more so an issue in respect of cumulative effects – which is not manged well or efficiently through individual consents. In the referred to Aqualink report[7], it notes

> "*Within SWRMA 3, non-point source contaminants arising from general land use (e.g. nitrates), cumulative effects from small point source contaminants, and large-scale discharges, may need to be managed. This area is also intended to address persistent contaminants that may not attenuate adequately before reaching a water supply intake (e.g. nitrate; pesticides; some emerging contaminants; etc.).*"

In the wider catchment area, the provisions that will come through the NPSFM2020 process are also particularly relevant (requiring resource use and water take limits to be set

[7] https://environment.govt.nz/assets/publications/guidelines-for-modelling-source-water-risk-management-areas.pdf

based on values and achieving attribute state set, through community and iwi engagement). For example, the NPSFM 2020 includes 'drinking water supply' as an Appendix 1B 'value that must be considered'.

The draft RIS makes the following commentary in respect of the process required by the NPSFM 2020 – "*It is uncertain how much focus source water will be given in the regional freshwater planning process, as source water is one of many values, and it is uncertain whether drinking water values would be identified in catchments with only very small supplies. There is unlikely to be consistency between regions in how source water risk is managed. However, to achieve the objective of the NPS-FM degradation of freshwater must be addressed through regional plans by 2025*".

In our view, rather than a vague/broad 'catch-all' approach, it would be preferable in SWRMA 3 to, provide policy direction that would create a defined level of expectation in relation to freshwater management through regional plans.

For example, the NESDW could set out direction to regional councils to:

- Review how activities are managed in this area and where necessary amend plans to manage activities to manage effects on source water (however we expect that through the NPSFM 2020 process which considers catchment/freshwater values in setting limits etc. will by default achieve this).
- Monitoring requirements around contaminants where cumulative effects might be an issue, or emerging contaminants.

Direction sitting at the plan level (and enabling and overall assessment of the plan) would be more effective and efficient that consent-by-consent management, except where an activity is likely to have a direct effect on source water.

Further commentary on the challenges and potential value conflicts in the wider catchment area are discussed below.

GROUNDWATER BORE MANAGEMENT

Q. 21	What is your view on how to address issues with bores – should it be enough to amend the NZS 4411:2001 (with reference to that standard in the NES-DW), or should greater direction be given in the NES-DW itself?

HortNZ does not hold a specific view on where the requirement for bores to be secure should sit – however agree that it is important that bores are managed to limit the risk of contamination (otherwise it places undue onus on land users).

We note that New Zealand Kiwifruit Growers has also made a submission and their preference is for NZS 4411:2001 to strengthen groundwater bore management with reference to the standard in the NES-DW and council plans to be updated accordingly.

Q. 21	What is your view on how to address issues with bores – should it be enough to amend the NZS 4411:2001 (with reference to that standard in the NES-DW), or should greater direction be given in the NES-DW itself? For existing bores: — What is your view on requiring unused bores to be decommissioned? — Should bores of poor quality be required to be upgraded or decommissioned? What timeframe might be reasonable to do this? — For many older bores there are no records. What sort of evidence could be used to support the ongoing use of these bores, or demonstrate they pose a low risk to the security of the aquifer?

Decommissioning or upgrade requirements should be considered where a bore is contributing to an increased risk of contamination. However this likely needs to be assessed on a case-by-case basis and/or more clearly defined (in terms of what is considered 'unused' and the quality expectations).

Q. 23	What is your view on prohibiting below-ground bore heads?

As noted above, we consider that prohibited activity status should be used with caution – whether a non-complying activity status could achieve the desired outcome should be considered.

Q. 24	Regional councils are responsible for control of the use of land for the purpose of maintenance and enhancement of the quality of water in water bodies (RMA section 30(1)(c)(ii)). Do you think territorial authorities have a role in land management over aquifers, and if so, what is that role?

Yes, where the territorial authority manages earthworks through their district plan there could be an interface with land management over aquifers. This can be an area of overlap with regional plan rules. Any areas of overlap should be clearly addressed in the NES so that the framework and expectations are clear.

IDENTIFYING AND MANAGING ACTIVITIES OVER VULNERABLE AQUIFERS

Q. 25	It is not clear which approach might be best for ensuring risk to vulnerable aquifers is appropriately managed. Do you think that an NES-DW is the right channel for addressing this? If not, what approach might be better?

Firstly - there needs to be a clear definition or defining criteria for a 'vulnerable aquifer' (and what it is vulnerable to e.g. damage to the aquitard from earthworks). It is difficult to understand what risk is sought to be managed otherwise.

The following statement in the consultation document it is assumed that vulnerability to earthworks is the key concern – "*Some shallow aquifers are more susceptible to earthworks, which like bores, can disturb an aquitard and provide a preferential pathway for contaminants into groundwater*".

Q. 26	Would it be helpful if guidance on vulnerable aquifers was provided to support freshwater planning as the NPS-FM is given effect?

The NESDW is unlikely to be the best means for specific controls relating to 'vulnerable aquifers' (due to the variability in vulnerability), but guidance may assist.

RETROSPECTIVE APPLICATION OF THE NES-DW TO EXISTING ACTIVITIES

Q. 27	What activities do you believe the NES-DW should retrospectively apply to / not apply to, and why?

Application of new requirements retrospectively does compromise a level of certainty which resource users have been afforded through existing plan rules and/or resource consents. It is further complicated by the fact that new drinking water supplies can establish.

Should the NES-DW apply retrospectively – we consider this should be only be for high risk, direct impact activities with ongoing effects (for example, direct discharges in SWRMA 1), not across the board.

Specifically we do not think retrospective application would be appropriate for water take consents, or buildings and structures. Additionally, we do not think the NEWDW changes should apply retrospectively if a new drinking water supply is established – as this would create unacceptable uncertainty for resource users, and not be a fair approach.

Application of the NES-DW across the board would likely add to the cost of implementation (i.e if all consents needed to be reviewed in SWRMA) – likely for minimal gain.

If it does apply retrospectively, there needs to be further direction on how this is managed in practice. It would be inefficient to target existing activities which do not have an ongoing or change in effect on drinking water.

The NESDW needs to be very clear on the degree to which it applies to renewal of consents.

Q. 28	In your view, what are the key challenges and benefits to retrospective application?

Key challenges: uncertainty for resource users, additional cost and uncertainty, 'reverse sensitivity' effect if they are an established activity. Administrative burden.

Benefits: enables ongoing effects on drinking water to be managed, where there is a significant ongoing effect. But this same outcome may also be able to potentially be able to be achieved through consent review process existing under the RMA, or source water risk management plans (under the Water Services Act).

CRITERIA WHEN CONSIDERING EFFECTS ON SOURCE WATER

Q. 29	Do you agree with the proposed list of criteria? – Are any additional criteria needed, or clarifications

The criteria seem reasonably comprehensive. We note the following for consideration:

- These are very broad if they were to apply to a Controlled Activity.
- There a gap in direction on how existing will be assessed, other than just consideration of whether the risk is the same or less.
- It should be explicit that 'The degree to which the water supplier's source water risk management plan under the WSA addresses the activity' enables consideration of treatment, or an additional criteria added to enable this to be considered.

The Consultation document notes that "Ministry for the Environment and regional councils to provide guidance on consenting expectations and addressing effects on source water." – this has potential to have significant practical implications.

PROACTIVE RESPONSE PLANNING

Q. 31	Do you think it is reasonable to require all activities with some potential to affect source water to undertake response planning, or just those with a higher risk (likelihood and consequence)?

HortNZ consider any requirements for a risk management/emergency response plan as part of proactive emergency response planning should be focused on activities which have a higher risk.

The large area that will be covered by SWRMA (and potentially the very broad range of activities covered) would make a blanket approach costly and inefficient, for minimal gain.

WATER SUPPLIER INVOLVEMENT

Q. 32	Do you agree that resource users should engage with water suppliers in consenting matters, within SWRMA 1 and 2?

We have concerns about the potentially very wide remit for drinking water suppliers to comment on every activity (land use, water take, discharge etc.) in a SWMRA 1 and a number of activities in SWRMA 2 – concerning how that land is used. These may be significant areas of land.

There needs to be a clear link to risk of an effect on source water and clear the 'status of the drinking water supplier in that – does that afford priority, the need to consult and/or gain approval? This could add considerable uncertainty and bureaucracy to the consenting process.

There is a risk that, in the reality that 'drinking water suppliers' will include not just council organisations but resource users with other interests, that this could result in power imbalance/undue influence for reasons unrelated to drinking water.

There also should not be an expectation on the DSW, who might be a farmer, grower etc. to provide technical input.

We agree that the scope of this should not extend to SWRMA 3, as this would make the engagement unworkable.

As noted, we consider there is a need to (as highlighted above) reflect on the scope of activities managed within SWRMA 1 and 2, and whether every consent application (district or regional) in SWRMA 2 should be required to consult with the drinking water supplier.

Q. 33	What hurdles do you see in promoting this engagement with water suppliers?

As noted above – the role/influence of this engagement needs to be very clearly defined.

The definition of a drinking water suppliers under the Water Services Act, means that there will be a significant number of suppliers who are large scale providers; increasingly these will be everyday people who do not have a professional role related to water supply. This creates an additional resource requirement and some 'drinking water suppliers' will not necessarily have the capability or capacity to engage.

In some cases there may be overlap in who is the 'resource user' and the 'drinking water supplier'. E.g there will be many situations where a water take (e.g. bore) will be largely supplying irrigation water, but also have (under the new Water Services Act definitions) a drinking water supply component.

An additional challenge is that drinking water supplies will not be constant over time.

Q. 34	What support might small water suppliers need to effectively engage in the consent process?

We consider that technical support will be required for small water suppliers – in order assess and evaluate any effects on drinking water, this is a specific technical skill set.

GENERAL MATTERS RELATING TO MANAGING SOURCE-WATER RISKS

Q. 36	In your view, how could the amendments to the NES-DW better align with farm plans? — Is reliance on the NPS-FM, NES-F and Stock Exclusion Regulations enough to manage the long-term effects of farming activities on underlying aquifers and waterbodies? — Can you identify potential duplication between the NES-DW and other regulations that control land use?

Alignment with the NPSFM 2020 and the Freshwater Farm Planning (FW-FP) regulations being developed (in addition to the stock exclusion regulations etc.) is critical and has not been adequacy considered in our view.

FW-FP will have a role in mitigating risks to source water – through progressive improvement in practice and ensuring good management and best management practices are in place. Would expect also that freshwater plans will include/ acknowledge drinking water as a catchment value where appropriate (i.e responds to catchment context).

As discussed elsewhere in this submission – HortNZ support reliance in the first instance on NPSFM 2020 for manage diffuse discharges. This will assist in achieving integrated management.

Q. 37	If you are a water supplier, do you think these amendments will affect your ability to supply water (positively or negatively)? Would they influence whether you continue to provide water?

In short, yes this is a risk. HortNZ is not a water supplier, however note that some growers would be considered 'drinking water suppliers' through the Water Services Act and additional controls on land use through SWRMA may discourage people from supplying water / sharing water sources locally.

Q. 38	If you are a resource user, do you think these amendments will affect how you currently use your land or undertake activities? Will you have to change how you do things as a result?

HortNZ is concerned about the potential for NESDW provisions to impact on the productive use of highly productive land – this is discussed in further detail below.

The NESDW could have a significant impact on resource users through increased consenting costs (the consultation document noting that "Consent costs may lie between $5,000-$40,000 per application").

We note a particular concern about the agrichemical controls proposed (discussed in the case study report) – as mentioned above.

WHICH WATER SUPPLIES SHOULD BE PROTECTED BY THE NES-DW

Q. 39	Do you think the protections of the NES-DW should apply to all registered water supplies? — If not, what types of supplies should be included, and why?

In principle, yes from a water safety perspective all registered drinking supplies should be included. Although we note that this will mean that a large area will be captured – it is essential that the management regime needs to be pragmatic and not too blunt.

The management approach should take a 'population risk' based perspective – where the rules are commensurate to this risk.

Q. 40	The WSA has a registration timeframe of four years for currently unregistered supplies. — Do you agree with aligning application of the NES-DW with the WSA? If not, why? — In your view, what are the challenges resulting from including these newly registered supplies within the NES-DW framework?

It makes sense from a consistency perspective to align with the WSA, however a key challenge is that it will lead to a large number of drinking water suppliers, so this need to be considered in ensuring there is a pragmatic management regime. This will result in overlapping SWRMA areas and significant areas of land being subject to SWRMA.

OTHER COMMENTS

Q. 41	Do you have any other comments you wish to make?

INTEGRATED MANAGEMENT

HortNZ is concerned about the lack of integration with other national direction/legislation – the amended NESDW need to be well-targeted, clear and aligned with other regulation.

The section on the consultation document 'How will the NES-DW work with source-water provisions in the WSA and other freshwater national direction?' largely focuses on the mechanics, rather than how the management outcomes and existing (and proposed) regulation might interface, overlap or complement one another.

We seek to ensure that various regulations affecting the sector are aligned and does no lead to unnecessary duplication or inefficient consent processes.

THE NEW-DW NEEDS TO RETAIN/INCLUDE A CLEAR MANAGEMENT OBJECTIVE/CRITERIA.

The current NESDW refers to 'health quality criteria', which includes reference to the Drinking-water standard (and maximum acceptable values within that standard and aesthetic determinants).

It is unclear whether this focus will remain through the review of/amendments to the NESDW. The focus should remain on drinking water that meets water quality standards.

We think there is a risk (for implementation) in making the NESDW too open-ended and broad (or unclear).

As an additional note – the consultation document refers to, as a problem with the current scope/approach of the NESDW, that "the DWSNZ do not provide acceptable limits for all contaminants". Where this is an issue, it should be remedied through review of DWZNS rather than the NESDW (as that is where the appropriate expertise sits).

PROTECTION BASED ON TREATED WATER QUALITY

The protections provided by Regulations 7, 8 and 10 are only applied should an activity be likely to impact the quality of treated drinking water.

The proposed change moved away from this approach – one of the reasons for this is it "*it inappropriately emphasises reliance on treatment processes as a solution to contamination*".

While we can agree that there are challenges in implementing the current approach, in some circumstances there is a role for treatment of water to reach the desired quality in order to respond to the catchment context/ as part of balancing other values and pressures in a catchment. This is particularly relevant in respect of servicing additional urban growth.

NEW DRINKING WATER SUPPLIES NEED TO BE APPROPRIATELY LOCATED.

The NESDW is focused on managing activities (new or existing) that are in a SWRMA – it does not place any requirements, criteria or responsibility in respect of establishing new drinking water supplies.

While there is a requirement for a drinking water supplier to prepare and implement a source water risk management plan (except where an acceptable solution is adopted which substitutes the requirements of preparing a drinking water safety plan) – this does not necessarily require proactive consideration ahead of a drinking water supply being established, nor does it enable the potential cumulative effects of a number of drinking water supplies establishing.

New SWRMA have the potential to significantly affect existing lawfully established activities – it is important that these effects are considered and assessed.

There needs to be in our view a process which ensures that new supplies are appropriately located (or implement suitable treatment) so as not to result in an inappropriate restriction on surrounding land use in a catchment. This is otherwise potentially a new form of 'reverse sensitivity' for highly productive land.

FULL CONSIDERATION OF POTENTIAL COSTS, BENEFITS AND VALUES

The Draft RIS notes in respect of pre-consultation feedback from the primary sector – "*Policy needs to strike the right balance between water source protection and the commercial interests of the primary sector*".

HortNZ also notes that it is important to consider the social and human health benefits of food production for domestic food supply, the benefits of the use of productive land extends beyond just commercial interests.

Value balancing

The reality of the interactions between values, treatment options and land uses is complex in some areas and requires trade-offs to be made (and in terms of how Te Mana o te Wai is applied locally in freshwater management).

An example of this is the Waimea Plains – refer to case study below.

In some areas, for example treatment of water may be a requirement to allow it to continue to be used as drinking water source and be safe may be necessary and relied on, while also being able to utilise highly productive land. There needs to be a process of being able to make those decisions, value balancing.

Te Mana o Te Wai – which is embedded in the NPSFM 2020 – includes a hierarchy of priorities. The second priority in the is the health needs of people. There is some discretion in interpretation or the ability to further define Te Mana o te Wai at the local level provided. The NPSFM-2020 states this includes uses such as drinking water.

Te Mana o Te Wai prioritises the health needs of people above their other social, cultural and economic needs. Safe drinking water is a health needs, but it is not essential to human health to drink untreated drinking water from anywhere. Safe drinking water can be provided strategically with water storage and treatment. A strategic planning approach to safe drinking water provision can reduce the conflict of providing for other essential needs such as food, and other needs such as economic wellbeing.

There is a risk in the NEWDW providing a priority to drinking water, in the absence of considerations of other values. Prioritising drinking water in all locations will have a significant impact on the productive capacity of highly productive land.

For example – is it appropriate for an existing drinking water supply to lead to the requirement for sterilisation of highly productive land that has national significance for food production (due to the inability to use it productively), when alternative options may exist to achieve a safe drinking water supply.

We consider that essential human health relates to the physiological needs of humans, it includes safe drinking water and sanitation, nutritious food, adequate shelter and warmth. In this context, while drinking water is important, it is also important to consider the need to grow fruit and vegetables.

There needs to be the ability to weigh up and provide for multiple values, in a way which is not provided for currently in the proposed changes.

Waimea Plains Case Study

Horticulture is a predominant land use on the Waimea Plains (particularly vegetables and apples), and area of highly productive land.

There are two public water supplies on the Plains:

- Richmond Public Water Supply sources water from the Lower Confined Aquifer (LCA) – because of high nitrate concentrations this is mixed with water from the Upper Confined Aquifer (UCA).
- Brightwater/Hope Public Water Supply sources water from the Appleby Gravel Unconfined Aquifer (AGUA).

There has been persistence of high nitrates in some areas over the past 30 years - nitrate concentrations in parts of the Waimea basin exceed some standards for drinking water quality and for protecting some ecological values. The Richmond Supply has history of elevated nitrate concentrations, above the New Zealand Drinking Water Standard of 11.3 mg/L. For example, a May 1986 concentration in the Richmond supply of 14 mg/l nitrate-nitrogen, 2016 monitoring confirmed elevated nitrate concentrations (up to 24 mg/l). In part high nitrates have been the result of a historic piggery plume that has been passing through the area (although now largely passed) and cumulative effects of land use. Ranzau soils on the Plains are vulnerable to leaching.

It has been estimated that to achieve 5.6 mg/L (~50% of the NZ Drinking Water Standard) total load reductions in the order of 35% might be required. This would require more than just improvements in farm management practices such as some form of land use change. Given much of the plains is already in low leaching activities (wine and applies), it would likely require retiring a significant proportion of highly productive land.

This requires a broader consideration of values, catchment-scale mitigation, water treatment options, options for alternative drinking water supply locations.

It would be very difficult to manage source water effects at an individual consent-by-consent level under the NESDW provisions, for a number of reasons:

- Difficult to consider cumulative effect in consents
- There are complex groundwater dynamics across the Waimea Plains.
- Does not enable other values to be considered to with up the best approach (for example, there is perhaps a case for changing the supply of drinking water to a source that is less vulnerable).

Through the NPSFM 2020 process – catchment limits will need to be determined that give effect to long-term visions, Te Mana o Te Wai and values for the catchment. This

enables source water to be considered in from integrated management perspective, in the context of the catchment.

Estimated SWRMA on the Waimea Plains (for existing public supplies)

Appendix 1 incudes maps of estimate (this is an under-estimate because these are only the public water supplies, in reality there are a number of bores across the Plains that may well also be drinking water supplies under the Water Service Act).

The estimated SWRMA areas for these existing supplies make clear that there will be significant areas of productive land that will be subject to the proposed changes – both in SWRMA 1, 2 and 3 (which are the entire catchments).

For example, the Richmond bores – located in a highly-developed part of the Waimea plains – include 258 ha of horticulture[8] just in the most directly affected by proposed changes (i.e SWRMA 1 and 2).

Potential controls on land disturbance, agrichemical application, and additional controls on activities which require a consent (for example water takes), will have a could have a significant impact on the ability to productively use land and almost certainty increase costs for growers through additional consent processes – potentially for very little benefit.

The SWRMA 1 and 2 areas will undoubtedly grow as new drinking water supplies (with a broader definition) are added – this demonstrates how critical it is that the controls in the respective SWRMA are focused, clear and risk based (and ultimately necessary).

There is also a significant areas of horticulture within SWRMA 3 – with this encompassing the entire catchment.

Some water supplies will be in high country/bush areas with relatively sparse land use – but that is not the case everywhere (especially with the changes through the Water Services Act) – it is important that the cost/benefit analysis takes this into consideration.

Benefits analysis

The consultation document or cast study report does not, in our view, adequately consider the benefit to be gained through the proposed approach in the NEW-FW in terms of whether the additional wide-reaching controls will, in the context of the existing regulatory framework, result in any additional benefits to the risk of drinking water related risk.

The benefits to the environment noted in the draft RIS are as follows:

> *"Freshwater will be given additional protections where it is used as a source for drinking water.*
>
> *By protecting source water, the health of the environment will gain precedence over its multitude of uses, in line with Te Mana o te Wai."*

We make the following comments:

- It is assumed that additional protection is required for source water without testing whether that is actually the case for many activities – this lacks integration with other

[8] Sum of 'apples, hops, kiwis, avocados'; grapes, olives, nuts'; and 'outdoor vegetables'.

freshwater regulation and does not take a risk-based approach. For example the consultation document is not very states (emphasis added) - *"Improved source water management is anticipated to lead to reductions in preventable waterborne diseases, such as diarrhoeal diseases, cholera, typhoid and others (pg.42) … and may reduce waterborne disease in regions with higher notification rates (cont. on p.43)"*. This is important to consider in light of the costs that will be incurred.

- Regional Councils are already required to through NPSFM 2020 processes prioritise and provide for the health of waterbodies (first hierarchy) – it is not clear if controls on drinking water (second priority) necessitate additional (potentially duplicative) controls in order to achieve the outcome of the NESDW and how this impacts on other second hierarchy values.
- Additionally, affording priority to drinking water over all uses of water may not always be appropriate (especially in the context of uses that are important to the health needs of people – i.e other second priority activities).

We also consider that statement that a benefit to resource user that they will have "certainty over where source water may be at-risk from their activities, and improved clarity over requirements for protecting source water in their local area" is not necessarily correct, in the context of the feedback we have provided in this submission.

CLARITY ON THE INTERFACE WITH SOURCE WATER RISK MANAGEMENT PLANS (AND THE WATER SERVICES ACT)

There is an uncertainty as to the intended interface between the requirements for mapping SWRMA under the NESDW and Source water risk management plans by drinking water suppliers under the Water Services Act.

The Water Services Act puts a more robust framework in place in respect of drinking water suppliers managing risks to their supplies and having suitable treatment and monitoring in place – this does not seem to be recognised in the document.

CLARITY ON HOW THE NESDW IS INTENDED TO BE IMPLEMENTED IN PLANS

There needs to be clarity as to how changes to the NESDW are to be reflected and implemented in plans – for example, there are a number of ongoing plan change processes which HortNZ is a party to where there has been confusion/disagreement on how regulations such as the NESFW 2020 should be reflected in the process of resolving appeals on existing plans rules which overlap in content.

It also needs to be clear whether regional plan (or district plan) rules can be less lenient in any circumstance, or stricter than the NEWDW.

ADDITIONAL CONSULTATION ON DRAFTING

HortNZ see a need for further consultation on proposed drafting of changes to the NESDW. In our view this is necessary to test the implications of the proposed changes and to try and avoid potential unintended consequences that can result from drafting.

We also note that a case study report (which was signalled to be published in late January) was only made available very late in the consultation period (published Wednesday 2 March, ahead of a Wednesday 6 march closing date) making it very difficult to meaningfully consider in informing this submission, or to seek feedback from stakeholders.

Appendix 1:Waimea Case Study

Subject:	Waimea SWRMA mapping
Attention:	Michelle Sands, Jordyn Landers
From:	Stu Easton, Tim Baker (SLR Consulting)
Date	03 March 2022

1 Introduction

This memo explains the data, processing, and caveats associated with the included map[1].

The map uses limited available information and expert judgment (Tim Baker) to estimate the source water risk management areas (SWRMAs) following the methodology set out in the *Improving the protection of drinking-water sources* ('the consultation document')[2] for known Tasman District Council (TDC) drinking water bores/borefields. See Appendix A for SWRMA definitions.

A data request to TDC has not been fulfilled at the time of writing. The mapped SWRMAs rely on incomplete and uncertain information. The map is intended to be used for illustrative purposes only.

2 Methodology

The following bores/borefields have been mapped:

1. Richmond bores
2. Waimea bores
3. Hope/Brightwater bores

2.1 Richmond bores

The Richmond bores are four bores that draw from the upper confined aquifer. The location of the bores has been estimated based on TDC information[3] and aerial imagery.

- SWRMA 1 is estimated as a 5 m radius surrounding the bores.
- SWRMA 2 has been estimated for a single bore located centrally within the estimated borefield accounting for the total daily borefield abstraction using known and default parameters (1-year

[1] Collaborations_HortNZ_Waimea SWRMA_Map_RevB_02032022.pdf
[2] https://environment.govt.nz/assets/publications/nes-dw-consultation-document.pdf
[3] https://www.tasman.govt.nz/my-property/water/water-supply/drinking-water-quality/

time of travel) using the GNS Capture Zone delineation tool[4] and mapped in ArcGIS pro to match the output parabola. The SWRMA has a length of 2.5 km, the maximum under the proposed amendments.

- SWRMA 3 is equivalent to the entire Waimea plains surface water catchment as estimated by the River Environments Classification 2 (REC) version 5. Note the Richmond bores cross a surface water boundary.

2.2 Waimea and Hope bores

The Waimea and Hope/Brightwater bores are highly connected to the adjacent rivers (Waimea and Wairoa respectively). They have therefore been mapped as a combination of SWRMA for rivers and groundwater. The location of the bores has been estimated based on TDC information and aerial imagery. The Waimea bore locations are uncertain.

- SWRMA 1 is estimated as
    - the river area 100 m downstream, 1,000 m upstream, and 5 m landward of the adjacent REC reach, and
    - a 5 m radius surrounding the bores.
- SWRMA 2 is estimated as
    - the area 100 m landward, 100 m downstream and 8 hours upstream of the bore locations based on a default velocity of 1 m/s following the REC network (limited to 2nd order stream or above); and
    - to the east of the river (where the borefields are located), an additional groundwater capture zone has been estimated for a single bore located centrally within the estimated borefield, accounting for the total daily take using known and default parameters (1-year time of travel) using the GNS Capture Zone delineation tool and mapped in ArcGIS pro to match the output parabola.
- SWRMA 3 is equivalent to the entire Waimea and Wairoa river catchment as estimated by the REC.

2.3 Consented Domestic and Public Supply bores

Additional Consented Domestic and Public Supply bores have been mapped from data provided by TDC. There are 16 bores in total, two of which are labelled as ‘Public Water Supply’; the remainder are labelled ‘Domestic’. They are considered indicative of additional abstractions only and may be incomplete. There is insufficient information to determine which bores require SWRMA delineation.

The mapped bores do not represent all bores on the Waimea Plains that might have a drinking water component– only those which have been tagged as for domestic use or public supply bores within the consents database, which is presumed to be incomplete. The definition of a drinking water supply in the Water Services Act means that bores for irrigation (or other purposes/categories) may also be drinking water supplies – however this data was not available to map.

[4] Moreau, M.; Cameron, S.; Daughney, C.; Gusyev, M.; Tschritter, C. 2014.Envirolink Tools Project – Capture Zone Delineation – Technical Report, GNS Science Report 2013/57. 98 p.

3 SWRMA area and land use

Table 1 and Table 2 summarise the area and land use within the estimated SWRMA 2 zones (medium term risk of contamination). Land use data are from TDC GIS information and the Landcover Database[5]. The Waimea and Hope SWRMA 2 areas are significantly larger than Richmond due to the surface water protection zone component. Note that the total area in Table 2 is greater than Table 1 due to the overlapping SWRMA 2 zones for Waimea and Hope.

The Richmond SWRMA 2 zone (Table 2) covers a highly-developed part of the Waimea plains including part of the Richmond township, the current housing development along Berryfield Drive, and large areas of horticulture. The consultation document identifies disturbance over vulnerable aquifers (being the drilling, construction and maintenance of bores, or earthworks that damage aquitards) as potential high-risk activities. There are 65 bores from the TDC consents information (of all purposes/categories) within the combined SWRMA 2 area (Table 1).

Table 1 Land use within combined estimated SWRMA 2 zones

Land use	Area
Apples, Hops, Kiwis, Avocados	207
Grapes, Olives, Nuts	175
Outdoor Vegetables	235
Dairy pasture	130
Other Pasture, Lifestyle Blocks (extensive S&B)	2181
Forest, Scrub	5388
Non-Agricultural (including Urban)	350
Water	13
Other	268
Total SWRMA 2 area	**8945**

Table 2 Land use within individual estimated SWRMA zones

Land use	Richmond (ha)	Waimea (ha)	Hope (ha)
Apples, Hops, Kiwis, Avocados	119	88	1
Grapes, Olives, Nuts	54	115	9
Outdoor Vegetables	85	147	10
Dairy pasture	22	108	0
Other Pasture, Lifestyle Blocks (extensive S&B)	89	2043	569
Forest, Scrub	0	2723	4168
Non-Agricultural (including Urban)	124	231	17
Water	2	14	0
Other	0	278	141
Total SWRMA 2 area	**495**	**5749**	**4915**

[5] https://lris.scinfo.org.nz/layer/104400-lcdb-v50-land-cover-database-version-50-mainland-new-zealand/

4 Limitations

- Data, including the number and the locations of abstractions are of unknown quality and considered incomplete.
- The mapped SWRMAs are illustrative estimates only, based on limited available data and expert judgement.

Appendix A

SWRMA definitions

SWRMA definitions follow Box 9 in the consultation document:

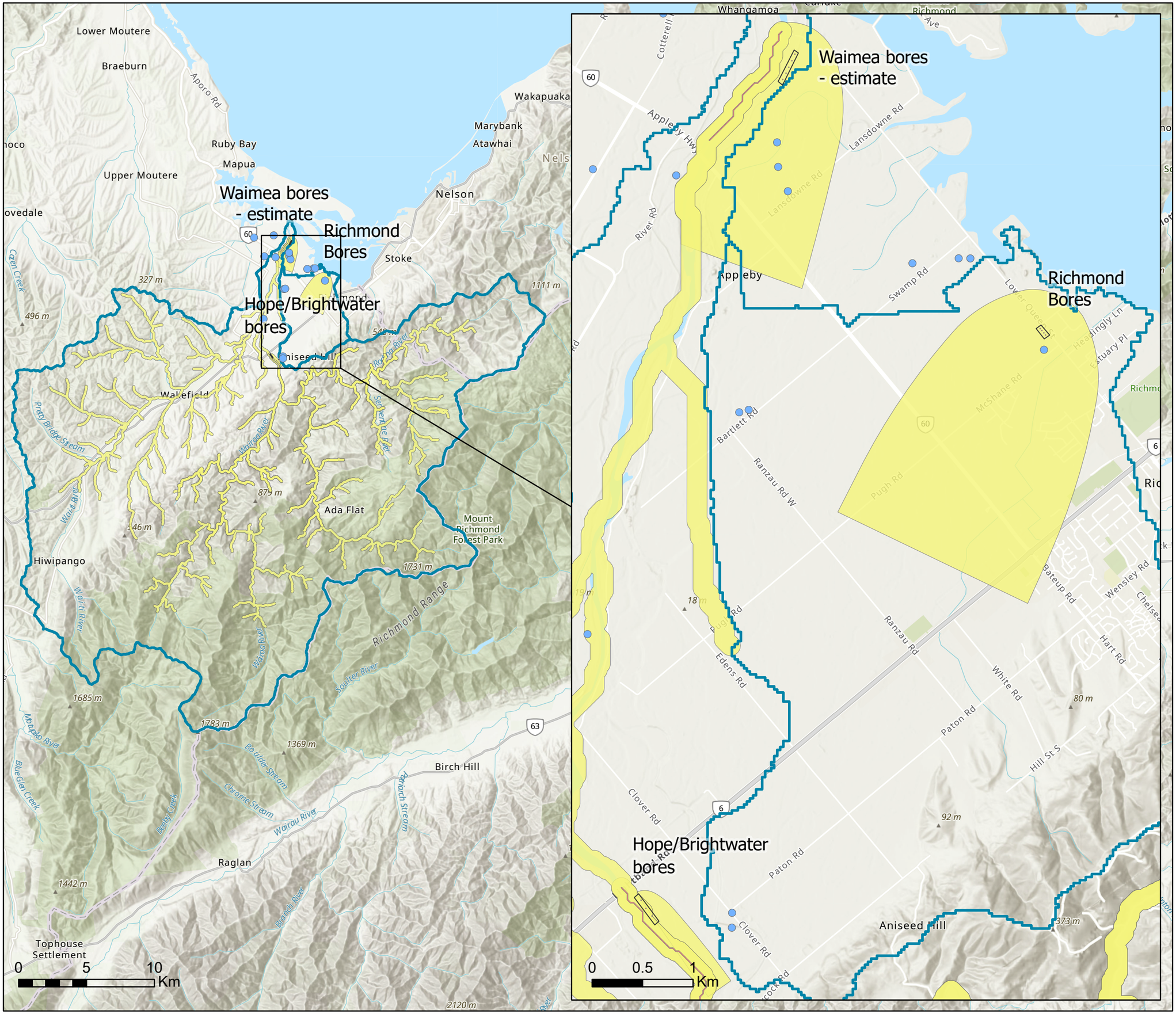
SWRMA 1 is the immediate area around the source water take where there is an immediate risk of contamination because there is very little time to respond to any contamination before it enters the water supply. Most activities will be restricted in this area.

- For rivers, it encompasses the river and its bed 1,000 metres upstream and 100 metres downstream of the intake, extending 5 metres into land from the river edge.
- For lakes, it encompasses the lake and its bed within a 500-metre radius of the intake, extending 5 metres into land from the lake edge.
- For aquifers, it encompasses land within a 5-metre radius around the intake (bore head).

SWRMA 2 is a larger area where activities need to be managed, to mitigate more medium-term risks of contamination. The size will vary because it is based on the time it takes for water to flow to the source.

- For rivers, it is the river and bed from where water travels to the intake within an 8-hour period.
- For lakes, it is the entire lake area, extending landward 100 metres, and includes tributaries (being the area from where water travels to the lake within an 8-hour period).
- For aquifers, it is the land area above where groundwater travels to the intake (bore) within a 1-year period, to a maximum of 2.5 kilometres.

SWRMA 3 is the entire catchment area for the source water. Persistent contaminants and cumulative effects of all activities within the catchment are the management focus in this area, and they are considered to be appropriately managed under the RMA. The proposed amendments to the NES-DW aim to clarify that consenting decisions must address source water risks.



SWRMA 1 - limited visibility at mapped scale

SWRMA 2

SWRMA 3

Public water supply borefields (location approximate)

Consented Domestic and Public water supply bores*

*Information provided by Tasman District Council. Considered indicative of additional abstractions only and may be incomplete. There is insufficient information to determine which bores require SWRMA delineation.

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Estimated Waimea Source Water Risk Management Areas (SWRMAs)

See attached SWRMA memo for methodology, data sources, and limitations

Project:	Waimea	Author	SE
Client:	HortNZ	Date	02/03/2022
Ref:	001	Size	A3

Collaborations