



# NZW Sustainability Overview



NEW ZEALAND WINE  
PURE DISCOVERY

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# 1. Purpose

**The purpose of this document is to summarise sustainability activities undertaken by NZW in order to provide a reference document for any staff members needing to understand or communicate our work in this area.**

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# 2. Introduction

Sustainability is a core value for the New Zealand wine industry and is a guiding principle that sits across all NZWs activities. This kaupapa ensures we are working to protect the places that make our famous wines and enhance our social license to operate.

Because sustainability is a value that sits across the organization, relevant work programmes are diverse and spread through departments. A consequence of this spread is an internal confusion regarding how the organisation supports industry sustainability or what sustainability really means for the New Zealand wine industry. This document seeks to address these issues.

Within NZW, work under the three global pillars of sustainable development – environmental, economic and social well-being – is delivered by relevant subject matter experts in various teams. Under these pillars of sustainability, NZW has identified six Focus Areas (Section 3, below) that are of critical importance to our industry.

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# 3. Focus areas and organisational commitments

Summaries of work programmes have been organized under our six sustainability Focus Areas (Section 5). These focus areas, and their corresponding goals are:

Focus Area	Goal
 <b>Water</b>	<b>Be a world leader in efficient water use and the protection of water quality</b>
 <b>Waste</b>	<b>NZ wine industry achieves zero waste to landfill by 2050</b>
 <b>Pest and Disease</b>	<b>Understand, reduce, and mitigate impacts of existing and potential pest and disease. Be a world leader in sustainable alternatives.</b>
 <b>Climate Change</b>	<b>NZ wine industry is carbon neutral by 2050</b>
 <b>People</b>	<b>Be an industry of choice for workers</b>
 <b>Soil</b>	<b>Protect and enhance soil health</b>

The Focus Areas encapsulate the specific aspects of sustainability that are most relevant to our industry, our people, our stakeholders and our markets. It is through our work programmes under the Focus Areas that New Zealand Wine demonstrates its commitment to protecting the places that make our famous wines.

Figure 1 (below) shows how delivery of programmes under these Focus Areas sit across various departments and organisations. In addition, the NZW marketing and communications team plays a key role in demonstrating the results of these programmes to our markets and other stakeholders to enhance our reputation and add value to our brand identity.

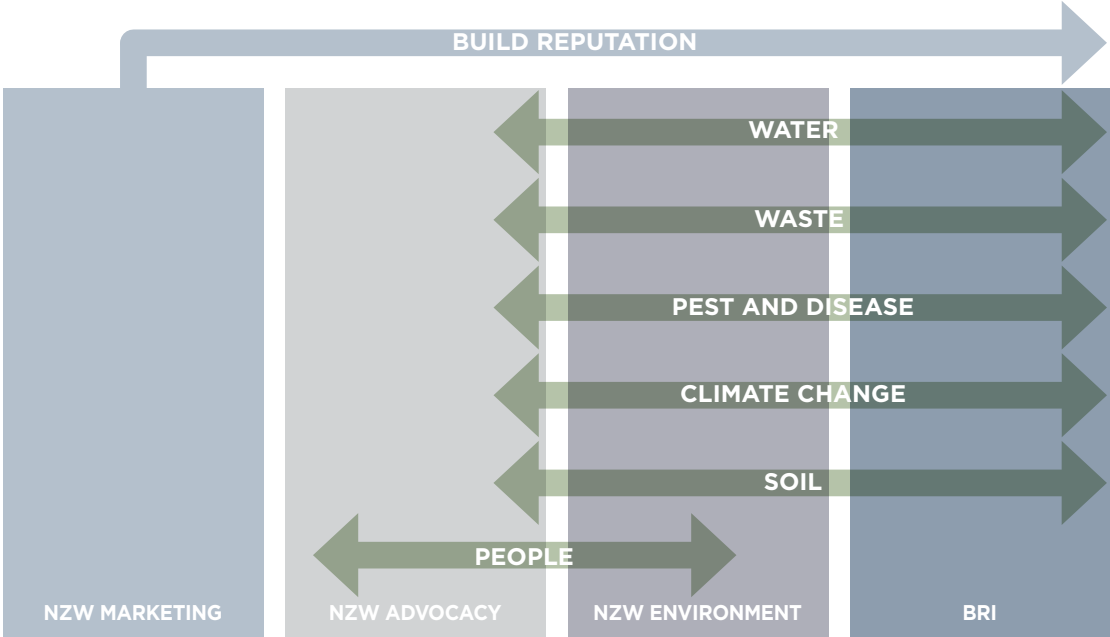


Figure 1 (above). NZW six Focus Areas of sustainability (green arrows) and departments responsible for delivering outcomes against each.

The NZW Board has also committed to the following indicators and longer term KPIs pertaining to sustainability. Taken together these indicators will help the industry track its progress to becoming more sustainable:

Industry Health Indicator	Longer Term KPIs
Amount of water used to produce a litre of wine	NZ is acknowledged as the leader in wine industry environmental sustainability  Net carbon zero emissions achieved ahead of the regulatory deadline  Greater diversity in the industry workforce (compared to current)
Nil major new pests established in vineyards	
Percentage of member organisations measuring their carbon production footprint	
Percentage of producing vineyard hectares certified under a recognised sustainability certification scheme	
Average value of wine exported (packaged and bulk)	
Average grape price	
Nil convictions for breach of resource management rules	

## 4. Delivery of programmes

To embed an authentic culture of sustainability across an organization, an integrated approach to sustainability strategy, delivery and communications is fundamental. It is the role of the GM of Sustainability to ensure cross-organizational alignment on sustainability issues.

Figure 2 (below) illustrates from an organizational point of view, where delivery responsibly sits for each of the Focus Areas. Figure 3 (below) highlights the work of the Environment Team and Figure 4 (page 5) illustrates teams outside the GM of Sustainability and their contribution to delivering goals against focus areas.



Figure 2 (above): NZW Department Heads and responsibility for delivery of specific focus area programmes and projects.

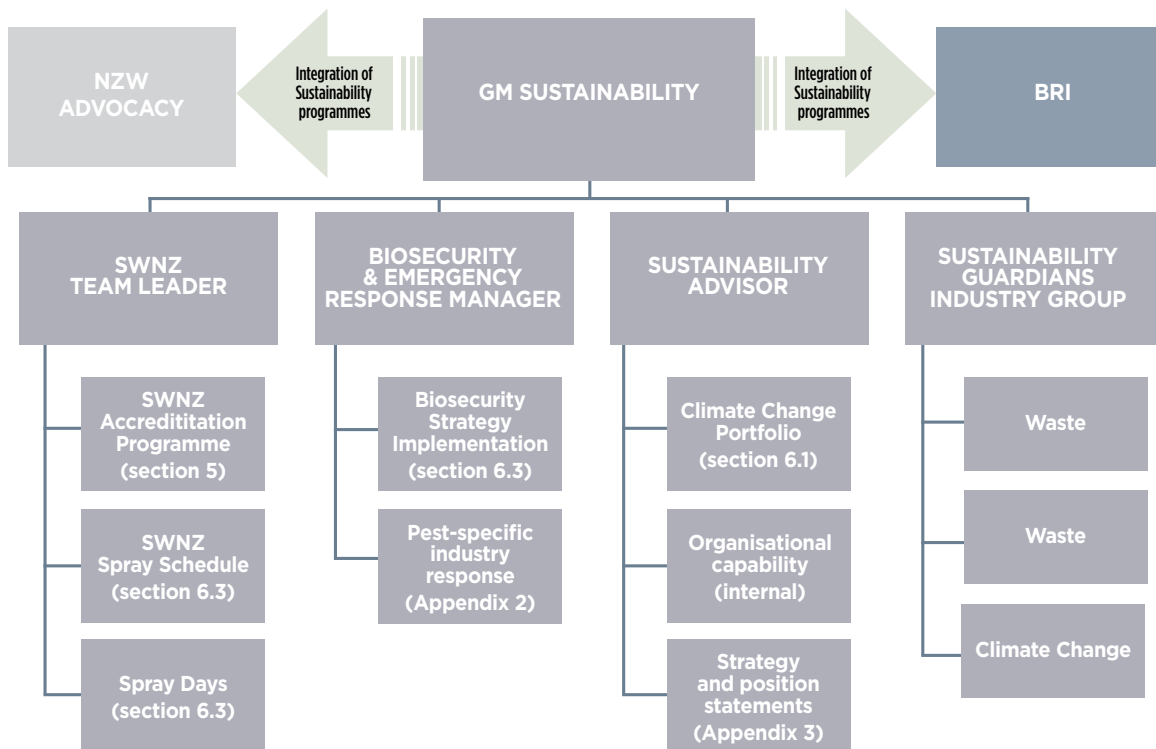


Figure 3 (above): Organizational chart of the 'Environment Team' which sits under the GM of Sustainability. This figure also highlights the GMS role in integrating sustainability programmes more widely within NZW and externally to BRI.

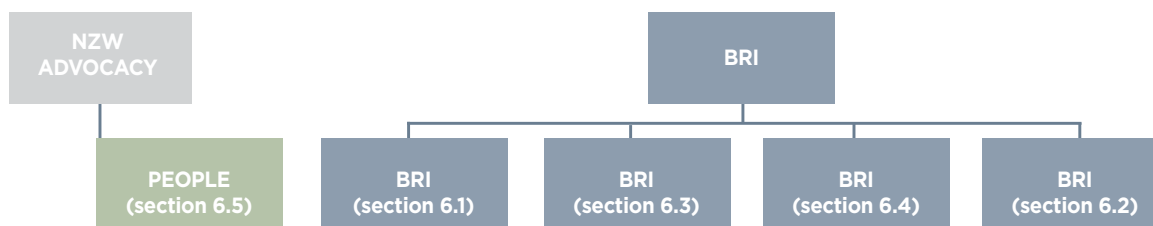


Figure 4 (above): Organizational chart of teams outside the GM of Sustainability delivering outcomes against each Focus Area.

## 5. Sustainable Winegrowing New Zealand™

Sustainable Winegrowing New Zealand (SWNZ) is the sustainability accreditation programme managed for industry by NZ Winegrowers. Widely recognised as a world-leading programme, it was one of the first of its type to be established in the international wine industry in 1997.

The desired outcome of the programme is to formally set industry baselines for sustainability performance and demonstrate credible compliance through independent, third-party verified audits.

The SWNZ programme evolved as a response to new pressures being put on land and water resources during a time of rapid vineyard expansion in NZ in the 1990s. In order to address concerns around these pressures, NZW developed an educational resource enabling the transfer of industry research to grape growers and wine producers which:

1. provides a best practice model for sustainability baselines in the vineyard and winery
2. guarantees better quality assurance from the vineyard, right through to the bottle
3. addresses consumer concerns regarding the sustainability of products

Benefit to our members is provided through the protection of the integrity of NZ's reputation as a sustainable producer of wine and by increasing marketing opportunities associated with sustainable production methods. Members also benefit from receiving regular individualised reports that enable them to track their progress over time and make future sustainability-based business decisions.

In order to access New Zealand Winegrower industry events, promotions and awards, wine must be made from 100% certified grapes in 100% certified winemaking facilities that are independently audited. While not the only recognised certification programme, 98% of New Zealand's vineyard producing area is Sustainable Winegrowing NZ™ certified. Other certified organic programmes our members operate under include AsureQuality, BioGro-NZ, Demeter and ISO 140001.

### SWNZ Standards

Key focus areas of the SWNZ programme align with UN Sustainable Development Goals (UNSDGs). Full requirements can be found in the [SWNZ Standards](#), but in summary the outcomes sought by the SWNZ programme are:

- Reduced wine industry contribution to climate change
- Biodiverse vineyard environments
- Healthy soil
- Water quality preserved, use minimised
- Harmful emissions to air reduced, noise and light pollution minimised
- Chemical control of pest and disease results in lowest impact possible on environment and human health
- Waste to landfill minimized
- Protection of those employed in NZ's wine industry

In order to demonstrate compliance with standards, SWNZ members submit annual winery and vineyard scorecards via our online Wine Industry Sustainability Engine (WISE) tool. Members enter a combination of qualitative and quantitative metrics which measure impacts of their production. Metrics are tracked over time against baseline data and members must demonstrate continual compliance in order to retain accreditation.

Work is currently underway to better align SWNZ standards and outcomes with the 6 Focus Areas of sustainability outlined above. This work involves making adjustments to the SWNZ scorecards to ensure the programme remains world leading and relevant to members' business decisions.

For more details on the programme:

- See section 6.2 below for information on how the SWNZ programme contributes to the Waste Focus Area
- See section 6.3 below for information on how the SWNZ programme contributes to the Pest and Disease Focus Area
- See section 6.4 below for information on how the SWNZ programme contributes to the Water Focus Area
- See section 6.5 below for information on how the SWNZ programme contributes to the Soil Focus Area

## Sustainability Guardians Programme

In February 2020 the NZW Board approved the launch of a Sustainability Guardians programme. This programme will support those members wishing to take their sustainability actions beyond minimum requirements of SWNZ accreditation and provide them with recognition opportunities for doing so.

The programme will focus on developing working groups across the five focus areas Water, Waste, Pest and Disease, People and Climate Change. The purpose of these working groups would be to address difficult issues in each area, encourage innovation and promote peer-to-peer learning on sustainability best practice.

### Key Contacts

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## 6. Activities by focus area

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### 6.1 Climate Change

#### *NZ wine industry is carbon neutral by 2050*

The recently passed Climate Change Response (Zero Carbon) Amendment Act is designed to progress the global effort under the Paris Agreement, which seeks to limit average temperature increase to 1.5°C above pre-industrial levels by 2050.

Following the inclusion of Climate Change as a Sustainability Key Focus Area, in 2019 the NZW Board set a commitment for the industry to become net carbon-zero ahead of the regulatory deadline.

NZW's plan to support our members through the transition to a low carbon economy is an investment in programmes falling under the broad categories of mitigation (reducing carbon emissions) and adaptation (preparing our members to adjust business practices in the face of rising temperatures and the changing climate). Adaptation and mitigation are complementary strategies for reducing and managing risks of climate change.

## Aligning member concern with NZW response

In 2019 Lincoln University & Manaaki Whenua carried out a survey focused on understanding the perceived risk of climate change in the NZ wine industry. The tables below highlights key risks identified (divided into direct and indirect) and which response type NZW is applying to programme design.

Direct Risks and Challenges	NZW response type
Altered climate climate-variety suitability	Adaptation
Increased risk of weather extremes	Adaptation
Altered ripening characteristics, wine style changes	Adaptation
Altered disease/pest timing and severity	Adaptation
Altered water availability and timing for irrigation needs	Adaptation

Indirect Risks and Challenges	NZW response type
Retailer-Consumer awareness and implementation of standards	Mitigation
Upstream (power generation) and downstream (transportation) industries being regulated for carbon emissions	Mitigation
Cap and Trade Mechanisms	Mitigation
Carbon Taxation	Mitigation

## Current Activities

### 1. Climate Change Mitigation Programme

The purpose of this programme is to anticipate regulatory requirements as NZ transitions to a low carbon economy, reduce exposure of members to increasing costs of carbon and ensure we support members to keep up with consumer expectations.

A key component of this programme is the establishment of a Climate Change Working Group. The purpose of the group is to ensure member needs are understood in terms of carbon management / climate change support, key developments are communicated, and information on market benefits to managing carbon is well understood and communicated.

A climate change work programme which launched mid 2020 consisting of the following projects:

- Climate Change Research Project 1: Emissions contribution of NZ Wine Industry
- Climate Change Research Project 2: Typical Emissions Profile of NZ Vineyards and Wineries
- NZW Toitū Carbon Reduce™ accreditation

### 2. Updated SWNZ Scorecard to reflect Climate Change focus area

The 2019 SWNZ Scorecard review process saw the inclusion of an explicit climate change section. The inclusion of a climate change section allows us to support our members to informally measure and report on their operational emissions without involvement in an external certification scheme.

Although members won't be able to make the same claims that are afforded through formal certification, measuring and tracking progress is a good first step on the carbon management journey. Its inclusion in the scorecard process will allow us to track progress through time against our climate change goals and KPIs.

### 3. BRI Climate Change Research Programme

Climate change research has been identified as a high priority in the BRI Research Strategy. Developing robust adaptation strategies is a key outcome of BRI's climate change research programme.

BRI's current research efforts are focusing on developing a toolbox of adaptation measures for our growers and wine producers. This is likely to include specific recommendations around altered climate-variety suitability (i.e. which grapes varieties can grow where and when, as NZ's climate zones shift).

BRI has published results results of phase one of their climate change research programme into climate change scenario models for each of New Zealand's wine regions [here](#).

#### Key Contact

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## 6.2 Waste

### *NZ wine industry achieves zero waste to landfill by 2050*

Reducing the impact that vineyard and winery waste has on the environment is a priority for NZW. Our vision for the industry is to achieve zero waste to landfill across our wineries and vineyards. Zero waste is defined as a net zero balance of waste produced less waste disposed of in channels other than landfill. Members are encouraged to work towards a circular model where waste products are treated as a resource where possible.

The SWNZ programme sets baseline requirements around good waste management and landfill diversion practices against which members must demonstrate continued compliance. A new question in the waste section of the SWNZ scorecard will also help to identify 'problem' waste streams (e.g. materials that can not be easily reused or recycled) that require better solutions to reach our vision of zero waste to landfill.

NZW also supports best practice waste management through the provision of strategies, advice, waste management plan templates and targeted working groups to manage solid and liquid waste from wineries and vineyards.

Common best practice on vineyards now includes on-site mulching of pruning and reuse for weed control and the diversion of contaminated packaging products (including agrichemical containers, batteries, and waste oils) through specialist waste recovery programmes.

Waste diversion infrastructure varies greatly throughout our regions, so our members have differing options available to them to deal with industry specific waste challenges. Some key waste-related challenges to the industry that we are addressing include:

- Grape Marc - refuse of grapes that has been pressed for winemaking
- Lees - thick sediment that settles on the bottom during the wine fermentation process
- Sludge - viscous mixture of liquid and solid components resulting from the refining process
- CCA treated posts - wood that has been treated with a preservative containing copper, chromium and arsenic
- Agrichemical containers - these pose a leachate risk when disposed of to landfill

For further detail on targeted industry groups NZW is supporting on the Waste key focus area, refer to appendix 1 (Targeted Industry Groups: Waste)

#### Key Contact

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## 6.3 Pest and Disease

***Understand, reduce, and mitigate impacts of existing and potential pest and disease. Be a world leader in sustainable alternatives.***

Our industry has very direct economic links to production, which in turn is intricately tied to the land and environment. Supporting our members to manage pests and disease which pose a significant threat to the environment and the well-being of our communities and economies is an absolute priority for us.

We support members to manage existing pests primarily through the SWNZ programme (Section 3) and potential pests (those which have not yet established) primarily through our biosecurity activities. BRI-led research into both existing and potential pests helps to promote industry best practice and reduce costs associated with industry pest and disease management.

### **Biosecurity in partnership**

New Zealand's biosecurity system essentially works to stop pests and diseases before they arrive in the country and then to deal with them if they do enter. In 2017, NZW became a signatory of the Government Industry Agreement (GIA) Deed for biosecurity readiness and response.

Through the GIA, NZW and other industry partners are joint decision makers, and share costs, alongside government for improving readiness for priority pests and responding to them should they arrive in New Zealand. Being a GIA partner maximises NZW's influence on biosecurity decision-making in order to build resilience in our industry and ensures industry liabilities only fall on those pests that are of highest priority.

### **Member awareness and participation in biosecurity**

Of equal importance to holding strong relationships with Government are strong relationships with our members to promote improved awareness of biosecurity risks and proactive participation in biosecurity risk mitigation.

We achieve this by investing in a number of engagement and educational programmes with our members. For further detail on key pest-specific projects managed by the NZW Biosecurity Team refer to Appendix 2 (Biosecurity Emergency and Response Programmes) .

### **SWNZ Spray Schedule**

The SWNZ programme oversees the [Spray Schedule](#) which is the agrichemical rulebook for SWNZ members. The objective of the Spray Schedule is to ensure, through the provision of high-quality advice, that chemicals used to control pest and disease in vineyards have the lowest impact possible on the environment and human health.

NZW supports an integrated approach to pest and disease control: one that begins with an understanding of the ecology of the vineyard and translates to reduced intervention and a more sustainable industry. This approach has seen agrichemical use decline over time amongst our members. Our SWNZ scorecard process reveals that last year (2019) 99% of our vineyards used non-chemical controls as part of their pest and disease strategy. All chemical use on vineyards must be recorded in our Grapelink database.

### **Regulating chemical use**

In February 2020 the NZW Board approved the staged withdrawal of organophosphates from the Spray Schedule. The 2020/21 growing season will be the last season these chemicals can be used on SWNZ certified vineyards. From July 2021 SWNZ members will no longer be able to use these products or apply for exemptions to use them.

The Board also approved the introduction of an agrichemical rating system based on HSNO codes in future Spray Schedule publications. This information will encourage members to use softer chemical and nonchemical controls for efficient and sustainable pest and disease management.

### **SWNZ Spray Days**

The SWNZ team runs an educational roadshow event called Spray Days. They are designed to offer our growers access to up-to-date technical resources for managing pest and disease in vineyards, using the most efficient and low impact methods available.

## BRI Research Programmes

The BRI Pest and Disease research programme represents a shift away from “firefighting” (issue-by-issue based) research, to a more integrated understanding of the ecology of the vineyard as a whole.

Some of the main outcomes sought by the BRI pest and disease programme include:

- Improved vineyard longevity
- Better management of pests
- Better management of diseases
- Reduced reliance on chemical interventions

As with all NZW research projects, the results are published on the members website, featured at Grape Days events and distributed in fact sheets, articles in New Zealand Winegrower magazine, and published research papers.

### Key Contact

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## 6.4 Water

### *Be a world leader in efficient water use and the protection of water quality*

One of seven industry health indicators (section 3.) set by the NZW Board is the amount of water used to produce each bottle of wine in NZ. Water is of critical importance to New Zealand’s wine industry for vine irrigation, frost protection and winemaking activities. NZW has an industry benchmark measure of litres used per bottle of wine that is tracked year on year to assess performance.

Although New Zealand has over 50 major rivers, 770 lakes and abundant rainfall, it is vital that sustainable practices are put in place to minimise water use and protect the purity of waterways to ensure the quality and availability of supply in the future.

Many vineyard operations demand a careful balancing act between minimising water use and providing enough irrigation to assure fruit quality. In the winery, where the demand for water is mostly for processing and cleaning, water management is focused on minimisation and wastewater management.

The Resource Management Act 1991 requires viticulturalists to improve how they manage water and improve water budgeting skills. Our viticulturalists are now expected to monitor rainfall, evaporation and transpiration, and soil moisture in order to assess need for irrigation.

Around 85% of vineyard area under SWNZ accreditation is irrigated, with 95% of this area using under-vine drip irrigation for more efficient targeted application. It is a mandatory requirement of the SWNZ programme to collect water records for member wineries and vineyards.

NZW provides water management support to our members in the form of:

- An online irrigation calculator
- Advice on scheduled irrigation
- Reuse options in wineries for hot water used in sterilization process
- Efficient cleaning and production methods
- Templates to record the output of irrigation systems and ensure they are delivering water efficiently to all vines within the irrigation area
- National and regional benchmarking data and personalised reports via the SWNZ programme, including comments on suggested practices

BRI also contributes to outcomes around water through their research programmes including irrigation optimization and water savings research projects.

### Key Contact

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## 6.5 People

### *Be an industry of choice for workers*

Ensuring that the people in the NZ wine industry's labour force are treated fairly, legally, and respectfully is a priority of our Advocacy team and very much part of the NZW sustainability story.

NZW's Advocacy work helps protect the industry's reputation by influencing domestic standards and expanding export opportunities, as well as providing information and guidance to members around wine-making, labelling, food safety, environment, trade agreements and labour.

The overarching goal under NZW's "People" focus area is to be an industry of choice for workers through ensuring fair treatment, building industry capability and leadership, and raising the profile of winegrowing as a career choice.

#### **Fair treatment of workers**

Regardless of the nature of work conducted, or the nature of the contract, NZW works hard to ensure our members are aware of their obligations around the protection of workers. As well as benefitting the workers themselves, this means that international consumers can be confident that exploitation is managed carefully through the value chain of NZ produced wine.

A key objective of our Labour Strategy is ensuring members' commitment to good faith, high quality employment relationships is supported. We facilitate this through the provision of high quality, easy to understand guidance materials to our members to foster employment relationships that are lawful, open, sustainable, and fair.

Examples of guidance materials include:

- [Working for You](#) – a guide to employing and contracting labour in vineyards and wineries
- [Working Well](#) – a health and safety reference document specific to vineyards and wineries
- [Code of Conduct for Grape Supply Contracting](#) – voluntary guidance on industry expectations and good practice between growers and wineries

Our Advocacy team are currently leading an industry working group to examine what standards exist and how these could inform industry actions and commitments.

#### **Building industry capability and leadership**

Contributing to the development of potential industry leaders is of critical importance to our Advocacy Team's sustainability work. Overseen by the Leadership and Communities Manager, social sustainability outcomes are achieved through the delivery of three key programmes.

##### **1. Young Viticulturist of the Year**

This programme aims to grow the future viticultural leaders of the NZ Wine Industry, as well as create a strong community of viticulturists and key suppliers to our industry. The programme consists of Education Days to help 'young vits' and their colleagues upskill and stay up to date with relevant information. Six regional competitions lead to a national final, with the winner ultimately going on to represent our industry in the Young Horticulturist of the Year competition.

##### **2. Young Winemaker of the Year**

This initiative is similar to Young Viticulturalist in that it is helping support and grow emerging talent amongst young winemakers. This competition helps contestants gain recognition within the industry. Participants are tested on all aspects of winemaking, including blending, laboratory work, international market knowledge and laws, marketing and presentation, wine judging and public speaking.

##### **3. Women in Wine NZ**

This initiative was launched in response to concern over a lack of women putting themselves forward during the New Zealand Winegrowers Board elections, despite the many highly skilled and accomplished women in our industry. The programme essentially focuses on supporting women in the wine industry to step into leadership positions, ensuring diversity programmes thrive and ensuring a gender balance around the Board table is achieved.

#### 4. Young Leaders Forum

The inaugural Young Leaders Forum was held in November 2019 as means of enabling the vision of the next generation of young wine industry leaders be communicated to the NZW Board. The day saw eighteen emerging leaders from around the country coming together for a one-day workshop. The workshop involved presentations from NZ's senior business leaders outside the wine industry, and focus groups to develop and key messages and insights to deliver to the Board. Two members of the YLF then delivered these messages at the December Board meeting.

#### Looking ahead

NZW has a long term KPI of increasing diversity in our work force and the Board has now adopted a Diversity Policy.

Recently the Advocacy Team conducted a Diversity Survey ([Our People Survey, 2019](#)), the results of which gives us an insight into who is working in our industry, a focus for future initiatives and also a benchmark against which we can measure our progress in the future.

#### Key Contacts

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## 6.5 Soil

### *Protect and enhance soil health*

Soil is quite literally the fertile ground of our industry. We rely on its health not only to sustain our industry for generations to come, but for the quality of our wine itself as soil has a strong influence on both its style and character.

New Zealand's vineyards thrive on many soil types, from heavy, water-retaining clay loams, to dry stony riverbeds, and more fertile flood plains, all of which require different management techniques to assist vines to produce superior fruit.

Careful soil management helps to maintain a balanced environment – it increases resilience to climate change, assists with reducing erosion, increases water retention and nutrient availability, reduces pest and disease risk and plays an increasingly well understood role in the sequestration of atmospheric carbon.

With so much depending on the health of our soils, it's important that New Zealand's wine industry continues to use sustainable practices and look for new, innovative ways to help preserve and enhance this vital resource.

### Soil Management Programmes

SWNZ members are required to establish a soil management programme and review it every 3-5 years. This includes protocols for soil sampling, fertiliser and nutrient application, ground cover management and biodiversity conservation. The protocols seek to protect and enhance soil health through increasing levels of organic matter (where carbon is stored and nutrients are sourced from), reducing erosion and copper levels and improve soil structure and fertility.

#### Key Contacts

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## 7. Organic Wine NZ (OWNZ)

NZW has a range of members who are organic certified or employ organic practices on their vineyards. Currently over 10% of New Zealand wineries hold organic certification, including many of the country's most respected and awarded wine producers.

Organic Winegrowers New Zealand (OWNZ) is the grower-led incorporated society dedicated to supporting organic winegrowing in NZ. Although a separate entity, NZW provides levy funding and administrative resource to support OWNZ.

There are over one hundred companies growing organic wine grapes in NZ (with some companies having multiple organic vineyards), 73 official organic wine producers and many more companies making organic wines in contract winemaking facilities. Six vineyard companies in NZ also hold biodynamic certification in addition to their organic certification (see definitions below).

OWNZ supports and encourages organic wine production in NZ through grower education programmes (such as seminars, written resources and mentoring) as well as marketing and publicity for organic wines (through [Organic Wine Week](#) for example). Their biennial [Organic and Biodynamic Winegrowing Conference](#) is a major national event which attracts hundreds of delegates from across NZ and beyond.

OWNZ only promotes wines from independently certified organic and biodynamic growers. Every certified producer goes through an annual audit to make sure their practices meet strict standards. Growers must follow organic methods for three years before attaining full certification. BioGro andASUREQuality (accredited through iFOAM) provide internationally recognised organic certification. Biodynamic producers in New Zealand are certified by Demeter New Zealand.

### Definitions

In the context of wine making in New Zealand, a basic definition of organic provided by the Ministry of Primary Industries (MPI) is: *production practices that avoid or exclude the use of synthetic fertilisers, pesticides, antibiotics, growth modification and irradiation.*

Biodynamic wine production uses organic farming methods while also employing soil supplements and other techniques based on the principles defined by Austrian philosopher Rudolf Steiner. It involves following a planting calendar that refers to astrological configurations.

### Benefits

According to OWNZ, key benefits of organic wine include:

1. No synthetic chemicals consumed in the end product
2. Healthy grapevines result in positive taste attributes of wines
3. Multiple ecological benefits of organic practices
4. Safer work conditions for staff through exclusion of harmful chemicals
5. Reduced fossil fuel-based fertilizers and increased carbon in healthy soils may have positive climate impacts

For further information refer to the [OWNZ website](#).

### Key Contact

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## Appendix 1: Targeted Industry Groups: Waste

### Waste Working Group

NZW has recently established a Waste Working Group which is a targeted industry group seeking a collaborative solutions-based approach to some of these industry specific waste challenges. The group holds workshops three to four times per year, with the objective of supporting vineyards and wineries to achieve the ultimate goal of zero waste to landfill.

Using statistics drawn from the SWNZ accreditation programme, the project is identifying quantities of each waste stream associated with vineyards and wineries to facilitate targeted action. Currently under development is a national and regional list of waste streams and their disposal options including details of companies who provide these services regionally.

Members of the group also have access to speakers and experts advising on issues such as reducing packaging volumes, waste management experience of members, local council services, waste research projects, communication on social attitudes to waste and general best practice principles as they relate to waste in the wine industry.

### CAA Working Group

This group has been established to address contamination issues associated with the use, storage and disposal of treated timber posts in vineyards. The use of these posts is widespread across our industry (and others) as cost-effective alternatives are not yet commercially available.

Our key concern with these posts is:

- CCA (cooper, chrome, arsenic) are heavy metals which are leached into the soil from the posts creating a 10cm halo around the post
- Heavy metals do not disperse in the soil
- New posts leach more than old posts
- Research has shown that old/broken posts being stored on the vineyard (direct on land) also continue to leach into the soil

Group members including industry representatives, council members, Wine Marlborough and SWNZ meet 3-4 times per year to develop industry storage guidelines for new and old/broken posts to prevent leaching and soil contamination. The group is also reviewing more environmentally friendly disposal/reuse options and alternative products.

A key output of the group is the development of an industry document outlining the alternatives available to CCA posts with the merits of each, including comparative data on metrics including cost, weight, strength, UV strength, and embodied emissions across value chains. The group will then support communication and promotion of best practice to members.

### Agrecovery

NZW has representation on the product stewardship committee of Agrecovery (a not-for-profit charitable trust set up by the primary industry to provide a sustainable solution for agrichemicals and their packaging). The NZ wine sector now has a well-established system operating where growers recycle these problematic empty containers.

## Appendix 2: Biosecurity Emergency and Response Programmes

Programme	Nature of threat	NZW programme delivery
<b>Top Ten Most Unwanted List</b>	Multiple	<ul style="list-style-type: none"> <li>• Development of list of top ten biosecurity threats to wine industry that are not already established:</li> <li>• Educational collateral produced and associated member engagement</li> </ul>
<b>Grafted Grapevine Standard (GGS)</b>	Grapevine trunk disease and young vine decline, GLRaV-3 virus	<ul style="list-style-type: none"> <li>• The standard ensures (amongst other requirements) that nurseries reduce/minimise risk of grapevine trunk disease and young vine decline</li> <li>• Independent audits undertaken of nurseries undertaken to ensure the production of vines is consistent with the standard</li> </ul>
<b>Mealybug</b>	<p>Vector of incurable leafroll disease.</p> <p>Potential for grapes to be rejected at harvest due to presence of insects themselves and the sooty mould that they create</p>	<ul style="list-style-type: none"> <li>• Workshops showing growers how to identify the two main species of mealybug</li> <li>• BRI funded a pheromone trapping programme across six sites throughout Central Otago</li> </ul>
<b>Harlequin ladybird</b>	Overseas - aggregates in grape bunches prior to harvest, releases chemical which can taint wine	<ul style="list-style-type: none"> <li>• Biosecurity team funding surveillance and research here in NZ, identifying potential solutions should the pest become an issue</li> <li>• Awareness raising with members, encourage them to report sightings of large numbers</li> </ul>
<b>Brown Marmorated Stink Bug (BMSB)</b>	<p>Feeding damages fruit - encourages bunches to fall, fungal growth</p> <p>Emits foul-smelling odour when threatened which can taint grape juice at harvest</p>	<ul style="list-style-type: none"> <li>• NZW is a signatory to the BMSB operational agreement which funds pan-sector BMSB readiness initiatives</li> </ul>