Introduction to New Zealand Winegrowers

1. New Zealand Winegrowers (NZW) provides strategic leadership for the wine industry and represents the interests of all of New Zealand’s 1,400 wineries and independent grape growers.

2. The winegrowing industry (grape growing and winemaking) generated premium branded goods exports of over $1.8 billion (fob) in the year ended June 2019, making it New Zealand’s sixth largest export good; with a further $500 million in domestic sales bringing the total value from wine sales to over $2.3 billion. Winegrowing accounts for more than 7,300 direct jobs and generates more than 13,000 other jobs in support industries, mostly in the regions. It is an important tourist attraction for international and domestic visitors.

3. Grapes are New Zealand’s largest horticultural crop, with a total producing vineyard area of 38,680 hectares spread over 10 wine regions throughout New Zealand from Northland to Otago. Winegrowing is also one of New Zealand’s most sustainable primary industries, and our industry is internationally renowned as a world leader in sustainability.

4. As New Zealand’s largest horticultural crop, our industry feels a keen responsibility for taking a lead in environmental best practices. Established in 1997, our Sustainable Winegrowing New Zealand (SWNZ) programme remains the world’s most respected whole-of-industry, independently audited sustainability programme for vineyards and wine: 97% of New Zealand’s producing vineyard area is accredited to its standards. Our industry has invested heavily in SWNZ (and continues to do) so that it functions as an effective environmental management system for winegrowers.
This submission is in three parts:

1. Key messages and summary of NZW’s recommendations
2. Context: Winegrowing does not contribute to freshwater quality issues
3. NZW’s Submissions on the Health Waterways consultation

PART 1. KEY MESSAGES AND SUMMARY OF NZW’S RECOMMENDATIONS

1.1. Key messages

6. NZW supports this government’s vision of halting any decline in the quality of New Zealand’s freshwater bodies, and the desire to steadily improve freshwater quality over time.

7. Sustainability is at the heart of New Zealand winegrowing. For decades, New Zealand’s winegrowers have led the way in continuously improving the environmental sustainability of their production by actively monitoring, benchmarking and reducing their inputs – be they fertilisers, sprays, water, energy or labour. The Sustainable Winegrowing New Zealand (SWNZ) programme is a key enabler of this.

8. The SWNZ programme can and should be used to deliver all of the outcomes intended for the proposed Freshwater Module of Farm Plan (FW-FP) requirements. Doing so will benefit both regional councils and winegrowers.

9. Grape growing has not been a contributor to the decline in New Zealand’s freshwater quality. Typically, little to no irrigation or fertiliser is used in grape growing, and the vast majority of waterways within grape growing regions have good to very good water quality, and improving trends.\(^1\) Evidence from reputable scientific studies shows that:

   o not all vineyards apply nitrogen, and most that is applied is fixed in the grapes and vine; typical annual nitrogen leaching from New Zealand vineyard land is very low: in the range of 3 to 7 kg/N/ha\(^2\); and
   
   o the quality of water under New Zealand vineyards is typically better than New Zealand drinking water standards\(^3\).

10. Balancing the many interests affected by the proposals will be complex. We are concerned that the proposals, as drafted, might result in:

   o disproportionate costs and compliance burdens on winegrowers to manage the risk of environmental harms to which – by the very nature of winegrowing in New Zealand – they have not contributed and will not contribute. This is material, as many vineyards are not particularly profitable;

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\(^2\) See paragraph 34.
\(^3\) See paragraph 34.
the imposition of separate FW-FP requirements that duplicate requirements already met by winegrowers’ existing SWNZ vineyard and winery sustainability management systems;

- the imposition of FW-FP monitoring and audit requirements on councils which could be met by industry using its existing SWNZ vineyard and winery sustainability management systems;

- restrictions and regulatory requirements on expansion of vineyard area that are very disproportionate to any potential freshwater risk, and which will achieve no material benefit, given the very low risk to water quality from vineyards. Given forecast expansion of vineyard area by 5,000 hectares over the next 5 years, this could be a material constraint on industry growth.

- Those restrictions should also be considered in the context of policy encouraging New Zealand’s transition to a sustainable, low emissions economy. Winegrowing is a low carbon emitting\(^4\), high value export, of precisely the kind advocated by the Productivity Commission. Restrictions on growth of vineyard area will impact that transition.\(^5\)

11. Although applying a one-size-fits-all approach to all primary industries may be a superficially appealing policy approach, NZW considers that is misguided:

- It does not recognise that New Zealand’s primary industries have a very broad range different profiles when it comes to their impact on freshwater, water use and existing structures;

- The winegrowing sector has led the way in sustainability through its world-leading SWNZ programme – which is voluntary, but almost universally applied. We are very concerned that these regulations – by mandating an overlapping, expensive programme for water – will undercut SWNZ, potentially destroying its viability.

- For some winegrowers, it may also risk stifling industry ownership of the drive to minimise environmental impact and may encourage a culture of only doing the minimum to satisfy the regulations.

1.2. \textbf{Summary of NZW’s Recommendations:}

12. As drafted, the proposals will require winegrowers to duplicate the “water” requirements of their existing \textit{Sustainable Winegrowing New Zealand} environmental plans and audits, potentially placing the viability of the whole programme at risk. \textbf{We recommend} that:

(a) The National Environmental Standard for Freshwater (\textit{NES-F}) should expressly provide for the recognition of suitable industry led management programmes (such as

\(^4\) See paragraph 36.

\(^5\) For more detail, refer NZW’s submission on the \textit{Climate Change Response (Zero Carbon) Amendment Bill}, 16 July 2019.
Sustainable Winegrowing New Zealand) as a platform to satisfy the requirement on
vineyards to have a certified and audited Freshwater Module of a Farm Plan (FW-FP).

(b) The NES-F should provide that recognised industry programmes may carry out or
coordinate all FW-FP auditing and reporting obligations on behalf of individual growers
who are part of the recognised programme. This should include recognition of risk-
based audit cycles within the industry programme that may differ from the fixed 2-year
FW-FP cycle proposed.

These measures would save winegrowers an estimated $10 million in the first two years, and
a further $1.5 million a year after that; plus provide significant savings to regional councils.6

13. The proposed limits on increase in “irrigated production” area do not take account of the fact
that grape growing does not contribute to poor water quality; a conversion to grape growing
from most existing uses will, in fact, result in a de-intensification away from the main activities
that negatively impact on the environment and on freshwater. If the aim of the NES-F is to
limit intensification, it should be drafted to capture only intensifying activities. As drafted, it
captures activities that are objectively unlikely to contribute to intensification in pressures on
freshwater.

14. We therefore recommend that under clause 34 of the NES-F, an increase in “irrigated
production” area should be a permitted activity when both:

(a) the take of water is already authorised [or, alternatively, the take of water is less than
2mm]; and

(b) the expected annual nutrient loss from the newly irrigated area is shown within the
relevant FW-FP as less than 10kg N/ha/year (ie, a level that could not reasonably be
considered to contribute to any increase in water quality issues).

15. The proposed nationally binding attribute limits within the National Policy Statement for
Freshwater Management (NPS-FM) seem a blunt tool that is not in keeping with the Resource
Management Act’s focus on assessment of effects. We recommend consideration of a more
waterway-type specific approach, similar to the approach set out for sediment using the River
Environment Classification (REC) system, which classes each river’s ability to receive different
levels of nutrients based on climate, topography, and geology.

16. Some of the proposals contemplate the use of Overseer software to model nitrogen loss. We
have concerns regarding the suitability of Overseer for modelling low-nutrient operations.
Before use of Overseer is mandated for any use in connection with vineyards, it will be critical
that its accuracy in modelling is verified for low-nutrient operations in all winegrowing regions
(much relevant work towards this has already been done in existing research).

17. The proposals will require that clear guidance be given to councils. For example the new
priority given to Te Mana o te Wai is potentially powerful, yet key elements of it are relatively
abstract, and are intended to be interpreted and implemented regionally by councils and their

6 See paragraph 59.
communities. Sufficient time, and very clear guidance will be required if this process is to be a success; if not, it could potentially be divisive, as Te Mana o te Wai will likely result in changes to water use and allocation decisions, and will likely vary from region to region. As an example of where more clarity is required, we note that as currently drafted, clause 3.3(2)(c) of the NPS-FM could require each individual water and land use consent applicant to separately assess the effect of their proposed activity on tangata whenua interests. This would be highly inefficient and impractical for all parties, given that such values would likely be best assessed at the catchment or sub-catchment level.

PART 2. CONTEXT: WINEGROWING DOES NOT CONTRIBUTE TO FRESHWATER QUALITY ISSUES

18. In this Part 2 of our submission, we provide context that we consider essential in order to properly evaluate the necessity and effects of any regulatory measures governing freshwater use or land use intensification by winegrowers. It informs our recommendations that follow in Part 3.

2.1. Sustainability is at the heart of New Zealand winegrowing

19. Sustainability is one of the foundations underpinning the international success of the New Zealand wine industry.

20. Currently 97% of New Zealand’s vineyard area and most of our winery production are certified by independent audit as meeting the requirements of the Sustainable Winegrowing New Zealand (SWNZ) programme – a whole-of-industry programme which for over 20 years has allowed each of our members to monitor, record, benchmark and continuously improve the environmental, social and economic impacts of their production.

21. As a result, New Zealand wine is not a commodity; it is highly differentiated and high value. The proud stewardship our winegrowers exercise over the environment and people from which each glass of wine comes is central to the reputation for sustainability that enables us to command the second highest price per litre of any country’s wine.7

2.2. The SWNZ Programme

22. The Sustainable Winegrowing New Zealand programme does not just focus on environmental sustainability, but includes sustainable development goals encompassing sustainability in water, people, pest & disease management, climate change, and waste. To underpin its credentials, SWNZ is one of the few international wine sustainability systems that requires independent audit of each participant.

23. Each participant in SWNZ registers detailed property and environmental information for each vineyard and winery, and through the SWNZ software system then records detailed ongoing data (not just about water, but about their property’s soil, energy, people, etc) and is then

able to access benchmarking reports that allow them to compare their actual sustainability footprint against industry averages and benchmarks.

24. Two samples of the water benchmarking reports available to a vineyard member of SWNZ are attached as Annexes 1 and 2. Armed with such information, vineyards are able to identify and focus on the most effective avenues for continuous improvement in their sustainability practices.

25. New Zealand Winegrowers continues to develop the SWNZ programme: a review of the scope of the data SWNZ gathers is underway, and a significant investment in new systems is budgeted for 2020 to ensure that it continues to provide SWNZ members with accurate, timely and usable information so they can to operate their businesses in an ever more sustainable way.

26. We are happy to provide officials with more detail regarding any of these matters.

2.3. Winegrowing in New Zealand has a very light footprint, with low water use and negligible nutrient leaching

27. When considering any proposal to regulate freshwater use in winegrowing in the name of water quality, some context and evidence of the current situation is necessary. It is our view that this does not appear to have been factored into the consultation documents.

28. Grape growing and winemaking have a naturally very low environmental footprint. It is the essence of winegrape growing that to grow the ripe, fully flavoured, concentrated grapes needed for premium winemaking that are expressive of the vineyard site, the vine needs to struggle, rather than targeting maximum vine growth from an agronomic perspective. Growers carefully avoid abundance of water or nutrient inputs, as they would result in excessive leaf and vegetation growth (which then needs to be removed) and dilute, flabby flavoured grapes, which make poor wine.

Irrigation

29. 37% of New Zealand’s vineyards use no irrigation at all. Although 63% of New Zealand’s vineyards are equipped with irrigation, except for during initial establishment of the vines, irrigation is typically used very sparingly, with water use managed to balance evapotranspiration; as a result there is very little net loss of irrigation water. On average, those vineyards that do irrigate use just 96mm of water per year. For context, this is an order of magnitude less than is modelled for an irrigated South Island dairy farm.

30. The mode of irrigation use in vineyards also contributes significantly to their low risk of environmental impact. Daily vine irrigation rates are very low, with water typically applied by

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9 RNZ reports that Dairy NZ recommends modelling realistic annual South Island dairy farm irrigation use at 6mm x 180 days = 1040 mm: https://www.rnz.co.nz/programmes/election17-fact-or-fiction/story/201858627/fact-or-fiction-running-the-numbers-on-water
micro-drip irrigation to the base of individual vines (either by above ground drip, or sub-soil means). This mode of application results in:

(c) lower risk of run-off and issues with neighbouring water ways;

(a) targeted application to the vine, rather than to the total environment; and

(b) less evaporation and other losses.

31. This typical mode of vineyard application can be compared to other common irrigation uses in New Zealand which often involve much higher application rates at lower frequency, applied to the whole environment – with corresponding resulting losses and run-off risks. The following example of application rates from the DairyNZ website indicates configurations with applications “per pass” of 12-60mm\(^{10}\).

Below is an example of two different irrigation systems which deliver 4 mm of water per day but at different application depths.

<table>
<thead>
<tr>
<th>System</th>
<th>Irrigation type</th>
<th>Return period</th>
<th>Application depth per irrigation pass</th>
<th>mm/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Centre pivot</td>
<td>3 days</td>
<td>12 mm</td>
<td>4 mm (12 mm/3 days)</td>
</tr>
<tr>
<td>B</td>
<td>Rotary boom</td>
<td>15 days</td>
<td>60 mm</td>
<td>4 mm (60 mm/15 days)</td>
</tr>
</tbody>
</table>

### Nutrients

32. In many parts of the country, the only nutrients added in vineyards are trace amounts of minor nutrients via foliar sprays. Where nutrients do need to be added, application is typically targeted in multiple small doses during a narrow period from November to February. This mode of application, again limits any unintended environmental effects. Nutrient removal (as opposed to leaching) on a typical vineyard with a 12 t/ha grape crop is 24 kg N/ha and 6 kg P/ha that need to be replaced. For comparison, pasture farming uses added nitrogen in addition to clover fixation with a typical dairy farm applying 100 to 120 kg N/ha/year\(^{11}\).

33. In addition to very low fertiliser and water use, once a vineyard is in operation soil disturbance is typically minimal.\(^ {12}\)

### Negligible nutrient leaching

34. As a result of these factors, there is negligible nutrient leaching from vineyard land across New Zealand. Illustrative data evidencing this follows:

(a) Since 2016, New Zealand Winegrowers, with funding support from MBIE, has been conducting a Vineyard Ecosystem research project to gather detailed data comparing the environmental aspects of conventional vineyard operation against those of a reduced chemical input vineyard. This research project includes in-soil measurement of

\(^{10}\) [https://www.dairynz.co.nz/environment/water-use/irrigation/irrigation-scheduling/](https://www.dairynz.co.nz/environment/water-use/irrigation/irrigation-scheduling/)


\(^{12}\) The majority of vineyards are now grassed between the rows.
actual nitrogen leaching. The data gathered to date (summarised below) show that across a range of regions and conditions, actual nitrogen leaching from vineyard operation is very low: typically in the range of 3–7 kg of nitrogen per hectare per year.\textsuperscript{13}

<table>
<thead>
<tr>
<th>Region / Vineyard ID</th>
<th>kg of nitrogen leaching per hectare per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marlborough / 23SBF</td>
<td>2016 7.7</td>
</tr>
<tr>
<td>Marlborough / 21SBC</td>
<td>2016 5.1</td>
</tr>
<tr>
<td>Hawke’s Bay / 1-SBF</td>
<td>2016 4.2</td>
</tr>
<tr>
<td>Hawke’s Bay / 4-SBV</td>
<td>2016 4.7</td>
</tr>
</tbody>
</table>

(b) The measured evidence from the NZW Vineyard Ecosystem study also parallels the findings of a 2012 study by Herath et al\textsuperscript{14} which modelled leachate concentration beneath vineyards as being well within the New Zealand Drinking Water Standard of 11.3 mg/L, being on average 5.0 mg/L and 8.7 mg/L for the Marlborough and Gisborne regions, respectively.

This measured and modelled evidence of actual vineyard leaching compares very favourably to pastoral farming and horticultural nitrogen leaching. For example:

(a) Green, Agnew and Greven\textsuperscript{15} found significant differences in nitrate leaching between grape growing (at the lowest end) and other land uses: “Our DFM data indicate the annual nitrate-N leaching losses, measured at a depth of 1.2 m under the Motukawa vineyard, are of the order of 3–4 kg NO\textsubscript{3}-N/ha. This is very low compared with the impacts from other land uses that have been reported around New Zealand. For example, we have measured an annual leaching loss of 10–12 kg NO\textsubscript{3}-N/ha under apples and peaches in the Hawke’s Bay (Green et al. 2012), Herath et al. (2014) reported an annual leaching loss of 28 kg NO\textsubscript{3}-N/ha under a potato crop in the Manawatu; Parfitt et al. (2009) reported mean annual leaching losses of approximately 30 kg NO\textsubscript{3}-N/ha from hill country grazed by sheep; Thomas et al. (2005) reported annual leaching losses in the range of 12–45 kg NO\textsubscript{3}-N/ha under arable crops in Canterbury; Cameron et al. (2014) reported nitrate losses of 43 kg NO\textsubscript{3}-N/ha losses under a dairy farm in Southland; and De Klein et al. (2010) and Monaghan et al. (2013) reported annual nitrate losses in the range of 39–119 kg NO\textsubscript{3}-N/ha from a wintering support farm. Such a wide spread in leaching losses associated with different land use activities is partly due to the intensity

\textsuperscript{13} Raw, V, et al, Vineyard Ecosystems RA 1.1 Annual Report 2019. A Plant & Food Research report prepared for: New Zealand Winegrowers, Chapter 2.2.3 “Nitrogen leaching”.


\textsuperscript{15} Green, S, Agnew, R and Greven, M (July 2014), Monitoring nitrate loss under vineyard soils on the Wairau Plains, Marlborough.
of farming, i.e. more or less fertilizer or irrigation or animals, although soils and climates also play an important role."

(b) Environment Canterbury commissioned Landcare Research\textsuperscript{16} to model a number of land uses in Canterbury. From this work a self-contained dairy unit milking 3 cows per hectare is modelled to leach on average across all soils and rainfall, 36 kg N/ha (6 to 105 kg N/ha) and sheep and beef leaching on average 28 kg N/Ha (5 to 85 kg N/ha). The Landcare work predicted viticulture leaching an average of 12 kg N/ha (5 to 23 kg N/ha).

It is also important to note that nitrogen that occurs naturally in the environment also makes its way to waterways, so these low leaching rates identified for grape growing need to be compared not against “zero”, but against that “background” natural leaching rate. This makes the relative difference between grapes and other land uses even more stark.

2.4. **Low GHG intensity, high value**

36. Additionally, we note that in terms of greenhouse gas emissions, wine is one of New Zealand’s lowest-emitting primary sector export goods. Winegrowing is precisely the kind of low-carbon, high value land use the Productivity Commission said New Zealand would need to expand if it is to achieve a sustainable, low emissions economy.\textsuperscript{17} For example, considering the relative carbon-emitting intensities of various New Zealand land uses, winegrowing’s biological greenhouse gas emissions profile is negligible, as set out in the following table\textsuperscript{18}:

![Indicative yearly biological emissions per hectare from different land uses](image)

37. We observe that any changes to policy settings that may unnecessarily constrain the growth of vineyard area in the name of freshwater quality would likely both be disproportionate in terms of actual impact on water quality achieved, and also counter to the country’s interests in transitioning to a low carbon, high value export economy.

\textsuperscript{17} Productivity Commission’s Report on a Low Emissions Economy, August 2018, page 18.
PART 3. NZW’s SUBMISSIONS ON THE HEALTHY WATERWAYS CONSULTATION

38. The Ministry for the Environment is consulting on four types of regulation in relation to freshwater and wastewater management:

(a) National Policy Statement for Freshwater Management (NPS-FM)

(b) National Environmental Standard for Freshwater (NES-F)

(c) National Environmental Standard for Wastewater (NES-W)

(d) Regulations for Stock Exclusion under Section 360

39. We provide our submissions on the first three of these below. We make no submission in respect of the stock exclusion regulations, which are unlikely to affect winegrowers; those sheep used for inter-row grazing on vineyards would not be caught by the definition. To assist the reader, NZW’s key recommendations are highlighted within boxes below.

3.1. National Policy Statement for Freshwater Management (NPS-FM)

40. The NPS-FM sets a minimum standard for freshwater quality that regional councils need to implement via the region’s planning hierarchy of policy statements and plans. The NPS-FM will require future regional plans to implement regulations to deliver improved water quality.

Te Mana o te Wai

41. The proposed NPS-FM introduces a hierarchy of obligations to be protected, particularly through the concept of Te Mana o te Wai. This requires councils to prioritise the integrity and health of waterbodies first, then the essential needs of people, and finally for other uses (including winegrowing and other primary production uses).

42. While we are generally supportive of this approach, it is a new, broader implementation of the concept that sits somewhat uncomfortably within the Resource Management Act framework, and that Act’s focus on effects. Interpretation of the concept is to occur locally. We note that new “tangata whenua values” are proposed, but not clearly defined (Action for healthy waterways, Proposal 2, page 32), and these would be given the same priority as ecosystem health and human health for recreation.

43. Councils and communities will need strong, clear, considered guidance and time to understand and reach a shared regional understanding of what Te Mana o te Wai means, how the competing interests (including the undefined “tangata whenua values”) should be identified and assessed, and also how such values could then be achieved.

44. Given the rapid implementation the policy requires, we are concerned that this process may be rushed and that opportunity for full community engagement in the determination of Te Mana o te Wai obligations may be limited. This is a risk. Under Te Mana o te Wai, a council may determine that in order to meet a high priority obligation, a lesser priority obligation must be restricted (for example a restriction must be imposed on a flow or allocation required by grape growing). Te Mana o te Wai will, therefore, have real effects on the availability and use of water.
A further consequence of regional interpretation and definition of Te Mana o te Wai values is that any legal challenges that are made relating to that local meaning will likely be contested in each region rather than nationally. This is likely to result in increased delay and cost.

If communities are given time and support to reach shared agreement on Te Mana o te Wai and related concepts they may form a powerful basis for landowner buy-in and enduring solutions for future water management. But if communities end up divided over their meaning and use, and the policies themselves cannot flexibly prioritise action based on local environmental conditions, they may sow seeds for future discontent.

The problems the policies are seeking to address have been generations in the making. Our view is that for these principles to succeed, communities will need to be empowered with flexibility to determine both how to implement them, and what the timeframes for achieving the goals should be. These may be generational time in some cases. If too much expectation for change is placed on immediate decision-making, new injustices may be created in the primary sector, in an attempt to address old injustices.

We recommend that the government reflect further on the long-term value to be gained from allowing for informed, considered community decision-making on Te Mana o te Wai and how the principle should be implemented, and measure this carefully against any long-term costs and benefits that may arise from a speedy implementation.

Compulsory bottom lines for ecosystem health attributes

Although the wine industry is a low emitter of nutrients to the environment, the proposed NPS-FM’s changes to water quality standards will have potential implications for both current growers and for future expansion. Regional councils will be required to monitor an increased number of attributes. The costs of doing so will be passed on to ratepayers and consent applicants.

The NPS-FM sets a standard of “no further decline” in water quality for each specific attribute. Regional councils cannot set a target for an attribute below the current state. This is a shift from the NPS-FM (2014) where regional councils were required to maintain overall water quality within the attribute band, but it was possible to have some flexibility to set the level of an attribute’s numeric state.

The nationally binding attribute limits in the proposed NPS-FM are likely to require regional councils to review resource allocations (water and nutrients), land use rules and river minimum flows.

Nutrient pollution

Although we strongly support the intended goal with respect to nutrient pollution, we consider the proposed approach lacks flexibility with respect to nitrogen limits, and lacks the ability to respond to differing regional needs and priorities. Given the diversity of river types in New Zealand, we recommend an alternative approach below, which would be more sensitive to the abilities of different ecosystems to support different nutrient levels.
We recommend that consideration be given to an alternative, more waterway-specific approach, similar to the approach set out for sediment using the River Environment Classification (REC) system, which classes rivers’ ability to receive different levels of nutrients based on climate, topography, and geology. This may be a more workable solution, and a solution more in keeping with the RMA’s philosophy of effects-based regulation.

Taking this approach consistently across the country for key instream determinants like nitrate and phosphorus levels would allow in-stream limits to be more sensitively balanced with out-of-stream uses and provide for the different needs of mainstream rivers, tributaries and streams/drains. This would allow regional councils to determine that small waterways of lower ecological significance may be allowed have a different state to highly valued mainstream rivers like the Wairau or Ruamāhanga Rivers.

Human contact attributes

52. Clause 3.9(2) requires targets for human contact attributes to be set higher than at present (rather than offering the option of maintaining them at current levels). We question whether this is the correct approach.

In instances where human contact attribute values are already high, the cost of further increasing those values may be high, while the need to do so may be low or non-existent. Some councils may consider that maintenance of some human contact attributes is more appropriate, so that resources can be devoted to higher priority attributes where gains in overall water quality can be achieved more efficiently.

3.2. Draft National Environmental Standards for Freshwater (NES-F)

53. The NES-F sets out the requirements for the protection of wetlands, riverbeds, fish passages and farming, which includes new restrictions on the intensification of land use. Grape growing on land that is over 5 hectares is included within the definition of “farm” for the purposes of the limitations on intensification in Part 3.

Requirement for an audited FW-FP

54. A key method used in the NES-F to deliver improved water quality will be the requirement for all farms to have a Farm Plan with a certified Freshwater Module of a Farm Plan (FW-FP) by 2026.

55. As noted above (section 2.1), winegrowers already have an internationally acclaimed, independently audited sustainability programme: Sustainable Winegrowing New Zealand (SWNZ). The FW-FP requirements are similar to the water standards that are required to be monitored and met by winegrowers under the SWNZ programme. We anticipate that it would not be a complex process to amend the SWNZ programme’s water requirements so that SWNZ is fully aligned with the proposed requirements of the FW-FP.
56. Significant synergies could then be achieved by NZW and regional councils working together to ensure that requirements around FW-FPs, and their auditing and reporting, can all be met through the existing SWNZ programme (or an adapted version of it) for all winegrowers nationwide:

- SWNZ could be used to provide a single point of FW-FP reporting and auditing to regional councils for all winegrowers in the region.
- Councils could audit the effectiveness of the SWNZ programme, and leave it to SWNZ to conduct the individual audits of winegrowers’ compliance (noting that these existing SWNZ audits are currently much broader than just freshwater).

57. We note that there are already examples of pastoral irrigation scheme companies that undertake similar functions for scheme members now, with good regulatory success.

58. Particularly given the low intensity and impact of grape growing, expanding this concept to allow SWNZ to be used to meet all growers’ FW-FP obligations is likely to be seen as a sensible efficiency by both regional councils and winegrowers. Indeed, we believe that our SWNZ programme could be a model for how other industries and councils could manage the FW-FP requirements.

59. We note that MfE’s estimates $3,500 as the cost of developing a FW-FP, plus an additional $1,500 in audit cost per farm every two years. There are currently 2,019 vineyards registered within the SWNZ programme. Use of the SWNZ programme to satisfy FW-FP requirements would therefore directly save winegrowers over $7 million in FW-FP establishment costs, and a further $1.5 million a year in audit costs (ie a total of $10 million in the first two years). We anticipate that cost savings to each regional council from consolidated reporting from all growers in their region would be material.

60. We also note that the balance of the benefits MfE identifies as potentially arising from farm plans – such as potential to increase resilience, and improved profitability – are benefits that are already achieved by grape growers through the SWNZ programme.

61. Additionally, we query whether a FW-FP should be mandated for a non-irrigated vineyard (which represent 37% of New Zealand’s vineyards), particularly in the context of other potentially relevant risks (such as storage of potentially hazardous substances) being appropriately managed by other measures (such as SWNZ).

We recommend that the NES-F expressly provide for the ability of a regional council to recognise an industry scheme as satisfying all requirements related to FW-FPs for members of that industry scheme. The acceptance by regional councils of use of a single nationally-consistent scheme (such as SWNZ) should be encouraged.

The NES-F will require certification of FW-FPs by a farm environmental planner. This is similar to the current quality assurance systems SWNZ already has in place.

19 Action for healthy waterways, section 10.2.
We recommend that MfE engage further with NZW and other industry bodies on the nature of existing industry sustainability programmes, their auditing frameworks, and how such programmes (and their auditor qualification requirements) could be incorporated within the policy framework for FW-FPs to efficiently deliver the policy’s intended outcomes.

“Intensification” of land use

62. The NES-F also seeks to regulate intensification of land use using broad classifications. The key classification with negative implications for New Zealand’s winegrowers is the restriction on increase of “irrigated production” 20 (which is not defined).

63. Any increase in “irrigated production” area over 10 hectares would be a discretionary activity, which would require a resource consent application including a certified FW-FP. The consent is to demonstrate that the change to irrigation does not increase leaching of nitrogen, phosphorus, sediment and faecal coliforms above the 2018/19 season base levels. We note that the proposal does not specify how these base levels are to be calculated, nor does it allow for any differentiation between more/less impactful forms of irrigation (and associated commercial activity).

64. This regulatory response, and the resulting compliance costs to be placed on grape growers, is not proportionate to the risk – particularly when it will serve only to record what can already be clearly established: grape growing is not a contributor to poor freshwater quality. As noted above (section 2.3):

- Nutrient and sediment loss from grape growing is very low because grape growing in New Zealand uses low to nil inputs of water and fertiliser, and involves minimal soil disturbance.
- Studies demonstrate that grape growing does not contribute to poor water quality. As a result, New Zealand’s grape growing regions typically have good or very good water quality and improving trends. 21
- A conversion from most existing uses to grape growing will, in fact, result in a de-intensification.

65. PricewaterhouseCoopers estimates that approximately 5,000 hectares of grapevines are likely to be planted in Marlborough between 2018 and 2025, at which point new plantings in the region will likely be limited by availability of suitable land. 22 In other parts of the country (such as Delegat’s 526 hectare Crownthorpe Terraces development in Hawke’s Bay), land has recently undergone material de-intensification thorough conversion from dairy to viticulture. Many vineyard developments are planned as “staged” developments, occurring progressively

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20 This restriction would apply in areas where there are currently no Regional Plans that suitably implement the NPS-FM (ie everywhere other than Canterbury, Otago, Horizons, and Waikato-Waipa Catchment along with the Tukituki Catchment in the Hawkes Bay).
over a period of many years. These will particularly be affected, given that later stages of already-planned developments will be caught by the new regulations.

66. We are concerned that the restrictions in these proposals will deter valuable, productive investment in vineyards, yet will have no beneficial impact on New Zealand’s freshwater quality.

67. It is NZW’s view that the provisions in clause 34 intended to limit intensification should be redrafted to ensure they do not capture increase in irrigated production activities – such as grape growing – that do not lead to a deterioration of freshwater quality.

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**We recommend that if the aim is to limit intensification, the NES-F’s intensification restrictions should be redrafted only to apply to activities that would cause a decrease in freshwater quality.**

We recommend that under clause 34 of the NES-F, an increase in “irrigated production” area should be a permitted activity when both:

(a) the take of water is already authorised [OR, ALTERNATIVELY, the take of water is less than 2 mm per day]; and

(b) the annual nutrient loss from the newly irrigated area is shown within the relevant FW-FP as less than 10kg N/ha (ie, a level that will not contribute to any increase in water quality issues).

We also recommend that “irrigated production” be defined. An alternative approach to the above may simply be to define an annual irrigation volume floor below which the activity does not count as “irrigated production”. Highly efficient irrigation could thereby be excluded.

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68. We note that when a consent is required under the NES-F for intensification, it can only be granted until 31 December 2030. Given the significant capital investment required for vineyard establishment, and the multi-decade lifespan of a typical vineyard, this short consent duration is likely to present a barrier to investment in vineyard expansion.

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**We recommend that councils be given the power to grant significantly longer duration consents under this provision.**

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3.3. **Draft National Environmental Standards for Wastewater (NES-W)**

69. During the consultation process, Ministry for the Environment officials clarified to NZW that the proposed NES-W under consideration would apply only to wastewater infrastructure operators, and not to individual facilities managing their wastewater, such as wineries, winery café/restaurants and vineyard/winery accommodation facilities. This is significant.

70. Application of winery and other facility wastewater to land is sometimes used as part of the wastewater treatment process, and is an efficient and cost-effective means of addressing wastewater impacts in the context of the receiving environment.
71. In development of any NES-W, it will be important that any end-of-pipe limits set for operators take account of land treatment as part of the treatment train.

Conclusion

New Zealand’s winegrowers regard sustainability as absolutely essential to the success of their industry.

Winegrowing has a very light environmental footprint. NZW’s Sustainable Winegrowing New Zealand programme remains the world’s most respected independently audited sustainability programme for vineyards and wine. Although it is a voluntary programme, 97% of New Zealand’s producing vineyard area is accredited to its standards.

NZW supports the vision of the healthy waterways proposals, but is very concerned that without amendment the policies will fatally undermine the SWNZ programme – and detract from the positive environmental outcomes that programme achieves.

We consider that the proposed policies have not sufficiently taken into account the significant evidence available of the very low impact nature of winegrowing, and so they represent a disproportionate regulatory response to the low risk posed to our waterways by winegrowing.

We are also concerned that the proposed implementation timeframes will not allow for sufficient community consultation, buy-in and properly informed decision-making, and so may inadvertently lay the foundations of future grievances.

We trust that the information provided in this submission and our recommendations will assist in refining the proposals. As already indicated to officials, we look forward to meeting with officials over coming weeks to discuss our submission in more detail.

Yours faithfully

General Manager Advocacy
New Zealand Winegrowers
1 Quantity of Irrigation Applied

- Total water volume applied for irrigation: 7,810 m³
- Irrigated area: 8 ha
  - Irrigation use: 98 mm
  - 264 l/plant

2 How does this affect me?

This is the third year of incorporating regional soil types, which has further enhanced the information available to members.

SMART Irrigation - Irrigation NZ: http://smartirrigation.co.nz/

Rainfall data can be accessed on the NZ Wine Online Tools page: http://tinyurl.com/ydx57s4e

2 Regional and Soil Type Irrigation Summary

- Percent of irrigated area by soil type for Marlborough:
  - Very light - Stony: 0%
  - Light - Loamy sand: 31%
  - Medium - Loam: 22%
  - Heavy - Silty clay: 47%

- Average irrigation use (mm)
  - Marlborough - All Vineyards: 80 mm
  - Very light - Stony: 120 mm
  - Light - Loamy sand: 140 mm
  - Medium - Loam: 100 mm
  - Heavy - Silty clay: 50 mm

- Marlborough Vineyard Irrigation Distribution: Light - Loamy sand

1. Refer Section 2.2 of NZW submission.
3 Regional Rainfall Summary - Seaview Awatere, Marlborough

Seaview Awatere, Marlborough is the closest weather station to your vineyard.

<table>
<thead>
<tr>
<th>Total rainfall (mm)</th>
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<th>Aug</th>
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Rainfall figures are taken from a combination of HortPlus and NIWA weather stations. Long term averages are from the 2003/2004 season to present. Note the LTA totals are an average of the totals so do not equal the sum of the average months.

Marlborough - Seaview Awatere, Marlborough Monthly Rainfall (mm) July 2018 - June 2019

Marlborough - Seaview Awatere, Marlborough Oct - Apr. Rainfall Compared to Previous Seasons
Annex 2 - Example of SWNZ Vineyard Irrigation Report

1 Quantity of Irrigation Applied

Total water volume applied for irrigation: 25,272 m³
Irrigated area: 89.67 ha
Irrigation use: 28 mm
193 l/plant

2 Regional and Soil Type Irrigation Summary

How does this affect me?

This is the third year of incorporating regional soil types, which has further enhanced the information available to members.

SMART Irrigation - Irrigation NZ: http://smartirrigation.co.nz/

Rainfall data can be accessed on the NZ Wine Online Tools page: http://tinyurl.com/ydx57s4e.

1. Refer Section 2.2 of NZW submission.
3 Regional Rainfall Summary - Twyford, HB

Twyford, HB is the closest weather station to your vineyard.

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Rainfall figures are taken from a combination of HortPlus and NIWA weather stations. Long term averages are from the 2003/2004 season to present. Note the LTA totals are an average of the totals so do not equal the sum of the average months.

Hawkes Bay - Twyford, HB Monthly Rainfall (mm) July 2018 - June 2019

Hawkes Bay - Twyford, HB Oct - Mar. Rainfall Compared to Previous Seasons

Created by:
Henry Stenning and Andrew Barber
Agrilink NZ & The AgriBusiness Group