Guidance for Kiwifruit Growers using Audible Bird Scaring Devices in the Whakatāne District

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Horticulture™ New Zealand
Ahumāra Kai Aotearoa

NZKGI
NEW ZEALAND KIWIFRUIT GROWERS

Contents

1. Objectives

The objectives of this Code of Practice are to provide practical guidance regarding:

- best practice for operating audible bird scaring devices,
- the requirements of the Whakatāne District Plan ("WDC") rules for Audible Bird Scaring Devices (ABSDs) and what growers need to do to comply,
- the avoidance and mitigation of unreasonable noise as required by s16 of the Resource Management Act 1991,
- recommendations regarding notification to neighbours,
- a clear process as to how complaints and concerns will be responded to.

2. Background

Kiwifruit growers use a range of methods to control birds in their orchards during bud burst in the spring. Without control, the loss of kiwifruit flower buds can occur very quickly and can be devastating due to the loss in yield and grower revenue.

While some growers are able to achieve an acceptable level of control without using ABSDs, some growers need to use them, particularly where the adjacent land use promotes the congregation of birds. Disruption sees those birds typically searching for an alternative source of food. It is acknowledged that while ABSDs are essential to protect some orchards, they have the potential to annoy and disturb the public and this can affect the industry's social licence to operate.

The vast majority of ABSDs used in the Whakatāne District are gas guns that generate discrete sound events. A very small number of ABSDs used generate short or variable sound events. This guidance focusses primarily on gas guns due to them being far more common in the district, and also because their use gives rise to the majority of complaints received by WDC regarding ABSDs.

3. Rules

Noise-R18 of the Operative Whakatāne District Plan contains the relevant rules for Audible Bird Scaring Devices, and Noise-R1.1 specifies which New Zealand Standards apply and measurement positions. These are reproduced in Attachment 1 and described in the sections to follow.

If an ABSD complies with the conditions of NOISE-R18 then no resource consent is required. If an ABSD does not comply with Noise-R18 then a resource consent is required for its use.

If the permitted activity rule is not complied with, there is a risk of complaints and/or the possibility of enforcement action, and for this reason it is important that growers know and understand what they need to do to comply.

4. Interpretation of the District Plan Rules (Noise-R18)

The wording of the conditions can be confusing for growers. With that in mind, the following is intended to be a plain English guide to help growers understand what they need to do to comply.

4.1 Legible Notice

A legible notice must be fixed to the road frontage of the property on which the device is being used, giving the name, address, and contact telephone number of the person responsible for the device(s). Zespri is working with Whakatāne District Council on a template for growers and this will be available prior to the 2024 bud break season.

4.2 Hours of Operation

ABSDs can only be operated from half an hour before sunrise to half an hour after sunset. Sunrise and sunset times for Whakatāne can be found here.

Some gas guns have a photoelectric cell that controls their operation. This needs to be kept clean and maintained so that it is free from obstruction. A mechanical timer may be used to back up the photoelectric switch.

The ABSD season generally spans the introduction of daylight saving. Growers need to ensure that the start and finish times of their devices are adjusted as necessary for daylight saving, and that they do not operate any longer than they need to.

4.3 Number of Events

The number of shots from devices that generate discrete sound events (gas guns) shall not exceed 3 events within a 1 minute period and shall be limited to a total of 12 individual shots per hour.

4.4 Noise Level

The noise level of shots from devices that generate discrete sound events (gas guns) shall not exceed 100 dB Lzpeak.

For devices that generate short or variable sound events, no event may result in a sound level greater than 50 dBA SEL.

4.5 Where the Required Noise Levels Apply

The maximum noise levels stipulated in the District Plan are intended to protect the amenity of nearby residents. For this reason, they do not apply at the device, but at the measurement locations specified in the permitted activity rule.

The permitted activity rule states the following regarding the measurement location:

*"At any point within the **notional boundary** of any rural zoned site, or within the site boundary of any other site used for a **noise sensitive activity** excluding any dwelling/s located on the same site as that on which the device is being operated."*

Notional boundary is defined as a line 20m from the façade of any rural dwelling, or the legal boundary where this is closer to the dwelling.

This means that the measurement location differs depending on whether a neighbouring dwelling is within the rural zone, or whether a site in a zone other than rural contains a noise sensitive activity. The following describes what this means in practice.

4.5.1 Surrounding Dwellings Within the Rural Zone

For dwellings located in the rural zone[1], the measurement location is within the notional boundary of the dwelling. The notional boundary is defined as a line 20m from the façade of any rural dwelling, or the legal boundary where this is closer to the dwelling.

It should be noted that a line 20m from the façade of any rural dwelling may be on privately owned land and compliance monitoring in the correct location will require the permission of the owner and/or occupier to access the land. From a practical perspective and depending on whether the landowner/occupier is able to be contacted in a timely manner and is prepared to grant access, monitoring may need to be carried out as close as possible to the line 20m from the façade where access is possible, which may be the nearest public road, or the boundary of the kiwifruit orchard.

What this means in practice is described in the following scenarios:

Scenario 1

In this case the monitoring location would be at the property boundary because it is closer to the dwelling than a line drawn 20m from the façade. Monitoring can be carried out next to the road.

[1] Excluding any dwelling/s located on the same site as that on which the device is being operated.

Scenario 2

In this case monitoring should be carried out at the property boundary, but access to the most appropriate monitoring location would require the approval of the landowner/occupier of the dwelling. If the owners/occupiers cannot be contacted in a timely manner or refuse access, approval could be sought from the owner of the grazed block between the kiwifruit orchard and the dwelling to allow monitoring to still be carried out on the property boundary. Failing that the only option would be to monitor at the boundary of the kiwifruit orchard, and to factor the distance to the dwelling into an assessment of the noise. As a very rough approximation, measured outdoor sound levels for a source like this may reduce by 4-5 dB for every doubling of distance, however there are many variables that impact noise and it is always best to monitor at the correct location if practicable.

Note that measurement of the noise at the boundary of the kiwifruit orchard cannot be used for enforcement purposes but could be used to provide an indication as to whether the ABSD is likely to be compliant.

Scenario 3

In this case monitoring should be carried out at a line 20m from the façade of the dwelling because the line is closer to the dwelling than the property boundary. If access is not approved by the landowner/occupier, monitoring would have to be undertaken at the boundary of the kiwifruit orchard with a calculation to factor in the distance to the dwelling. As described above, measurement of the noise at the boundary of the kiwifruit orchard cannot be used for enforcement purposes, but could be used to provide an indication as to whether the ABSD is likely to be compliant.

Scenario 4

In the figure above there are two dwellings located on the site that has the ABSD. Where there are dwelling(s) located on the same site as that on which the device is being operated, the noise conditions do not apply.

Scenario 5

In this example the identified house has kiwifruit orchards located on or close to two of its boundaries. Monitoring at the road edge is unlikely to provide meaningful results in relation to noise effects on the residents of the dwelling and monitoring should be carried out either on the property boundary or 20m from the façade of the house[2], whichever is the closest. Monitoring at these locations will require the approval of the landowner/occupier.

4.5.2 Noise Sensitive Activities Outside of the Rural Zone

Noise sensitive activities are defined as:

a. Buildings used for residential activities including:
   i. Boarding establishments
   ii. Homes for elderly persons
   iii. Retirement villages
   iv. In-house aged-care facilities; and
   v. Dwellings.
b. Buildings used as temporary accommodation including hotels and motels but excluding campgrounds
c. Marae
d. Spaces used for overnight patient medical care within buildings
e. Teaching areas and sleeping rooms in buildings used as educational facilities including tertiary institutions and schools, and premises licensed under the Education (Childhood

[2] The blue line is approximately 20m from the façade of the house.

Services) Regulations, and playgrounds which are part of such facilities and located within 20m of buildings used for teaching purposes.

Noise sensitive activities do not include:

f. Residential accommodation in buildings which predominantly have other uses such as commercial or industrial premises
g. Garages and ancillary buildings.

Where a noise sensitive activity is located in any zone other than the rural zone and people can hear the noise from an ABSD the noise level applies anywhere within the site boundary of the noise sensitive activity. From a practical perspective the monitoring location would normally be on the closest property boundary of the site of the noise sensitive activity to the property on which the ABSD is located.

5. New Dwellings and New Orchards

The noise conditions leave growers vulnerable to new dwellings that may establish close by.

While the district plan contains objectives, policies and rules that have the aim of protecting rural production activities from reverse sensitivity effects, new dwellings can be built on adjacent properties as permitted activities provided that they comply with boundary setbacks and other relevant rules.

Growers who subdivide and sell part of their orchard should consider a no complaints covenant. For more details, refer here.

Growers seeking to establish new kiwifruit orchards on greenfields sites need to be aware that existing dwellings located close by will limit the level of noise that can be generated from any ABSD that they intend to operate.

6. How the Monitoring is to Be Undertaken

Good practice measurement techniques in line with the relevant New Zealand standards are summarised below:

- Measurements should be taken at 1.2 – 1.5 m above the immediate ground level, and at least 3.5 m from any reflecting surface other than the ground.

- Sound level measurements shall only be taken when wind levels are between 0 and 5 m/s (no more than a gentle breeze), and the sound level meter is fitted with an appropriate windscreen. Measuring in calm, or light downwind conditions (wind blowing towards the measurement location) will give the most consistent measurement results.

- The operator should be aware that sound levels, especially as the distance from the ABSD increases, will be quite different depending on the direction that the ABSD is aimed as well as weather conditions. Measurements in upwind, or cross wind conditions won't represent worst case levels.

- The orientation of the ABSD relative to the measurement location (and any line-of-sight screening) should be recorded as measurements in the "line of fire" will likely be louder.

- Measurement uncertainty will be reduced the more events are recorded, and the more measurement locations.

- As most gas guns fire off three shots in quick succession, recording two of the three shots in succession would be sufficient. Ideally one recording would comprise three shots in succession, with two recordings to be done at each site.

- Measurements close to the ABSD will not be influenced as much by weather conditions. This means that measurements undertaken at 20 metres in a grid around the ABSD (wearing appropriate hearing protection), adjusted by -4 to -5 dB for every doubling of distance, could be used instead to estimate likely levels at the closest receivers. It should be noted however that the noise experienced by a receiver can be affected by topography and ideally measurements should be undertaken at the correct measurement location in suitable weather conditions.

- The sound level meter should be calibrated with a formal sound laboratory calibration at least every two years. Equipment is required to be field calibrated against a tone generator for each monitoring event.

7. How Growers Can Be Sure That They are Complying with the Noise Limits

Growers have two options to ensure that they are complying with the noise limits at the start of the ABSD season. They can either:

- Call the NZKGI hotline on 0800 232 505 to arrange a visit from Zespri's Compliance Investigation Specialist, to ensure that the device is compliant, and for property specific guidance on how the device should be operated, the distance that the device needs to be located from boundaries to comply, and other matters that growers need to be aware of e.g. the potential effects of windspeed and direction, or
- Engage an acoustic expert.

8. Factors that Can Affect Noise Levels Received

The noise that neighbours experience is influenced by a number of factors such as distance from the device, topography, whether any screening is present between the device and the receiver and weather conditions. The weather conditions should be recorded when a noise reading is taken. Accurate noise readings cannot be obtained when the windspeed is greater than 5 m/s for measurements that are more than 30m from the device.

Noise travels much further downwind and particular care needs to be taken with devices that swivel with the wind. To avoid or mitigate unreasonable noise, growers should place ABSDs as far away as possible from the closest receiver, and where fixed in position, the device should be pointed away from neighbours. Devices should be properly maintained and checked regularly to detect any malfunctions that could result in complaints.

9. Best Practicable Option

The Resource Management Act (1991) states the following in Section 16:

16 Duty to avoid unreasonable noise

(1) Every occupier of land (including any premises and any coastal marine area), and every person carrying out an activity in, on, or under a water body or the coastal marine area, shall adopt the best practicable option[3] to ensure that the emission of noise from that land or water does not exceed a reasonable level.

This means that growers should firstly explore all of the practicable[4] options available to them to control birds, with ABSDs being used as a last resort. Other forms of bird deterrent include reflective tape, kites, balloons, laser bird scarers, bird repellents, ultrasonic high frequencies and the use of intensive sward planting.

What might be considered unreasonable will be dependent on the situation and the concerns of the receiver(s) of the noise. Simply reading a noise meter will not be sufficient to determine reasonableness and Council officers will likely consider each circumstance, including the level of noise, the number of events, duration of the activity, and sensitivity of the receiving environment.

10. Calibration and Training

Zespri's noise meter is calibrated against Whakatāne District Council's meter. Data from Zespri's noise meter is intended to be used to help growers understand whether their device complies with the noise limits, and if not, what they need to do to comply. Zespri's data is not to be used for enforcement purposes.

Whakatāne District Council has an enforcement role and for this reason a more formal calibration procedure for the device, and training procedure for staff, is required. Calibration and training of council officers is an internal process that is necessary under its obligations with the RMA and the Local Government Act. Whakatāne District Council's noise meter needs to be regularly calibrated and calibration certificates should be made available upon request. Staff undertaking the monitoring need to be suitably qualified officers, with training being part of that qualification.

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[3] **Best practicable option** in relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to—

(a) the nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and

(b) the financial implications, and the effects on the environment, of that option when compared with other options; and

(c) the current state of technical knowledge and the likelihood that the option can be successfully applied

[4] Cost forms part of the assessment of practicability. For example, while full netting of an orchard might solve a bird problem, if it is cost prohibitive then the option is not practicable.

Typically, this would either be an Environmental Health Officer or contracted noise consultant. Training records should be available upon request as should monitoring procedures.

11. Cumulative Effects

While the consent conditions do not control cumulative effects through conditions that limit the number of devices per area, the industry understands that there is the potential for cumulative effects where a large number of devices are being used in a relatively small area with neighbours close by.

While not mandatory, it is recommended that all growers with a device advise Zespri's Compliance Investigation Specialist so that the devices can be recorded on a plan. Concerns regarding cumulative effects can then be responded to on a case-by-case basis.

12. Talking to Neighbours

As for the general population, neighbours will respond to noise from ABSDs in different ways. Some will be very tolerant, and these may include other kiwifruit growers. At the other end of the spectrum, some people find noise that is not of their own making, or particular types of noise to be very annoying.

Some neighbours may appreciate advance notice of the devices being used and an indication of the intended duration of use, along with the contact details of the person managing the device so that they know who to call if they wish to discuss any concerns and complaints. Neighbours are less likely to be alarmed when the use of the device commences if they are advised beforehand. Some neighbours may appreciate notification in the same way that they are notified regarding spray application.

Given the potential for disturbance and misunderstanding associated with the use of ABSDs, it is recommended that growers communicate with their neighbours, either through a letter drop or personal visit, to inform them why they need their devices, how they intend to operate them along with contact details. Zespri in conjunction with NZKGI has prepared a letter template for growers.

13. Information to the Community

Whakatāne District Council, NZKGI and Zespri will work together to ensure all relevant information regarding the use of ABSDs is provided to the community through a variety of media, including social media, newspaper, radio, community noticeboards; prior to and during the bud break season.

14. Complaints and Concerns Process

People with complaints and concerns should be encouraged to contact the operator of the device in the first instance. They also have the option of phoning NZKGI's hotline or Whakatāne District Council and may request a site visit and monitoring. NZKGI/Zespri and the council will share the information and respond accordingly, unless there has been a specific request as to confidentiality.

15. Document Review

This document was originally published on 5 August 2024. This guidance document should be regarded as a working document that can be reviewed and updated as required.

Attachment 1 - Summary of Permitted Activity Rule

Activity	Noise Controls	
All Zones.	**Activity status:PER** 1. Audible bird scaring devices shall only be operated from half an hour before sunrise to half an hour after sunset. 2. A legible notice is to be fixed to the road frontage of the property on which the device is being used, giving the name, address, contact telephone number of the person responsible for the operation of any such device(s). 3. Devices that Generate Discrete Sound Events: Discrete sound events from audible bird scaring device, including shots or audible sound shall: i. Shall not exceed 100 dB Lzpeak, ii. Not exceed 3 events within a 1 minute period and shall be limited to a total of 12 individual events per hour. 3. Devices that Generate Short of Variable Sound Events: Where audible sound is used over a short or variable time duration, no event may result in a sound level greater than 50dBA SEL. 4. Assessment positions vary according to the assessment methods cited. At any point within the notional boundary of any Rural General, Rural Production, Rural Coastal and Rural Ōhiwa zoned sites, or within the site boundary of any other site used for a noise sensitive activity excluding any dwelling/s located on the same site as that on which the device is being operated. 5. In addition to the General Information Requirements Frost Fans or Audible Bird Scaring Devices, applications involving the	**Activity status where compliance not achieved:RDIS** *See RDIS assessment criteria NOISE-AC2* **Activity status where compliance not achieved for CPZ:NC** *See NC assessment criteria NOISE-AC12*

	installation and use of bird scaring devices shall include: a. a producer statement from the manufacturer or, where the site has special characteristics to that the producer statement does not apply, a report prepared by a suitably qualified person that specifies the noise level and noise characteristics that the proposed device generates at specified distances. b. Information about other potential methods that could be utilised for crop protection and why they are not proposed or are not considered to be suitable int eh specific circumstances of the application. In the case of bird scaring devices, alternatives may include other types or brands of noise generating devices or deterrents, physical barriers or management practices. c. Information regarding the proposed operating conditions of the device and proposed management practices that will or may help manage the effects on the environment.	

Definitions:

Audible Bird Scaring Devices means a noise emitting device being used for the purpose of disturbing or scaring birds including a gas gun, avian distress alarm and firearm, when being used specifically for bird scaring.

Notional boundary is defined as a line 20m from the façade of any rural dwelling, or the legal boundary where this is closer to the dwelling.

Noise sensitive activity means:

a. Buildings used for residential activities including:
   i. boarding establishments
   ii. homes for elderly persons
   iii. retirement villages
   iv. in-house aged-care facilities;
   v. dwellings.

b. buildings used as temporary accommodation including hotels and motels but excluding campgrounds.
c. marae;
d. spaces used for overnight patient medical care within buildings;
e. teaching areas and sleeping rooms in buildings used as educational facilities including tertiary institutions and schools, and premises licensed under the *Education (Childhood Services) Regulations*, and playgrounds which are part of such facilities and located within 20m of buildings used for teaching purposes.

Noise sensitive activities do not include:

a. residential accommodation in buildings which predominantly have other uses such as commercial or industrial premises.
b. garages and ancillary buildings.

Residential activity means the use of land or buildings by people for living accommodation where those people voluntarily live at the site alone or in family and/or non-family groups, whether the person is subject to care, supervision or not, and who will generally refer to the site as their home and permanent address.

NOISE-R1 of the Operative District Plan states the following:

NOISE-R1 *ODP 11.2.7.1.h, 11.2.7.2, 11.2.7.3, 22.4, 3.7.10.1*	**Noise limit assessment**	
All Zones	Activity status:PER	

"Unless stated otherwise, sound shall be measured in accordance with NZS 6801:2008 Acoustics Measurement of Environmental Sound and assessed in accordance with NZS6802:2008 Acoustic- Environmental Noise. The noise limits in NOISE-R2 shall not apply to sound from sources outside the scope of NZS 6802:2008. Sound from such sources shall be assessed in accordance with the relevant New Zealand Standard listed in NOISE-RULES-Advice Note 1 (above)."