Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

DISTRICT PLAN REVIEW

Proposed Waimakariri District Plan - Submission

Clause 6 of Schedule 1, Resource Management Act 1991

Submitter details

*(Our preferred methods of corresponding with you are by **email** and **phone**).*

Full name: NZPork

Email address: Penny Cairns <penny.cairns@pork.co.nz>

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Postal Address: PO Box 20176 Christchurch Post Code: 8543

Physical address: _____ Post Code: _____
(if different from above)

Please select one of the two options below:

☑ I **could not** gain an advantage in trade competition through this submission *(go to Submission details, you do not need to complete the rest of this section)*

☐ I **could** gain an advantage in trade competition through this submission *(please complete the rest of this section before continuing to Submission details)*

Please select one of the two options below:

☑ I **am** directly affected by an effect of the subject matter of the submission that:

A) Adversely affects the environment; and

B) Does not relate to trade competition or the effect of trade competition.

☐ I **am not** directly affected by an effect of the subject matter of the submission that:

A) Adversely affects the environment; and

B) Does not relate to trade competition or the effect of trade competition.

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Submission details

The specific provisions of the proposal that my submission relates to are as follows: *(please give details)*

Refer attached.

My submission is that: *(state in summary the Proposed Plan chapter subject and provision of your submission. Clearly indicate whether you support or oppose the specific provisions or wish to have amendments made, giving reasons) (please include additional pages as necessary)*

Refer attached.

I/we have included: 82 additional pages

I/we seek the following decision from the Waimakariri District Council: *(give precise details, use additional pages if required)*

Refer attached.

Submission at the Hearing

☑ I/we wish to speak in support of my/our submission

☐ I/we do not wish to speak in support of my/our submission

☑ If others make a similar further submission, I/we will consider presenting a joint case with them at the hearing

Signature

Of submitters or person authorised to sign on behalf of submitter(s)

Signature _____ Date _____

(If you are making your submission electronically, a signature is not required)

Important Information

1. The Council must receive this submission before the closing date and time for submissions.

2. Please note that submissions are public. Your name and submission will be included in papers that are available to the media and public. Your submission will only be used for the purpose of the District Plan review process.

3. Only those submitters who indicate they wish to speak at the hearing will be emailed a copy of the planning officers report (please ensure you include an email address on this submission form).

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least 1 of the following applies to the submission (or part of the submission):

- It is frivolous or vexatious
- It discloses no reasonable or relevant case
- It would be an abuse of the hearing process to allow the submission (or the part) to be taken further
- It contains offensive language
- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

Send your submission to: Proposed District Plan Submission
Waimakariri District Council
Private Bag 1005, Rangiora 7440

Email to: developmentplanning@wmk.govt.nz

Phone: 0800 965 468 (0800WMKGOV)

You can also deliver this submission form to one our service centres:

Rangiora Service Centre: 215 High Street, Rangiora

Kaiapoi Service Centre: Ruataniwha Kaiapoi Civic Centre, 176 Williams Street, Kaiapoi

Oxford Service Centre: 34 Main Street, Oxford

Submissions close 5pm, Friday 26 November 2021
Please refer to the Council website waimakariri.govt.nz for further updates

NZ PORK

SUBMISSION ON

Proposed Waimakariri District Plan

25 November 2021

To: Waimakariri District Council

SUBMITTER: New Zealand Pork Industry Board

Introduction

The New Zealand Pork Industry Board (NZPork) welcomes the opportunity to submit on the Proposed Waimakariri District Plan.

NZPork could not gain an advantage in trade competition through this submission.

NZPork wishes to be heard in support of our submission and would be prepared to consider presenting our submission in a joint case with others making a similar submission at any hearing.

Contact for service:

Penny Cairns
Environmental Advisor
NZPork
PO Box 20176
Christchurch
8543

NZ PORK

1. The New Zealand Pork Industry

NZ Pork is a statutory Board funded by producer levies. It actively promotes "100% New Zealand Pork" to support a sustainable and profitable future for New Zealand grown pork. The Board's statutory function is to act in the interests of pig farmers to help attain the best possible net on-going returns while farming sustainably into the future.

The New Zealand pig industry is a highly productive specialized livestock sector, well integrated within New Zealand's primary production economic base. It draws on both downstream and upstream inputs and economic activity from New Zealand's rural sector including feed inputs, equipment and animal health supply, transport, slaughterhouse facilities plus further processing. Currently New Zealand's pig farmers produce around 45,350 tonnes of pig meat per year for New Zealand consumers. This represents around 38% of pig meat consumed by the domestic market, with the other 62% provided by imported pig meat from a range of countries. Nationally there are less than 100 commercial pork producers, comprising a relatively small but significantly integrated sector of the New Zealand agricultural economy. In 2007 it was estimated by the NZ Institute of Economic Research that the total economic activity associated with domestically farmed pigs was approximately $750 million per annum.

Pigs' needs are unique compared to other farmed animals. They need constant access to shelter, a balanced diet and regular care and supervision. To meet these needs, New Zealand's commercial pig farmers have adopted a range of farming methods. Many farmers prefer indoor farming because they believe it allows them to provide the best care for the modern animal by allowing them to

carefully manage their environment. Approximately 55% of New Zealand's pigs are farmed in this way.

The other 45% of New Zealand's commercial breeding herd is farmed outdoors. Outdoor breeding (also called free-farmed pork) can only occur in a moderate climate with low rainfall and free-draining soil conditions. In New Zealand, these conditions are mostly found in Canterbury. In most free-farmed systems, sows are farmed in groups in paddocks during gestation with huts for shelter and shade. When sows farrow, they are provided with individual, dry and draught-free huts with straw for warmth. A variety of housing systems are then used to house pigs after weaning, including indoor barns or open-air sheds.

New Zealand pork producers are facing several economic, social and environmental challenges in order to remain viable. The contribution of imported pork to New Zealand's total pork consumption has increased significantly in recent years, placing further demands on producers who have responded by developing increasingly efficient systems. Currently, nearly all pork produced in New Zealand is consumed locally and makes up less than 40% of the domestic market supply. The Waimakariri District is an important district for pig farming, using a mixture of both indoor and outdoor farming systems that support New Zealand's food production system.

The New Zealand pork industry is dedicated to producing environmentally sustainable pork. NZPork is proactive in supporting farmers to reduce environmental impacts through investing producer funds into research, innovation and technologies in a range of environmental areas including nutrient management, greenhouse gas emission reductions and by-product reuse. Pig farmers in New Zealand have a firm grasp of environmental issues and demonstrate a high level of innovation and environmental stewardship. The New Zealand pork industry has committed significant time and resource to Sustainable Farming Fund projects centred on environmental initiatives, including development and implementation of Environmental Guidelines (attached) and Nutrient Management Guidelines. However, profit margins for the industry remain tight and dialogue with farmers has indicated that compliance costs and uncertainty into the future are key issues.

2. Summary of submission

An overview of key points of feedback to the proposed plan is provided below. Specific submission points are detailed in Section 3.

2.1 Intensive Primary Production

NZPork is broadly supportive of the provisions for intensive farming in the GRUZ, while seeking some particular changes to definitions and rules to assist with plan interpretation and administration.

A definition of Intensive Primary Production should be supported by the addition of definitions to cover the typical range of primary production activities that can be deemed intensive being indoor and outdoor primary production activities.

For clarity and plan administration a definition of Extensive Pig Farming should be included and referenced to industry codes of practice for ground cover maintenance (refer attached Good Management Practices for Outdoor Pig Farming).

NZPork is concerned that the permitted activity status of sensitive activities in the GRUZ and RLZ could lead to adverse outcomes for primary production activities, including intensive operations. In the proposed plan several sensitive activities are permitted or restricted discretionary activities eg visitor accommodation, rural tourism. However, the nature of these as sensitive activities means conflict with primary production activities are likely, and their PA status is not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.

NZPork submits that a more restrictive activity status for sensitive activities be adopted in the GRUZ and RLZ.

2.2 Mobile Pig Shelters

NZ Pork is concerned that Mobile Pig Shelters (being partially or fully-roofed) would fall within the definition of building and structure. The plan should provide relief from the rules for buildings and Structures as they might apply to mobile pig shelters. These shelters are a critical part of the pig farming system and can be of a variety of forms as shown below.

Dry Sow Group Accommodation Recommended Practice

Dry sow housing is generally designed to accommodate groups of breeding animals. These come in a variety of forms as shown in the illustrations below. Note trees for shelter and the huts are facing away from the predominant wind direction.

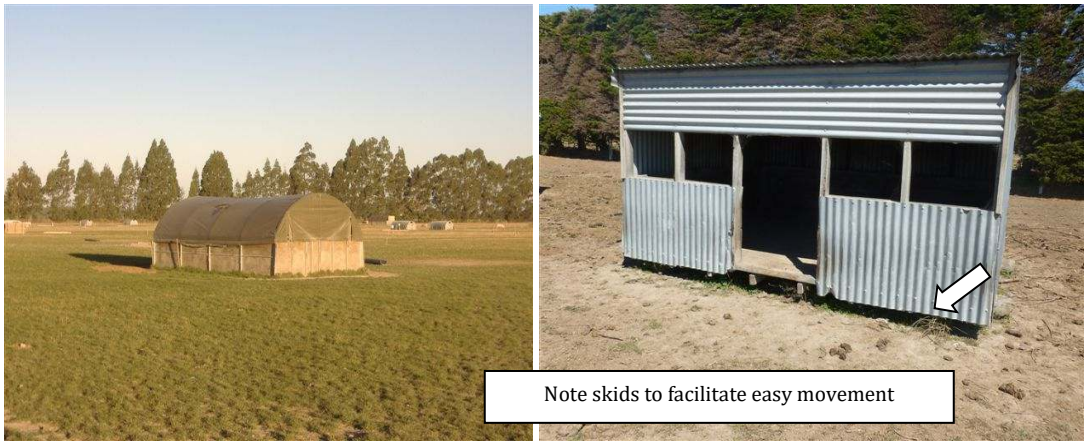

Photo 1-6: Variations in dry sow housing designs

Photo 7: Interior of a dry sow house with wooden floor

Weaner Accommodation

The younger the pig, the more vulnerable they are and the more critical are their accommodation needs. They must be kept in a clean, warm, dry, draught free environment subject to minimal variations in temperature. Straw based systems work well.

Photos 8 and 9: Weaner Accommodation

Photos 8 and 9 demonstrate an example of suitable weaner accommodation: Photo 8 (left) shows separate straw bale draught free sleeping area, under a 'kennel' roof for newly weaned pigs. Also note ventilation flap at back and drinkers in left foreground. Photo 9 (right) shows weaner pigs a few weeks later with the straw bale sleeping area broken down but the 'kennel' roof retained in the sleeping area.

Other considerations:

- Where possible pigs should be kept in stable groups of familiar animals though out the growing period.
- The use of moveable weaner 'boxes' constructed of plywood is one approach to provide quality accommodation. Weaner boxes are generally constructed with a low roof and are well insulated.
- Ensure water supply is sited outside of the sleeping area to prevent flooding of the bedding.

Photo 10: An example of a low roofed box type accommodation suitable for weaners

Grower accommodation

As pigs grow, they become more tolerant of changes in the environment and accommodation requirements are less rigorous. However, it is essential they have a warm dry, draught-free sleeping area large enough to accommodate all the pigs in a paddock together.

Photo 10: Accommodation suitable for free range growers
Photo 11: Example of access for free range growing pigs to fodder beet crops from a shelter

A popular design is a 'kennel' area constructed in a general-purpose building. A false roof or lid is positioned over the pigs sleeping area to create a warm, dry and draught free environment.

2.3 Earthworks and Biosecurity-related activity

The viability of the New Zealand pork industry is dependent on the benefits conveyed upon it from the absence of many viral pathogens which are common in much of the rest of the world. Any biosecurity incursions within the industry must be able to be managed quickly and efficiently to contain spread. Not all biosecurity incursions would constitute a biosecurity emergency that would trigger provisions in the RMA or the Biosecurity Act to override consenting requirements. The intersect with the District Plan may well be in a response that requires burial of animal carcasses. The Regional Plan is in place to manage discharges from such activities but constraints on earthwork activity (volume and area) may inhibit a timely, efficient, and effective response.

NZPork seeks a definition of Ancillary Rural Earthworks to include the burying of material infected by unwanted organisms as declared by the Ministry for Primary Industries Chief Technical Officer or an emergency declared by the Minister under the Biosecurity Act 1993'. This would allow farmers to undertake earthworks related to burying material in the event of a biosecurity incident as a permitted activity.

2.4 Strategic Direction

The plan should provide a clear Strategic Direction and inclusion of Strategic Objectives, Policies and Methods that recognise and respond to the resource management issues associated with the rural environment and primary production – that includes intensive farming.

Intensive Primary Production (indoor and outdoor) is a Primary Production activity.

Section 8 (5), Zone Framework Standard of the National Panning Standards, states as follows:

> *Except for zones that are renamed through mandatory direction 2, a local authority must choose at least one of the zones in table 13 to use in its plan.*

Table 13 : Zone names and Descriptions:

> *General Rural Zone:*
>
> *Areas used predominantly for primary production activities, including intensive indoor primary production. The zone may also be used for a range of activities that support primary production activities, including associated rural industry, and other activities that require a rural location.*
>
> *Rural lifestyle zone:*
>
> *Areas used predominantly for a residential lifestyle within a rural environment on lots smaller than those of the General rural and Rural production zones, while still enabling primary production to occur.*

The National Planning Standards define Intensive Indoor Primary Production as follows:

> *means primary production activities that principally occur within buildings and involve growing fungi, or keeping or rearing livestock (excluding calf-rearing for a specified time period) or poultry.*

The district plan is required by the Canterbury Regional Policy Statement (CRPS) to provide for primary production within the rural zone, and to ensure that this land use is not compromised by reverse sensitivity. There is some useful assistance in the methods for Territorial Authorities under Policy 5.3.12 Rural Production on how to do this in a district plan:

> *Territorial authorities:*
>
> *Will:*
>
> *2. Set out objectives and policies, and may include methods in district plans which:*
>
> *a. identify areas to be used for primary production, taking into account natural resources through appropriate provisions in district plans.*

b. control the adverse effects of subdivision and land-use in rural areas, including by:

i. ensuring subdivision and development does not foreclose the ability to utilise natural resources such as soil which is, or foreseeably could be, valued for rural productive purposes.

ii. ensuring appropriate separation between consented and permitted rural productive activities and those land-uses which may result in reverse sensitivity effects on rural productive activities.

iii. managing the interface between the edge of environments sensitive to the effects of rural production activities and areas in productive use to reduce.

The PWDP provides a General Rural Zone within which the predominant land use character should comprise primary production activities. The Rural Lifestyle Zone (within which half of the pig farming activity in the district occurs) has a specified purpose that primary production activities and activities reliant on the natural and physical resources of the rural environment occur while recognising that the predominant character is small rural sites with a more intensive pattern of land use and buildings than the General Rural Zone.

The General Rural Zones should thereby provide for *intensive indoor primary production*. This is consistent with the National Planning Standards zone description. The reference to 'predominant land use character' in GRUZ-P1 is key as it then determines the planning response.

The Rural Living Zone is not as direct on the provision of *intensive indoor primary production* as is the case with the General Rural Zone and indeed the Rural Production Zone as described in the National Planning Standards. However, the purpose of the Rural Living Zone (as described above) should *enable primary production to occur*.

SD-O4 provides a strategic objective for rural land but not the rural environment which encompasses a broader range of resources required to support productive rural activities. Notably RURZ-O1 is an objective for the rural environment and RURZ-P2 is for rural land highlighting the cascade not apparent in SD-O4.

SD-O4 is drafted in a manner that introduces a hierarchy of support and protections for 'Rural Production' when all intensive farming activities are excluded from the definition of 'Rural Production' which is in direct conflict with the zone framework proposed and orphans intensive farming activities from a strategic objective.

2.5 Workers accommodation.

Farming pigs is very different from farming other livestock. Stockpersons are far more intimately involved with the care of pigs than other livestock. Pigs have a greater need for shelter and their social and dietary requirements are more complex than sheep and cattle. Animal care is a daily responsibility, as pigs are not like ruminants which derive their nutrition from grass: pigs are monogastric like humans, and require a balanced diet fed daily. As such,

providing accommodation on site for workers is an important component of many commercial pig farming operations, which often require the onsite provision of farm workers accommodation to provide onsite farm assistance, animal husbandry and security.

NZPork notes that there are no specific provisions for worker accommodation in the proposed plan. The provision of a minor residential unit with 90m^2 limitation does not support a viable farm workers accommodation. NZPork seeks the inclusion of a rule structure for workers' accommodation.

NZ PORK

3. Specific submissions on the PWDP

Provision to which our submission relates:	Support/ Oppose/ Amend	The decision we are seeking from Council:	Reasons:
PART 1 – INTRODUCTION AND GENERAL PROVISIONS			
INTERPRETATION			
Definitions Nesting Tables			
Primary Production	Oppose	Add Primary Production	The plan interpretation and administration would be improved through the addition of nesting Primary Production.
Definitions			
Agriculture	Oppose	Delete or amend the definition of Agriculture to include intensive and extensive primary production.	Intensive and extensive primary production is an agricultural activity that require a rural location to produce agricultural product in an agricultural production system. In terms of livestock activity, the proposed definition limits this to pastoral grazing when the definition of primary production identifies that agricultural and pastoral activities are different activities.
Farming and Agricultural Suppliers	Oppose	Amend definition to reflect or relate to Farming and Agricultural Suppliers	The definition is as follows: *means businesses primarily selling goods for permanent exterior installation or planting and includes: landscaping suppliers; and suppliers of bark, compost, firewood, and paving and domestic paving aggregates.* The definition does not reflect or relate to Farming and Agricultural Suppliers.
Ancillary Rural Earthworks (Primary Production)	New Definition	Insert a definition of Ancillary Rural Earthworks to include provisions for biosecurity related activity as a permitted activity. *means:*	NZPork seeks a definition that includes the burying of material infected by unwanted organisms as declared by the Ministry for Primary Industries Chief Technical Officer or an emergency declared by the Minister under the Biosecurity Act 1993'. This would allow farmers to

		a. *Normal agricultural and horticultural practices, such as cultivating and harvesting crops, ploughing, planting trees, root ripping, digging post holes, maintenance of drains, troughs and installation of their associated pipe networks, and realignment of fencelines, drilling bores and offal pits, burying of dead stock and plant waste;* b. *Land preparation and vegetation clearance undertaken as part of horticultural plantings; and* c. *Maintenance of existing walking tracks, farm and forestry tracks, driveways, roads and accessways within the same formation width.* d. *the burying of material infected by unwanted organisms as declared by the Ministry for Primary Industries Chief Technical Officer or an emergency declared by the Minister under the Biosecurity Act 1993*	undertake earthworks related to burying material in the event of a biosecurity incident as a permitted activity. Not all biosecurity incursions would constitute a biosecurity emergency that would trigger provisions in the RMA or the Biosecurity Act to override consenting requirements. The level of response required will depend entirely on the nature and scale of the incident. To date, the biosecurity emergency powers under the Biosecurity Act have never been used. In addition, any exemption granted under the Act will be short-term only in nature. After the exemption ends, the provisions of the RMA apply to the same extent as those provisions would have applied but for the exemption. This creates uncertainty as to whether resource consent would retrospectively be required for the activity, and as such may still limit the scope of the response for the landowner to what is provided for under the district plan. Biosecurity incidences which do not result in a declared emergency must therefore be managed to regional and district council plan requirements, including limitations on earthworks which may hinder any urgent response activity required to adequately address the incursion. This is not a new matter and other District Plans recognise the issue and provide an appropriate resource management response. The viability of the New Zealand pork industry is dependent on the benefits conveyed upon it from the absence of many viral pathogens which are common in much of the rest of the world (porcine reproductive and respiratory syndrome virus, transmissible gastroenteritis, classical swine fever, African swine fever, swine influenza). Any incursion of new pathogens into the industry potentially jeopardises pork export marketing opportunities as well as directly creating financial and welfare hardships on New Zealand farms from the production consequences of these diseases. In addition, pigs have

			been proven to be important 'amplifier' hosts for foot-and-mouth disease (FMD), which has never occurred in New Zealand. If FMD did occur, it would have very serious consequences for the country's major dairy and meat export industries. Any biosecurity incursions within the industry must be able to be managed quickly and efficiently to contain spread. The intersect with the District Plan may well be in a response that requires burial of animal carcasses. The Regional Plan is in place to manage discharges from such activities but constraints on earthwork activity (volume and area) may inhibit a timely, efficient, and effective response. As such, NZPork seeks that the definition of Ancillary Rural Earthworks include provisions for biosecurity related activity.
Intensive Indoor Primary Production	Support in Part	Support the retention of a definition of Intensive Indoor Primary Production where this is supported by the addition of definitions to cover the typical range of primary production activities that can be deemed intensive or extensive. Amend and add definitions as follows: ***Intensive Primary Production*** *means any activity defined as intensive indoor primary production or intensive outdoor primary production.* ***Intensive Indoor Primary Production*** *(as per National Planning Standards) means primary production activities that principally occur within buildings and involve growing fungi, or keeping or rearing livestock (excluding calf-rearing for a specified time period) or poultry.*	The definition of Intensive Indoor Primary Production should be supported by the addition of definitions to cover the typical range of primary production activities that can be deemed intensive - this being both indoor and outdoor primary production activities. For clarity and plan administration a definition of Extensive Pig Farming should be included and a reference to industry codes of practice for ground cover maintenance (refer attached Good Management Practices for Outdoor Pig Farming). The definition is consistent with that of the Canterbury Regional Air Plan and is well understood regionally.

		Intensive Outdoor Primary Production *means any primary production activities involving the keeping or rearing of livestock (excluding calf-rearing for a specified time period), that principally occurs outdoors, which by the nature of the activity, precludes the maintenance of pasture or ground cover. Excludes* ***Extensive pig farming****.* ***Extensive pig farming*** *means the keeping of pigs outdoors on land at a stock density which ensures permanent vegetation cover is maintained and in accordance with any relevant industry codes of practice, and where no fixed buildings are used for the continuous housing of animals.*	
Intensive Outdoor Primary Production	Support in Part	Support the retention of a definition of Intensive Outdoor Primary Production where this is supported by the addition of definitions to cover the typical range of primary production activities that can be deemed intensive or extensive. Amend and add definitions as follows: ***Intensive Primary Production*** *means any activity defined as intensive indoor primary production or intensive outdoor primary production.* ***Intensive Indoor Primary Production*** *(as per National Planning Standards) means primary production activities that principally occur within buildings and involve growing fungi, or keeping*	The definition of Intensive Outdoor Primary Production should be supported by the addition of definitions to cover the typical range of primary production activities that can be deemed intensive - this being both indoor and outdoor primary production activities. For clarity and plan administration a definition of Extensive Pig Farming should be included and a reference to industry codes of practice for ground cover maintenance (refer attached Good Management Practices for Outdoor Pig Farming). The definition is consistent with that of the Canterbury Regional Air Plan and is well understood regionally.

		or rearing livestock (excluding calf-rearing for a specified time period) or poultry. ***Intensive Outdoor Primary Production*** *means any primary production activities involving the keeping or rearing of livestock (excluding calf-rearing for a specified time period), that principally occurs outdoors, which by the nature of the activity, precludes the maintenance of pasture or ground cover. Excludes* ***Extensive pig farming****.* ***Extensive pig farming*** *means the keeping of pigs outdoors on land at a stock density which ensures permanent vegetation cover is maintained and in accordance with any relevant industry codes of practice, and where no fixed buildings are used for the continuous housing of animals.*	
Primary Production	Support	Retain definition as proposed.	Support clarity the inclusion of the national planning standard definition brings noting that agricultural activities are separate to pastoral and horticultural activities but have been confusingly combined in the proposed definition of Agriculture in the PWDP.
Rural Production	Oppose	Delete the statement that rural production excludes outdoor intensive primary production activities or indoor intensive primary production activities.	The definition excludes outdoor intensive primary production activities or indoor intensive primary production activities effectively leaving these activities without necessary objective and policy support in the plan. These are rural production activities that require a rural location to produce rural product in a rural production system.
Sensitive Activity	Support	Amend the definition of sensitive activity to cover other activities that are equally sensitive to the effects of primary production in the rural zones. Eg:	Oppose the narrow definition of sensitive activity which does not cover other activities some of which are proposed to be permitted in the rural zones and are equally sensitive to the effects of primary production.

		• *Conservation activities* • *Recreation activities* • *rural tourism* • *Equestrian and ancillary activities and facilities* • *Farmers market*	
Farm Workers Accommodation	Oppose	Add new definition as follows: ***Farm Workers' accommodation*** *Means a minor residential unit for people whose duties require them to live on-site, and in the rural zones for people who work on the site or in the surrounding rural area. Includes farm managers, workers and staff.*	Oppose the lack of specific provision for farm workers accommodation.
PART 2 – DISTRICT-WIDE MATTERS			
STRATEGIC DIRECTIONS			
SD-O4 Rural Land	Oppose	Amend SD-O4 Rural Land as follows: ~~*Rural land*~~ ~~*Outside of identified residential development areas and the Special Purpose Zone (Kāinga Nohoanga), rural land is managed to ensure that it remains available for productive rural activities by:*~~ ~~*1. providing for rural production activities, activities that directly support rural production activities and activities reliant on the natural resources of Rural Zones and limit other activities; and*~~ ~~*2. ensuring that within rural areas the establishment and operation of rural*~~	The plan should provide a clear Strategic Direction and inclusion of Strategic Objectives, Policies and Methods that recognise and respond to the resource management issues associated with the rural environment and primary production – that includes intensive farming. Intensive Primary Production (indoor and outdoor) is a Primary Production activity. Section 8 (5), Zone Framework Standard of the National Panning Standards, states as follows: *Except for zones that are renamed through mandatory direction 2, a local authority must choose at least one of the zones in table 13 to use in its plan.*

		~~*production activities are not limited by new incompatible sensitive activities.*~~ *Rural Environment* *Waimakariri District's productive land and versatile soil is retained for primary production, and primary production activities are enabled to ensure that rural communities can thrive, use resources efficiently and contribute positively to the district and national identity and economy.*	Table 13 : Zone names and Descriptions: *General Rural Zone:* *Areas used predominantly for primary production activities, including intensive indoor primary production. The zone may also be used for a range of activities that support primary production activities, including associated rural industry, and other activities that require a rural location.* *Rural lifestyle zone:* *Areas used predominantly for a residential lifestyle within a rural environment on lots smaller than those of the General rural and Rural production zones, while still enabling primary production to occur.* The National Planning Standards define Intensive Indoor Primary Production as follows: *means primary production activities that principally occur within buildings and involve growing fungi, or keeping or rearing livestock (excluding calf-rearing for a specified time period) or poultry.* The district plan is required by the Canterbury Regional Policy Statement (CRPS) to provide for primary production within the rural zone, and to ensure that this land use is not compromised by reverse sensitivity. There is some useful assistance in the methods for

			Territorial Authorities under Policy 5.3.12 Rural Production on how to do this in a district plan: *Territorial authorities:* *Will:* *2. Set out objectives and policies, and may include methods in district plans which:* *a. identify areas to be used for primary production, taking into account natural resources through appropriate provisions in district plans.* *b. control the adverse effects of subdivision and land-use in rural areas, including by:* *i. ensuring subdivision and development does not foreclose the ability to utilise natural resources such as soil which is, or foreseeably could be, valued for rural productive purposes.* *ii. ensuring appropriate separation between consented and permitted rural productive activities and those land-uses which may result in reverse sensitivity effects on rural productive activities.* *iii. managing the interface between the edge of environments sensitive to the effects of rural production activities and areas in productive use to reduce.*

			The PWDP provides a General Rural Zone within which the predominant land use character should comprise primary production activities. The Rural Lifestyle Zone (within which half of the pig farming activity in the district occurs) has a specified purpose that primary production activities and activities reliant on the natural and physical resources of the rural environment occur while recognising that the predominant character is small rural sites with a more intensive pattern of land use and buildings than the General Rural Zone. The General Rural Zones should thereby provide for *intensive indoor primary production*. This is consistent with the National Planning Standards zone description. The reference to 'predominant land use character' in GRUZ-P1 is key as it then determines the planning response. The Rural Living Zone is not as direct on the provision of *intensive indoor primary production* as is the case with the General Rural Zone and indeed the Rural Production Zone as described in the National Planning Standards. However, the purpose of the Rural Living Zone (as described above) should *enable primary production to occur*. SD-O4 provides a strategic objective for rural land but not the rural environment which encompasses a broader range of resources required to support productive rural activities. Notably RURZ-O1 is an objective for the rural environment and RURZ-P2 is for rural land highlighting the cascade not apparent in SD-O4. SD-O4 is drafted in a manner that introduces a hierarchy of support and protections for 'Rural Production' when all intensive farming activities are excluded from the definition of 'Rural Production' which is in direct

			conflict with the zone framework proposed and orphans intensive farming activities from a strategic objective.
UFD – Urban Form and Development			
UFD-P2 Identification/ location of new Residential Development Areas	Support in Part	Amend DFD-P2 to include policy criteria for the consideration of effects on primary production and highly productive land.	UFD-P2 provides a two-tier policy covering: 1. residential development in the new Residential Development Areas at Kaiapoi, North East Rangiora, South East Rangiora and West Rangiora 2. new Residential Development Areas, other than those identified by (1) above. The avoidance principle that sets out the requirements for when tier 2 proposals is supported. However, the policy criteria lacks consideration on the effects on primary production and highly productive land.
UFD-P10 Managing reverse sensitivity effects from new development	Support in Part	Extend EFD-P10 to all new development areas as a control on others potential development areas that may be advanced via private plan change requests.	UFD-P10 provides useful strategic policy direction for managing reverse sensitivity effects on primary production from new development areas in Rangiora and Kaiapoi. The plan would be improved by extending the policy to all new development areas as a control on others potential development areas that may be advanced via private plan change requests.
SUBDIVISION			
SUB-O1 Subdivision design	Support in Part / Oppose in Part	Amend SUB-O1 as follows: *Subdivision design achieves an integrated pattern of land use, development, and urban form, that:…* *Ensures that reverse sensitivity effects of subdivision on permitted and existing lawfully established activities are avoided where practicable, or mitigated where avoidance is not practicable.*	SUB-O1 references to the need to maintain rural character but has no specific outcome that requires avoidance where practicable, or mitigation where avoidance is not practicable of reverse sensitivity effects of subdivision on existing lawfully established activities.

SUB-P1 Design and amenity	in Part / Oppose in Part	Amend SUB-P1 as follows: *Enable subdivision that:…* *Avoids where practicable, or otherwise mitigates, potential reverse sensitivity effects of sensitive activities (particularly residential and lifestyle development) establishing near primary production including intensive primary production activities.*	Avoidance of reverse sensitivity effects of subdivision on existing lawfully established primary production activities should be a principal outcome to achieve.
SUB-P2 Allotment layout, size and dimensions	Support	Retain as proposed.	Support policy seeking to ensure that subdivision in rural zones retains the ability for rural land to be used for primary production activities.
SUB-P6 Criteria for Outline Development Plans	Oppose	Amend SUB-P6 to add new criteria as follows: *Any methods or boundary treatments required to avoid or mitigate reverse sensitivity effects and promote compatible land use activities and encourage the use of generous setbacks, public roads and reserves as buffers between urban and rural land uses.*	The criteria for an outline development plan must be more directive on addressing the rural-urban interface.
SUB-S2 Identified Building Platform	Support in Part	Amend SUB-S2 as follows: ~~Any new allotment in the Rural Zones shall include one or more identified building platform, and a sewage disposal area, unless it is required to be serviced by a reticulated wastewater system.~~ 1. *For each new allotment capable of containing a residential dwelling, at least one stable building platform of 30 metres by 30 metres must be identified which is capable of (but is*	Support the identification of Building Platform as a useful method to assess and address any actual or potential conflicts between the more sensitive lifestyle activity and surrounding primary production where that might be occurring. Consistent with the approach adopted in the Rural Zones to physically separate intensive primary production from sensitive activities and interfaces (GRUZ-BFS5) a setback should apply to new identified building platforms that would introduce a sensitive activity into the rural production environment. Notably, upon erection of a residential dwelling, an existing intensive primary production activity would (unreasonably) then be required to meet more restrictive light and noise standards and any expansion a restricted discretionary activity.

		not limited to) containing a dwelling, a vehicle manoeuvring area and any accessory buildings, in compliance with the performance standards and performance criteria for the zone where it is located (including dwelling setbacks applicable to that zone). 2. *The building platform shall be setback 300m from the closest outer edge of any paddocks, hard-stand areas, structures, or buildings used to hold or house stock, and wastewater treatment systems used for intensive primary production.* 3. *The establishment of a building platform on the same site as the intensive primary production are exempt from this rule requirement.*	
SUB-MCD10 Subdivision Design	Oppose in Part	Add subdivision design criteria to consider the effect of subdivision design on the productive potential of rural resources.	Oppose the lack of subdivision design criteria to consider the effect of subdivision design on the productive potential of rural resources.
SUB-MCD10 Reverse Sensitivity	Support	Retain as proposed.	Support clear assessment criteria to consider reverse sensitivity effects on rural activities including but not limited to intensive farming.
GENERAL DISTRICT WIDE MATTERS			
Earthworks			
Introduction	Support	Retain introduction as proposed.	Support the recognition in the introduction that earthworks are also an integral part of the use and development of land for rural activities.
EW-O1	Oppose	Amend EW-O1 as follows: ~~*Earthworks are undertaken in a way that minimises adverse effects on amenity values, cultural values, property, infrastructure and the*~~	Oppose the narrow focus of EW-O1

		~~*health and safety of people and the environment.*~~ *Earthworks necessary for the construction, maintenance or operation of activities are enabled, provided that adverse environmental effects, including effects on health and safety and natural hazards, are avoided, remedied or mitigated.*	
Activity Rules	Oppose	Provide a permitted activity status and associated standards for ancillary rural earthworks with a definition of ancillary rural earthworks to exclude works required for biosecurity purposes.	The plan lacks methods adopted to enable and manage the effects of Ancillary Rural Earthworks.
Light			
Introduction	Oppose in Part	Amend the introduction as follows: *Outdoor lighting can have both positive and negative effects on amenity values. Lighting can benefit people and communities, for example by improving pedestrian and transport safety, and can be required for primary production, night-time work, security and recreation. However, excessive light spill and glare can also adversely affect amenity values, the natural and cultural environment, health and safety and visibility of the night sky. For instance, glare can cause a safety hazard such as impacting on a driver's ability to see. Excessive ambient light levels can affect sleep quality.*	The introduction has an urban focus and would be improved by recognising and enabling artificial outdoor lighting associated with primary production.
LIGHT-O1 Objective	Oppose	Delete LIGHT-O1 and replace with an objective framework that includes intensive primary production activities.	Not deemed 'rural production' under the proposed plan, LIGHT-O1 explicitly excludes intensive primary production activities (indoor or outdoor) from the objective framework despite these activities relying on outdoor lighting as do other primary production activities.

LIGHT-P1 Policy	Support	Retain LIGHT-P1 as proposed.	Support the policy that provides for activities to use artificial lighting for operational and functional purposes.
LIGHT-S1 General standards for light	Oppose	Delete LIGHT-S1 as it relates to new sites and new road corridors.	The provision would only be reasonable in the case of existing sites and road corridors noting that the proposed subdivision provisions would introduce lifestyle sites and bonus allotments adjacent existing primary production activity and constrain an existing lawfully established activity. It would be unreasonable to apply this standard to an existing primary production activity. Existing use rights would not be sufficient to avoid conflict and reverse sensitivity operational constraints.
LIGHT-S2 Control of glare	Oppose	Delete LIGHT-S2 as it relates to existing sites, roads, footpaths and cycle paths.	The provision would only be reasonable in the case of existing sites, roads, footpaths and cycle paths noting that new sensitive activities could locate adjacent existing primary production activity and constrain an existing activity. It would be unreasonable to apply this standard to an existing primary production activity. Existing use rights would not be sufficient to avoid conflict and reverse sensitivity operational constraints.
Noise			
Introduction	Oppose	Amend the introduction as follows: *Residential Zones anticipate quiet night-time conditions, as noise can disturb relaxation and sleep. Commercial and Mixed-Use Zones and Industrial Zones normally have a greater tolerance for noise that reflects the working environment. In the rural zones a range of animal and mechanical sounds often*	The introduction has an urban focus and would be improved by recognising and enabling noise associated with primary production.

		characterize the working nature of the rural environment	
NOISE-O1 Adverse effects	Oppose	Amend NOISE -O1 as follows: *Noise does not adversely affect human health, communities, natural values and ~~the anticipated amenity values of the receiving environment.~~ noise effects that are compatible with the role, function and predominant character of each receiving environment.*	Oppose the narrowness of the objectives focus on amenity values. Notably the policies address character but the objective does not.
NOISE-O2 Adverse effects	Oppose	Amend NOISE-O2 as follows: *The operation of regionally significant infrastructure and strategic infrastructure, activities within Rural Zones, Commercial and Mixed Use Zones an Industrial Zones and identified existing activities are not adversely affected by reverse sensitivity effects from noise sensitive activities.*	Oppose the urban and infrastructural focus of the objective and lack of a policy framework to address reverse sensitivity effects associated with noise in the rural zones.
Noise – P1 Minimising adverse noise effects	Oppose	Amend NOISE-P1 as follows: *Minimise adverse noise effects by:* *~~limiting~~ controlling the noise level, location, duration, time, intensity and any special characteristics of noise generating activities, to reflect the function, character and amenity values of each zone*	Adverse effects are minimised by controlling not limiting the noise level, location, duration, time, intensity and any special characteristics of noise generating activities.
Noise-R7 Temporary, mobile or intermittent agriculture activities emitting noise for cultivation,	Oppose	Delete Noise-R7and replace with a rule framework that includes intensive primary production activities.	Not deemed agriculture under the proposed plan, Noise-R7 explicitly excludes intensive primary production activities (indoor or outdoor) from the rule framework despite these activities relying on temporary, mobile or intermittent activities emitting noise for cultivation, application of fertiliser, planting, harvesting, use of vehicles or equipment, and movement, handling and transport of livestock.

application of fertiliser, planting, harvesting, use of agricultural vehicles or equipment, and movement, handling and transport of livestock			
PART 3 – AREA SPECIFIC MATTERS			
RURAL ZONES			
RURZ – General Objectives and Policies for all Rural Zone			
RURZ – Introduction			
Introduction	Support in Part	Amend introduction as follows: *The purpose of the chapter is to enable a range of primary production activities, including pastoral farming, livestock, intensive primary production, horticulture and forestry as well as other activities that rely on or support the natural resources within rural areas.* *The General Rural Zone, which encompasses the largest proportion of the rural area of the District is used primarily for primary production*	Aligning with the General Rural Zone description of the National Planning Standards, the Introduction would benefit from describing the zone as used primarily for primary production including intensive primary production. The change aligns with the principal reasons for adopting policies and methods stated in the GRUZ.
RURZ – Objectives			
RURZ -O1 Rural Environment	Support	Retain as proposed.	Support an objective that seeks an environment with a predominant land use character comprising primary production activities.
RURZ -O2 Activities in Rural Zones	Support	Retain as proposed.	Support a short clear objective that seeks to ensure rural Zones support primary production activities, activities which directly support primary production, and activities with a functional need to be located within Rural Zones.
RURZ – Policies			

RURZ -P1 Amenity and Rural Character	Support	Retain as proposed.	Support the rural amenity values and character outcomes sought. In particular: - requiring separation between buildings on adjoining properties to maintain privacy and a sense of openness; - retaining generally low levels of signs, noise, traffic, odour, outdoor lighting, and built form from activities while recognising that in association with primary production and rural industry, which are part of the character of each rural zone that: there may be seasonal, short term or intermittent odour, noise, dust, traffic and outdoor lighting effects; and large buildings may have a functional need.
RURZ -P2 Rural Land	Support	Retain as proposed.	Support policy that seeks to maintain the availability and life supporting capacity of land in recognition of its importance for undertaking primary production. Intensive primary production activities (both indoor and outdoor) may, by locational necessity, be situated on highly productive land where there are economic and operational benefits associated with concentrating such enterprises in specific rural localities.
RURZ -P5 Minor residential units	Support	Retain as proposed.	Support policy for minor residential units noting these are critical to provide for farm workers accommodation in the rural zone.
RURZ -P8 Reverse sensitivity	Support in Part	Amend RURZ-P8 as follows: *Minimise the potential for reverse sensitivity effects by:* 1. *avoiding the establishment of any new sensitive activity near existing intensive*	Support a policy approach that seeks to avoid the establishment of any new sensitive activity near existing intensive primary production activities in circumstances where the new sensitive activity may compromise the operation of the existing activities. Also support policy that seeks to ensure adequate separation distances between existing sensitive activities and new intensive primary production activities as a reciprocal response.

		~~indoor~~ primary production activities, ~~intensive outdoor primary production activities~~, waste management facilities, quarrying activities, mining activities, and rural industry in circumstances where the new sensitive activity may compromise the operation of the existing activities; 2. *managing the establishment of new sensitive activities near other primary production activities;* 3. *ensuring adequate separation distances between existing sensitive activities and new intensive ~~indoor~~ primary production activities, ~~intensive outdoor primary production activities~~, quarrying activities, mining and rural industry; and*	
GRUZ – General Rural Zone			
GRUZ – Introduction			
Introduction	Support in part.	The purpose of the General Rural Zone as set out in the introduction is to be consistent with GRIUZ-O1.	Support a purpose of the General Rural Zone as described in the introduction is to provide for primary production activities, those activities that support rural activities and those activities that rely on the natural resources that exist within the zone. However, the purpose set out in the introduction, confusingly is different to that set out in GRUZ-O1, notably omitting a reference to physical resources or land fragmentation.
GRUZ – Objectives			
GRUZ -O1	Support in part.	Amend GRUZ-O1 as follows: *~~Natural and physical resources and~~ Pprimary production activities which contribute to*	There are interpretation issues with the objective structure through reference to Natural and Physical Resources dominating.

		the District's rural productive economy <u>and rely on the natural and physical resources of the rural environment</u> dominate while fragmentation of land into small rural parcels is restricted.	
GRUZ – Policies			
GRUZ -P1	Support	Retain as proposed.	Support a clear description of the character of the General Rural Zone where primary production is the predominant landuse noting that primary production includes intensive primary production.
GRUZ -P2	Support	Retain as proposed.	Support clear policy on limiting land fragmentation to particular circumstances where adverse effects on primary production are avoided.
GRUZ – Activity Rules			
GRUZ-R2 Primary production	Support	Retain GRUZ-R2 as proposed.	Support a permitted activity status for primary production activities.
GRUZ-R4 Minor residential unit	Support in part	Amend GRUZ-R4 as follows. *where:* • *<u>In the case of a minor residential unit used for farm workers accommodation:</u>* - *<u>limited to a maximum GFA of 120m^2 (exclusive of garages, and decks); and</u>* - *<u>must share vehicle access with the principal residential unit on the site.</u>*	Support the provision of a minor residential unit. Oppose the limitation of a minor residential unit for a farm worker to a GFA of 90m^2. This is an impractical limitation on farming units particularly intensive primary production activities where farm workers (and families) are typically required to live onsite and not in a seasonal working arrangement. The non-complying activity pathway for non-compliance is an appropriate resource management response for the scale and likely effect of this activity which should be accommodated in the permitted activity standards.
GRUZ-R7 Visitor Accommodation	Oppose	Delete GRUZ-R7 or change activity status.	Oppose the permitted activity status for visitor accommodation in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response in this zone.

GRUZ-R13 Conservation activities	Oppose	Delete GRUZ-R13 or change activity status.	Oppose the permitted activity status for conservation activities in the GRUZ. The activity definition includes a range of activities that would involve people and visitors into the rural environment that are potentially sensitive to the effects of primary production activities e.g., retail, nurseries, environmental research and education activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response in this zone.
GRUZ-R14 Recreation activities	Oppose	Delete GRUZ-R14 or change activity status.	Oppose the permitted activity status for recreation activities in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response in this zone.
GRUZ-R15 Rural tourism	Oppose	Delete GRUZ-R15 or change activity status.	Oppose the permitted activity status for rural tourism in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response in this zone. Notably the permitted activity standards consider a setback necessary from a residential unit, or other sensitive activity but, with the exception of a 10m yard setback, no consideration of the activity situation relative to intensive primary production is considered.
GRUZ-R17 Intensive Indoor Primary Production	Support in Part / Oppose in Part	Combine GRUZ-R17, GRUZ-R18 into one new rule covering Intensive Primary Production Retain Activity Status: RDIS	Support the restricted discretionary activity status for Intensive Primary Production where minimum conditions are met.
GRUZ-R18 Intensive Indoor Primary Production	Support in Part / Oppose in Part	Combine GRUZ-R17, GRUZ-R18 into one new rule covering Intensive Primary Production Retain Activity Status: RDIS	Support the restricted discretionary activity status for Intensive Primary Production where minimum conditions are met.
GRUZ-R21 Equestrian and	Support	Retain GRUZ-R21 activity status as proposed.	Support the restricted discretionary activity status for Equestrian and ancillary activities and facilities in the GRUZ. These are sensitive

ancillary activities and facilities			activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ- R22 Farmers market	Support	Retain GRUZ-R22 activity status as proposed.	Support the restricted discretionary activity status for farmers markets in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ- R25 Educational facility	Support	Retain GRUZ-R25 activity status as proposed.	Support the discretionary activity status for educational facilities in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ- R26 Community facility	Support	Retain GRUZ-R26 activity status as proposed.	Support the discretionary activity status for community facilities in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ- R27 Wedding and event facility	Support	Retain GRUZ-R27 activity status as proposed.	Support the discretionary activity status for wedding and event facilities in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ- R28 Cemetery and funeral related services and facility	Support	Retain GRUZ-R28 activity status as proposed.	Support the discretionary activity status for Cemetery and funeral related services and facilities in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ- R31 Waste management facility	Support	Retain GRUZ-R31 activity status as proposed.	Support the discretionary activity status for Waste management facilities in the GRUZ. These are activities likely to conflict with all primary production activities, particularly in regard to biosecurity. The

			activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ- R33 Recreation facilities	Support	Retain GRUZ-R33 activity status as proposed.	Support the discretionary activity status for Recreation facilities in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ-R34 Camping ground	Support	Retain GRUZ-R34 as proposed.	Support the discretionary activity status for camping grounds in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ-R36 Sports shooting facility	Support	Retain GRUZ-R36 as proposed.	Support the discretionary activity status for sports shooting facility in the GRUZ. These are activities likely to conflict with all primary production activities particularly in terms of bringing people into the working rural environment and also stock disturbance. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
GRUZ-R37 Any other activity not provided for in this zone as a permitted, controlled, restricted discretionary, discretionary, non-complying, or prohibited activity, except where expressly specified by a district wide provision	Support	Retain GRUZ-R37 as proposed.	Support the Discretionary Activity status for non-compliance.

GRUZ – Built Form Standards			
GRUZ-BFS5 Separation distances to and from intensive indoor primary production or intensive outdoor primary production activity or quarry	Support in part / opposed in part	Amend GRUZ-BFS5 as follows: *Any new ~~residential unit or minor residential unit or accessory building used for overnight accommodation~~ sensitive activity shall be set back a minimum of:* *a. 20m from any existing intensive ~~indoor~~ primary production ~~intensive outdoor primary production~~ activity where it is located on the same site;* *b. 300m from any existing intensive ~~indoor~~ primary production ~~or intensive outdoor primary production~~ activity where it is located on a site in different ownership;* *c. 300m from any existing farm quarry where it is located on a site in different ownership;* *d. 500m from any existing quarry where it is located on a site in different ownership.* *Setback distances shall be measured from the building footprint of any permanent building, enclosure or yard in which animals or poultry are held, or any area of the site where compost is produced, stored or used, or any area of the site where quarrying activity occurs.* Activity status when compliance not achieved: ~~RDIS~~ NC	Separation distances to and from intensive primary production activity is supported but the standard should be extended to all Sensitive Activities. Furthermore, the restricted discretionary activity status is not commensurate with the potential conflict from non-compliance and potential of an activity to undermine the plan integrity. Notably the non-compliance activity status is not consistent with that of establishing an intensive primary production activity. A non-complying activity status signals the non-compliance is a significant concern, should be discouraged and provides for a robust assessment (including s104D gateway, policy framework and RPS) and likely notified decision-making process with the issue of interest to the wider rural sector.

GRUZ-BFS6 Gross floor area	Oppose	Provide relief from the rules for buildings and structures as they might apply to mobile pig shelters	NZ Pork is concerned that Mobile Pig Shelters (being partially or fully roofed) would fall within the definition of building and structure. The plan should provide relief from the rules for buildings and structures as they might apply to mobile pig shelters. These shelters are a critical part of the pig farming system and can be of a variety of forms.
RLZ – Rural Lifestyle Zone			
RLZ – Introduction			
Introduction	Support in part.	The purpose of the Rural Lifestyle Zone as set out in the introduction is to be consistent with RLZ-O1.	Support the purpose of the Rural Lifestyle Zone as described in the introduction is to provide for primary productive activities, those activities that that support rural activities and those that rely on the natural resources that exist in the zone, while recognising that the predominant character is derived from smaller sites. However, the purpose set out in the introduction, confusingly is different to that set out in RLZ-O1, notably omitting a reference to physical resources and a change in terminology from 'providing' for primary production activities, to stating that they 'occur' in the zone. The purpose is an accurate description of the environment. NZPork do have concerns with the plans use of the Rural Lifestyle Zone and the robustness of the zone framework noting an inconsistency with the description of this zone as set out in the National Planning Standards: *Rural Lifestyle Zone: Areas used predominantly for a residential lifestyle within a rural environment on lots smaller than those of the General rural and Rural production zones, while still enabling primary production to occur.* If the intent in the PWDP is not that this area is used predominantly for a residential lifestyle then an alternative planning approach could be to apply a General Rural Zone with precinct provisions relating to subdivision. A plan user would naturally assume residential lifestyle outcomes including amenity and character would be predominant and

			this will conflict with primary production. The approach of adopting a Rural Lifestyle Zone for this area must be supported by a robust framework to protect and enable existing primary production activity.
RLZ – Objectives			
RLZ -O1	Support in Part	Amend RLZ-O1 as follows: *<u>Provide for</u> Primary production activities and activities reliant on the natural and physical resources of the rural environment ~~occur~~ while recognising that the predominant character is small rural sites with a more intensive pattern of land use and buildings than the General Rural Zone.*	Support a clear objective while noting concerns with the inconsistency with the objective of this zone with the purpose set out in the introduction.
RLZ – Policies			
RLZ -P1 Character of the Rural Lifestyle Zone	Oppose in part	Amend RLZ-O1 as follows: *Character of the Rural Lifestyle Zone* *Maintain the character in the Rural Lifestyle Zone which comprises:* 1. *a highly modified landscape strongly influenced by fine grained patterns and processes of human induced activity, including a predominance of small rural lots with a resulting pattern of residential units, buildings, fencing, amenity and domestic planting mixed with ~~smaller scale~~ primary production activities;* 2. *a dominance of human modified open space and vegetation, including paddocks and trees over buildings; and*	The policy definition of the character of the zone should refer to intensive and small-scale primary production activities characterising the zone. There are 10 pig farms in the Waimakariri district, a mix of indoor and outdoor. It is the second largest pig farming district in New Zealand terms of farm numbers. Half of those farms are located in the proposed Rural Lifestyle Zone. This primary production activity like others in the proposed Rural Lifestyle Zone cannot be considered small scale.

		3. *a zone supporting activities reliant on the natural and physical resources of the Rural Lifestyle Zone.*	
RLZ-P2	Support in part	Amend RLZ-P2 as follows: 4. *Activity setback and separation distance requirements are met.*	Support clear policy that seeks to avoid new sites being created, or residential units being erected on sites, unless in specified circumstances. To further retain land for primary production, support primary production, avoid reverse sensitivity and achieve the zone outcomes sought, the policy would be improved by identifying a need to meet setback and activity separation requirements.
RLZ – Activity Rules			
RLZ-R2 Primary production	Support	Retain RLZ-R2 as proposed.	Support a permitted activity status for primary production activities.
RLZ-R4 Minor residential unit	Support in part	Amend RLZ-R4 as follows. *where:* • *In the case of a minor residential unit used for farm workers accommodation:* - *limited to a maximum GFA of 120m^2 (exclusive of garages, and decks); and* - *must share vehicle access with the principal residential unit on the site.*	Support the provision of a minor residential unit. Oppose the limitation of a minor residential unit for a farm worker to a GFA of 90m2. This is an impractical limitation on farming units particularly intensive primary production activities where farm workers (and families) are typically required to live onsite and not in a seasonal working arrangement. The non-complying activity pathway for non-compliance is an appropriate resource management response for the scale and likely effect of this activity which should be accommodated in the permitted activity standards.
RLZ-R7 Visitor Accommodation	Oppose	Delete RLZ-R7 or change activity status.	Oppose the permitted activity status for visitor accommodation in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response in this zone.
RLZ-R13	Oppose	Delete RLZ-R13 or change activity status.	Oppose the permitted activity status for conservation activities in the RLZ. The activity definition includes a range of activities that would

Conservation activities			involve people and visitors into the rural environment that are potentially sensitive to the effects of primary production activities e.g., retail, nurseries, environmental research and education activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response in this zone.
RLZ-R14 Recreation activities	Oppose	Delete RLZ-R14 or change activity status.	Oppose the permitted activity status for recreation activities in the GRUZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response in this zone.
GRUZ-R15 Rural tourism	Oppose	Delete RLZ-R15 or change activity status.	Oppose the permitted activity status for rural tourism in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response in this zone. Notably the permitted activity standards consider a setback necessary from a residential unit, or other sensitive activity but,with the exception of a 10m yard setback, no consideration of the activity situation relative to intensive primary production is considered.
RLZ-R18 Intensive Indoor Primary Production	Support in Part / Oppose in Part	Combine RLZ-R18, RLZ-R19 into one new rule covering Intensive Primary Production Retain Activity Status: RDIS	Support the restricted discretionary activity status for Intensive Primary Production where minimum conditions are met.
RLZ-R19 Intensive Indoor Primary Production	Support in Part / Oppose in Part	Combine RLZ-R18, RLZ-R19 into one new rule covering Intensive Primary Production Retain Activity Status: RDIS	Support the restricted discretionary activity status for Intensive Primary Production where minimum conditions are met.
RLZ-R22 Equestrian and ancillary activities and facilities	Support	Retain RLZ-R22 activity status as proposed.	Support the restricted discretionary activity status for Equestrian and ancillary activities and facilities in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a

			permitted activity rule as being an appropriate resource management response.
RLZ- R23 Farmers market	Support	Retain RLZ-R23 activity status as proposed.	Support the restricted discretionary activity status for farmers markets in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
RLZ- R26 Educational facility	Support	Retain RLZ-R26 activity status as proposed.	Support the discretionary activity status for educational facilities in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
RLZ- R27 Community facility	Support	Retain RLZ-R27 activity status as proposed.	Support the discretionary activity status for community facilities in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
RLZ - R28 Wedding and event facility	Support	Retain RLZ -R28 activity status as proposed.	Support the discretionary activity status for wedding and event facilities in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
RLZ - R29 Cemetery and funeral related services and facility	Support	Retain RLZ -R29 activity status as proposed.	Support the discretionary activity status for Cemetery and funeral related services and facilities in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
RLZ - R32 Waste management facility	Support	Retain RLZ -R32 activity status as proposed.	Support the discretionary activity status for Waste management facilities in the RLZ. These are activities likely to conflict with all primary production activities, particularly in regard to biosecurity. The activities are not supported by an objective and policy structure that leads to a

			permitted activity rule as being an appropriate resource management response.
RLZ - R34 Recreation facilities	Support	Retain RLZ -R34 activity status as proposed.	Support the discretionary activity status for Recreation facilities in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
RLZ -R35 Camping ground	Support	Retain RLZ -R35 as proposed.	Support the discretionary activity status for camping grounds in the RLZ. These are sensitive activities likely to conflict with all primary production activities. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
RLZ -R37 Sports shooting facility	Support	Retain RLZ -R37 as proposed.	Support the discretionary activity status for sports shooting facility in the RLZ. These are activities likely to conflict with all primary production activities particularly in terms of bringing people into the working rural environment and also stock disturbance. The activities are not supported by an objective and policy structure that leads to a permitted activity rule as being an appropriate resource management response.
RLZ -R38 Any other activity not provided for in this zone as a permitted, controlled, restricted discretionary, discretionary, non-complying, or prohibited activity, except where expressly specified by a district wide provision	Support	Retain RLZ -R38 as proposed.	Support the Discretionary Activity status for non-compliance.
RLZ – Built Form Standards			

RLZ-BFS5 Separation distances to and from intensive indoor primary production or intensive outdoor primary production activity or quarry	Support in part / opposed in part	Amend RLZ-BFS5 as follows: *Any new ~~residential unit or minor residential unit or accessory building used for overnight accommodation~~ sensitive activity shall be set back a minimum of:* *e. 20m from any existing intensive ~~indoor~~ primary production~~, intensive outdoor primary production~~ activity where it is located on the same site;* *f. 300m from any existing intensive ~~indoor~~ primary production ~~or intensive outdoor primary production~~ activity where it is located on a site in different ownership;* *g. 300m from any existing farm quarry where it is located on a site in different ownership;* *h. 500m from any existing quarry where it is located on a site in different ownership.* *Setback distances shall be measured from the building footprint of any permanent building, enclosure or yard in which animals or poultry are held, or any area of the site where compost is produced, stored or used, or any area of the site where quarrying activity occurs.* Activity status when compliance not achieved: ~~RDIS~~ NC	Separation distances to and from intensive primary production activity is supported but the standard should be extended to all Sensitive Activities. Furthermore, the restricted discretionary activity status is not commensurate with the potential conflict from non-compliance and potential of an activity to undermine the plan integrity. Notably the non-compliance activity status is not consistent with that of establishing an intensive primary production activity. A non-complying activity status signals the non-compliance is a significant concern, should be discouraged and provides for a robust assessment (including s104D gateway, policy framework and RPS) and likely notified decision-making process with the issue of interest to the wider rural sector.
RLZ-BFS6 Gross floor area	Oppose	Provide relief from the rules for buildings and structures as they might apply to mobile pig shelters	NZ Pork is concerned that Mobile Pig Shelters (being partially or fully roofed) would fall within the definition of building and structure. The plan should provide relief from the rules for buildings and structures as

			they might apply to mobile pig shelters. These shelters are a critical part of the pig farming system and can be of a variety of forms.
Matters of Discretion for all Rural Zones			
RURZ-MD2 Housing of animals	Support in part	Amend RURZ-MD2 as follows: *Housing of animals* 1. *The extent to which the nature and scale of activity, including the number and type of animals is consistent with the characteristics of the proposed site and the receiving environment.* 2. *Any measures to internalise adverse effects and avoid conflict and potential reverse sensitivity effects on activities anticipated in the zone.* 3. *The extent to which the activity, including any buildings, compounds, or part of a site used for housing animals are sufficiently designed and located or separated from sensitive activities, residential units, and boundaries of residential zones to avoid adverse effects on residents.* 4. *The extent to which the nature and scale of the activity and built form will maintain rural character and amenity values.* 5. *The potential for the activity to produce adverse effects, including dust, noise, odour, and any measures to internalise*	The matters of discretion would be improved through reference to adherence to relevant industry guidelines and good management practices.

		adverse effects within the site, and any mitigation measures to address effects that cannot be internalised. 6. *Access and vehicle movements on the site and the safety and efficiency of the roading network.* 7. *<u>Adherence to relevant industry guidelines and good management practices.</u>*	
RURZ-MD3 Character and amenity values of the activity	Support in part	Amend RURZ-MD3 as follows: *Character and amenity values ~~of the activity~~* 1. *The use, intensity and scale of the operation on the site and the built form is compatible with and maintains rural character and amenity values of the surrounding zone.* 2. *The extent to which the site layout and building design and intensity of the activity will internalise and mitigate effects including noise, lighting, impact on privacy and traffic.* 3. *The extent to which the activity/facility has a practical or functional need or operational need to be located in the area.* 4. *The extent to which the activity may result in conflict and/or reverse sensitivity effects with other <u>permitted</u>*	The criteria could be improved to: a) Identify that it is not the character and amenity values of the activity that is being considered but the effects of that activity on character and amenity values. b) Address reverse sensitivity on lawfully established activities not limited to adjacent sites. c) Require consideration of alternative locations.

		<u>and lawfully established</u> activities occurring on ~~adjacent~~ rural sites. *5. Any benefits derived from the activity being undertaken on the site.* *6. The extent to which the scale of the activity will cause demands for the uneconomic or premature upgrading or extension of the three waters reticulation network, roading, street lighting and footpaths.* *7. Access and vehicle movements on the site and the safety and efficiency of the roading network.* *8. The extent to which the adverse effects of the activity can be avoided, remedied and mitigated.* 9. *<u>The extent to which alternative locations have been considered.</u>*	
RURZ-MD8 Setbacks	Support in part	Amend RURZ-MD8 as follows: *Setbacks* *1. The extent to which building design, siting and external appearance adversely impacts on rural character and amenity values.* *2. Site topography and orientation and the extent to which the building or structure can be more appropriately located.*	The criteria could be improved to: a) Address reverse sensitivity on lawfully established activities not limited to adjacent sites. b) Provide clear matters of discretion associated with infringements relating to sensitive activities in proximity to intensive primary production. c) Require consideration of alternative locations.

		3. *The effect on nearby properties, including outlook, privacy, shading and sense of enclosure.* 4. *The extent to which the reduction in the setback is necessary due to the shape or natural and physical features of the site.* 5. *The need for the setback breach to allow more efficient or practical use of the remainder of the site or the long-term protection of notable trees, historic heritage items or natural features on the site.* 6. *The extent to which the activity may result in conflict and/or reverse sensitivity effects with other permitted or lawfully established activities occurring on ~~adjacent~~ rural ~~properties~~ sites.* 7. *The likelihood of the proposed activity to generate reverse sensitivity effects on the intensive primary production activity and the potential impact these effects may have on the continuing effective and efficient operation of the intensive primary production activity.* 8. *The extent to which any reduced boundary setback will result in potential for activities within the building to give*	

		rise to disturbance to neighbours or nuisance effects. 9. *With respect to a road setback, any adverse effects on the efficient and safe functioning of the road.* 10. *The extent to which alternative locations have been considered.*	

New Zealand PORK

PORK INDUSTRY GUIDE

Environmental Management

2nd Edition revised March 2017

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Acknowledgment

The New Zealand Pork Industry Board (NZPork) would like to thank the following people and groups for providing their knowledge and expertise during the development of the first edition of this guide:

- Environment Canterbury
- Federated Farmers of New Zealand
- Massey University
- Ministry for the Environment - Sustainable Industry Group
- NZPork Directors, Delegates, pork producers who were part of the Working Party, and a cross section of producers throughout the industry.

Important Note: This guide replaces EnviroPork™: pork industry guide to managing environmental effects (2005) which superseded New Zealand Pork Industry Board Code of Practice – Pig Farming (1997). Both of these documents may be referenced in regional council publications.

Edition 1: 2005
Edition 2: March 2017

Introduction

This guide provides pork producers, council officers, persons looking to enter into the pork industry, and other stakeholders a reference for acceptable practices to managing the environmental impacts of pork production. Specific information on nutrient management is covered in the Good Practice Guide – Nutrient Management in Pork Production which is available at www.nzpork.co.nz .

Pig farming (pork production) has long been an integral part of the rural scene in New Zealand. The pork industry supply chain contributes in excess of one billion dollars to the New Zealand economy.

Pig farms can be classified as being 'indoor', 'intensive', 'outdoor', 'extensive', 'dispersed' or 'hobby/lifestyle'. Over recent years the number of commercial farms has decreased, but the size of the sow herds are steadily increasing. This guide is applicable for all types of piggeries including smaller herds.

Environmental requirements should always be considered alongside the current Animal Welfare (Pigs) Code of Welfare and PigCare™ standards.

Site Selection

Many environmental issues can be avoided through good planning and site selection. Depending on your location the city or district council will define the areas (zones) for farming activities within the district plan. Each zone will have its own set of rules. The regional council also has regional rules that are documented within the relevant regional plans. Keep in mind that many councils will have an operative plan as well as a draft proposed plan. It is best to consider the proposed plan requirements to future proof your investment. Below is a list of items to consider during the environmental planning stages of a new venture:

- ✔ District plan zones
- ✔ Regional plan (air, land, water and coastal) rules including proposed rules
- ✔ Contaminated site status with the regional council
- ✔ Location of community drinking water supply
- ✔ Existing resource consent conditions and expiry dates
- ✔ Reliable water supply
- ✔ Access to electricity
- ✔ Weather
- ✔ Terrain
- ✔ Soil types
- ✔ Existing drainage systems
- ✔ Land area to meet the council buffer zones
- ✔ Sensitive neighbours or communities
- ✔ Cultural and spiritual considerations

Most New Zealand councils provide links to local online mapping tools. The property address can be searched on the map and 'overlays' added including existing consents, fish habitats, wells, rivers, streams, wetlands, nutrient allocation zones etc.

The New Zealand Historic Places Trust has published an extensive list of important cultural and historic sites and their location. The list is available online at: http://www.heritage.org.nz/the-list

Current and potential future reverse sensitivity issues should be considered when planning a new farm or expansion of an existing farm. Current concerns include nutrients, dust and odour.

Compliance Obligations

Pork production triggers a number of compliance obligations from both regulators and stakeholders. The section below outlines the main environmental compliance obligations for New Zealand pork producers. See Appendix A for a list of all the current legislation that is relevant to pork production in New Zealand.

The Resource Management Act

The Resource Management Act (RMA) is New Zealand's main piece of legislation that sets out how we should manage the environment. The RMA come into force in October 1991 and is currently being under review. This effects-based legislation focuses on the effects of any farming activities and requires any adverse effects to be avoided, remedied or mitigated.

The RMA provides regional and territorial authorities (district/city councils) with opportunities to manage the effects of activities such as pig farming to promote sustainable management. The types of rules councils may use in their plans and the types of resource consent a pork producer may require are summarised in the table below.

Table 1. Summary of activity and resource consent type requirements on local authorities under the RMA.

Local Authority	Types of Resource Consent	Type of Activity Rules in Council Plans
District/City Council	Land use consent - anything requiring consent under a district plan (most rural activities). Subdivision consent - includes leases, cross leases and unit titles.	Permitted activity allowed without a consent provided they comply with standards, terms and conditions in the plan. Controlled activity - will be granted a consent subject to conditions on the matters specified in the plan. Restricted discretionary activity – may be granted consent based on the authority's consideration of specified matters. Discretionary activity – may be granted a consent based on the authority's consideration of the application overall. Non-complying activity - contravenes the plan or is not specifically referred to, a consent may be granted if adverse effects on the environment
Regional Council	Land use consent – for activities on a lake or river bed, and also for certain activities requiring consent under a regional plan such as farming activities. Water consent - for taking, using, damming or diverting water. Discharge consent - for discharging water or contaminants into water, into or onto land or into air. Coastal consent - for any of the above activities other than subdividing land in a coastal marine area.	

		are minor and the activity is not contrary to the objectives and policies of the plan. Prohibited activity - cannot apply for a consent.

Pork producers and other persons having an interest in the establishment and/or expansion of a pig farm are strongly advised, at an early stage, to contact their local Regional and District Councils to seek compliance requirements with local rules relating to pig farms. The council maps and websites are available at: http://www.lgnz.co.nz/home/nzs-local-government/new-zealands-councils/

Under the Building Act a building consent will be required for all new buildings, additions to old buildings and, in some districts, effluent ponds.

What is an Effect?

The Resource Management Act requires all activities that have an effect on the environment need to be considered and planned for by district and regional councils. The RMA states that an 'effect' includes:

- Positive or adverse effects
- Temporary or permanent effects
- Past, present or future effects
- Cumulative effect which arises over time or in combination with other effects
- Any potential effect of high probability
- Any potential effect of low probability, which has a high potential impact.

Common Environmental Effects

This guide provides information so that pork producers' activities are aligned with the sustainable development goals of the RMA and Local Government Act.

This guide makes a distinction between 'effluent' and 'manure'. The term 'effluent' is defined as everything excreted by pigs (both solid and liquid). It also includes bedding, water used to hose, flush and clean piggery buildings. Manure is defined as being everything that is applied to land (once again including both solid and liquid parts). Once the effluent has been collected and/or processed, it then becomes manure if applied to land because of its benefits to soil structure and nutrient supply.

A major concern of the pork industry is the use of rural land for non-traditional purposes, such as rural subdivision. It is important to recognise that pig farming is a legitimate rural activity. Residential encroachment into the countryside can threaten this long-standing legitimacy. If residents' expectations mean a pig farm cannot operate within the rural area, this will threaten the sustainability of the pork industry. This concept is called Reverse Sensitivity and is now a recognised 'effect' (see Table 2), with many councils beginning to include controls for reverse sensitivity in their plans.

Table 2. Summary of potential effects of pig farming on the environment

Activity	Potential Effect	Potential Solution
Piggery Location	• Loss of productive soils • Odour, dust and noise emissions • Visual impact • Birds and rodents	• Appropriate design and landscaping • Appropriate zoning • Suitable climate, topography, soil type • Pest control
Piggery Design	• Odours • Pathogens • Nutrient leaching and runoff • Visual impact • Birds and rodents	• See solutions above • Drainage • Effluent processing systems • Nutrient management • Landscaping • Pest control
Piggery Operations	• All of the above	• Staff skill/ stockmanship • Hygiene • Maintenance
Public Relations	• Public perceptions of pork production	• Communication and cooperation* • Sensitivity to other activities

* Consultation with neighbours and/or Runanga may be required as part of a resource consent application.

Producers and other persons having an interest in the establishment and/or expansion of a pig farm are strongly advised, at an early stage, to contact their local Regional and City/District Councils to seek compliance requirements with local rules relating to pig farms.

Under the Building Act a building consent will be required for all new buildings, additions to old buildings and, in some districts, effluent ponds. See Appendix A for a list of all the legislation that is relevant to pig farming in New Zealand.

Treaty of Waitangi

The principles of the Treaty of Waitangi must be taken into consideration in decision making under the Resource Management Act.

Maori spiritual values are a primary concern of the Treaty of Waitangi. Maori consider that waste water is purified by being returned to the earth. Such a practice remains a very practical, environmentally sound option for disposing of manure. Maori concerns, ancient in origin and expressed in spiritual terms, are in many respects a forerunner of environmental law in New Zealand. Consultation with iwi in your area may be a part of obtaining a resource consent and the council will need to assess if your farming activities have taken into account the principles of the Treaty of Waitangi when making a decision on your resource consent application.

Regional Councils may also develop their own requirements for catchments that might be incorporated in a farm environmental plan such as mahinga kai management areas.

More information on the Treaty of Waitangi obligations can be found at the Quality Planning website:

http://www.qualityplanning.org.nz/index.php/plan-development-components/consultation-with-tangata-whenua/context-for-consultation-with-tangata-whenua

Stakeholder Requirements

There may be other compliance obligations that are not New Zealand legal requirements but are a condition of supply or trade or demonstrate commitment to the local community's values. These requirements are often documented in your contract with the stakeholder or may form part of a supply Code of Practice. Some communities may have developed a voluntary environmental accord such as those from a local stream care group. There may also be credence attributes that consumers expect from a product such as environmental stewardship even though they can't see them and could lead to participation of the farm in third-party certification.

Good Management Practices: Outdoor Pigs

Outdoor Piggeries

Farming of pig's outdoors is dependent on a range of environmental factors. Free-draining soil, low rainfall, ready access to straw for bedding and a temperate climate are all necessary for successful operation, which means that there are areas of New Zealand unsuitable for this system of production. Outdoor shelters can be purpose designed for a variety of functions including dry sow, farrowing, weaner and grower accommodation.

Factors to consider:

- ✔ Soil should be free draining.
- ✔ Pasture cover should be maintained throughout the year
- ✔ Recovery of pasture may require paddock rotation.
- ✔ Land area will depend on various factors including any nutrient management rules from the Council. In the absence of specific council requirements follow the GMP stocking rates.

NZPork was involved in the Matrix of Good Management project and the development of a set of *Industry-agreed Good Management Practices relating to water quality*. These Good Management Practices (GMPs) are applicable to all Canterbury farms and NZPork supports the adoption of the GMPs for all outdoor pig farms.

The current GMPs are listed in the table below located online at the Environment Canterbury farming website: http://www.canterburywater.farm/gmp/

Table 3. Good Management Practices for Outdoor Pigs (2015)

Good Management Practices (Outdoor Pigs)
Undertake a farm environment plan including a farm environment risk assessment
Maintain ground cover in accordance with GMP's below. Also farm on lower rainfall area. Outdoor pig production is on flat land (need flat land for huts) - therefore minimising the risk of runoff.
Exclude stock from natural waterways, drains, wetlands and water races that flow through the property. Install culverts or bridges at stock crossings.
If runoff from a paddock can get into a flowing waterway/drain an effective planted riparian margin is required
If runoff from tracks can get into a flowing waterway / drain, runoff management to prevent runoff from entering waterway. Place troughs, drinkers and gateways away from flow paths. Prevent runoff from wallows entering a waterway

Ground cover: For all dedicated outdoor pig units, or those in a pastoral rotation, the minimum ground cover is: • Dry and lactating sows (40% cover on 75% of land, < 40 % cover permissible of 25% land. • Each paddock to have on average >10% cover) and for farrowing sows (At least 70 %). • All outdoor pig units that form part of an arable operation the minimum ground cover is: for dry and lactating sows (25 % (100% to 0 % in 2 years)) and for farrowing sows (At least 70 %)
Reduce fallow, during and immediately after pig phase of rotation e.g. by planting catch crop
No NPK fertilizer to be applied to the pig breeding unit.
Apply any other fertilizer in accordance with the Fertiliser Association of New Zealand Code of Practice for Nutrient Management.
An appropriate diet and feed levels for physiological (reproductive) states of animal e.g. separate gestation diet and lactating diet (nutrition)
Dispose of dead stock in a biosecure manner. Site offal pits away from waterways and other sensitive areas such as bores (check in Council plan if there are guidelines.
Stocking rate: • Less than or equal to 17 total breeding animals/ha for a dedicated pig farm with no rotation. • Less than or equal to 21 total breeding animals/ha for a pig unit on a pastoral farm with rotation every 2 years (minimum of 2 year return period). • Less than or equal to 24 total breeding animals/ha for a pig unit on a pastoral farm with rotation every year (minimum of 1 year return period). • Less than or equal to 32 total breeding animals/ha for a pig unit on an arable farm with rotation at least every 2 years (minimum of 2 year return period)
No effluent to be spread on the breeder unit.
Housing dimension, area/sow and construction as per welfare standards under the Animal Welfare (Pigs) Code of Welfare (or equivalent legislation). Farrowing huts are shifted after each lactation.
Stock should have access to shelter in accordance with PigCare. Paddocks should be grazed top to bottom (ground slope). Stock should not be left on break feeding paddock when wet, or concentrated on small areas of paddock for long periods.

Source: Matrix of Good Management Project, 2015

Important Note: The GMPs will be reviewed periodically and it is expected that other councils may adopt them. This document will be updated accordingly. The latest list of GMPs will always be available on the NZPork corporate website (www.nzpork.co.nz).

There is currently no GMPs for indoor piggeries.

General Farm Management

There are a number of management techniques that can be used to minimise environmental effects. It is anticipated that a good producer will be able to achieve desired environmental outcomes through using a combination of management practices and systems, discussed below, that are best suited to their site.

Indoor Piggeries

Piggery location and building sites and manure application areas should be selected to minimise adverse effects.

Factors to consider:

- ✔ Compliance with council plans and application for a land use consent if required
- ✔ Surface run-off of manure should be controlled
- ✔ Proximity to sensitive activities
- ✔ Capacity of the area surrounding piggery to reduce potential nuisance
- ✔ Adequate land for buildings and effluent treatment with area available for expansion
- ✔ Land susceptible to flooding

Site layout/Building design

Building design can vary widely depending on the system for manure removal. This can be solid or liquid based. The most common types of housing systems for pigs are those with designed with deep litter bedding where the spent bedding is removed in a solid form or full/partially slatted floors based on a liquid manure system. Ventilation can range from a natural system to fully environmentally controlled ventilation.

Factors to consider:

- ✔ Flooring and other structure should be designed to be easily cleaned and to permit the efficient removal of all effluent.
- ✔ The specific regulatory requirements and standard should be adhered to, with regard to the general design and construction (Animal Welfare (Pigs) Code of Welfare.
- ✔ Permanent buildings on indoor piggeries should be constructed of materials having an expected service life of at least 10 years.
- ✔ Sheds should be sufficiently spaced from other buildings or trees for ventilation and dispersion of odour. For a new development, consideration of location and siting can be given more weight than when buildings are being added to an existing unit.
- ✔ Landscape design should result in the structures blending more readily into their surroundings.
- ✔ For a new development, consideration of location and siting can be given more weight than when buildings are being added to an existing unit.
- ✔ Landscape design should result in the structures blending more readily into their surroundings.

Drainage surrounding a piggery

It is important to divert storm water away from effluent streams.

Factors to consider:

- ✔ The effluent system should be designed to meet peak flow conditions.
- ✔ The effluent system should be maintained to ensure the integrity of the pipe work.
- ✔ Collected storm water can be stored for use for cleaning and/or as flushing water. Otherwise clean stormwater (i.e. rainwater) can be discharged by the most suitable means to a watercourse or ground soakage.
- ✔ Contaminated stormwater should be considered as forming a part of piggery effluent.
- ✔ Where ground cover is not maintained on outdoor pig farms there is a risk of erosion that can result in dust and runoff causing sedimentation in waterways.

Storage and disposal of containers and toxic substances

Producers will need to ensure they are compliant with the Hazardous Substances and New Organisms Act and associated regulations. Common hazardous substances used on the farm may include diesel, cleaning chemicals, rodent control, and herbicides/pesticides. If you import hazardous substances directly then there are requirement you must have provided your details to the Environment Protection Authority (EPA) (see http://www.epa.govt.nz/hazardous-substances/importing-manufacturing/Pages/default.aspx) and ensure that the substances have an EPA approval.

WorkSafe New Zealand are the regulator for the use and handling of hazardous substances in the workplace. Certain quantities of substances trigger regulations that may mean you need a location certificate, container certificate, approval handler, tracking, emergency plans, specific signage etc. You can check the requirements of common substances at: http://www.hazardoussubstances.govt.nz/

There are currently draft Health and Safety at Work (Hazardous Substances) Regulations 2016 which are due to come into effect in December 2017. These will replace a number of the Hazardous Substances and New Organisms Act regulations.

Small quantities of hazardous substances still require adequate secondary containment so they do not spill into waterways or onto land, a current Safety Data Sheet, appropriate personal protective equipment for substances that are corrosive, toxic or have the potential to have health impacts, and not be stored with incompatible substances and all flammables stored away from heat and ignition sources.

The Safety Data Sheet will state if there are any special disposal requirements for the substance. Many will just refer to the disposal being within the local council rules which means that there is no disposal to landfill or tradewaste system.

Factors to consider:

- ✔ Regional council requirements that go above the national legislation
- ✔ Obtain and read Safety Data Sheets (SDS) for all hazardous substances
- ✔ Inclusion of chemical use, storage and disposal in the farm health and safety systems
- ✔ Regular checks of personal protective equipment (PPE)
- ✔ Secure storage of all hazardous substances
- ✔ Secondary containment and bunding systems to catch any spills
- ✔ Flammables to be stored away from ignition sources
- ✔ Appropriate emergency procedures and emergency equipment e.g. fire extinguishers
- ✔ Clear labelling and signage

Managing the Effects of Discharging to Land and Water

Effluent Collection, Storage and Processing

There is a variation in the composition of raw pig manure across piggeries due to differences in pig diets, pig herd genetic makeup and 'on farm' conditions.

Given this variation, there are a number of systems used in New Zealand for effluent collection. Table 3 gives a description of these systems.

Table 4. Types of effluent collection systems

Collection system	Description of activity
Hydraulic	This system includes manual cleaning with hoses, flushing under slats, flushing open gutters (solid dunging channels) and under slat storage with periodic discharge (up to 3 weeks). The total volume of flush water required per day for adequate cleaning is dependent on many factors including: the availability and cost of water, building design, and effluent-handling system.
Mechanical	Scraper systems minimise the volume of effluent generated as they do not require water. These systems are used for off-site application of manure.
Solids Separation	Effluent can be separated into solid and liquid parts using sedimentation basins or screens. The most common system involves pumping the effluent over a wedge wire screen. The benefits of solid/ liquid separation of piggery effluent include: 10 - 30% reduction in Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) from the raw effluent, increased pump protection from large particles, allows liquid manure to infiltrate soil more quickly when irrigated, generates a solid by-product that can be composted. See table below.
Organic Bedding Matter	This is a housing system where the pigs are kept on a bedding or organic matter such as sawdust or straw. The effluent is slowly composted within the organic matter and is removed at regular intervals depending on the system used. This system has a number of benefits including: reduction in odour, little water required for cleaning/flushing, and the creation of a valuable compost product that can be applied to land or sold.

Factors to consider:

- ✔ Flushing, scraper blade and operating channel systems should be well designed and accurately dimensioned so minimal material is left in the drain.
- ✔ Routine management of the effluent collection system, including regular cleaning of screens, is essential for continued optimum effectiveness.
- ✔ Correct assessment of the flushing volume minimises the water use while ensuring adequate cleaning.

- ✔ Properly designed systems will minimise odour.
- ✔ In flushing systems, effluent should be removed, preferably at not greater than 24-hour intervals, from dung races and drains, including drains under slats.
- ✔ Collection/storage systems with effluent in pits under the shed will allow storage for a number of months before emptying (dependant on the design of the system).
- ✔ The use of pit fans to draw air down over the pits will minimise in shed odours.

Sumps/Storage Tanks

Sumps and storage tanks are used as temporary storage for effluent that has been collected from the piggery sheds. When applying for an effluent discharge consent the council may specify a particular standard that the tank needs to meet.

Factors to consider:

- ✔ Sumps and tanks should be made out of materials that are strong and corrosion resistant.
- ✔ When sizing sumps, consideration needs to be given to flushing frequency, volume, pumping frequency, pumping capacity and entry of storm water.

Pond systems and Biogas collection

Ponds are used for effluent processing on farm and may be anaerobic and/or aerobic. A pond treatment system comprising an anaerobic pond and aerobic pond in series can achieve up to 95% Biological Oxygen Demand (BOD) and up to 70% nitrogen reduction.

Pig effluent is a biomass feedstock and can be used to generate biogas which is converted to electricity. There are a number of successful examples of this on New Zealand pig farms. Australian Pork has developed a Code of Practice for On-farm Biogas Production and Use (Piggeries) which is available on their website at www.australianpork.com.au. There are also a number of publications available from Pork CRC as part of their Bioenergy Support Program (see http://porkcrc.com.au/research/program-4/bio-energy-support-program/).

The Energy Efficiency Conservation and Authority (EECA) have a funding programme which is updated annually. Further information is available on the EECA website www.eecabusiness.govt.nz.

Anaerobic (primary) ponds

Good pond design should reflect local climate, pig numbers (loading rate), piggery management systems and effluent pre-treatment systems. In areas where t

Factors to consider:

- ✔ At the time of construction, the anaerobic pond depth should be a minimum of 3-4 metres
- ✔ Ponds in permeable soils or high water table areas should be lined with a clay or synthetic liner to minimise the risk of leaching.
- ✔ Anaerobic ponds should be sited away from dwellings.
- ✔ Anaerobic ponds may need to be desludged depending on the loading rate, size/depth of pond, and if the effluent is screened.

Aerobic (secondary) pond

Aerobic ponds provide further breakdown of BOD, micro-organisms and nutrients in the presence of oxygen.

Factors to consider:

- ✔ Aerobic pond depth generally should not exceed 1.2 metres as a greater pond depth does not allow adequate sunlight for algal growth or sufficient surface area for oxygen diffusion.

Constructed wetlands

Constructed wetlands can be used as a polishing stage following aerobic pond treatment. The wetland allows for the uptake of further nutrients and organic matter. Well-designed and managed wetlands require low maintenance.

Organic bedding systems

These systems are a method of housing where the pigs are penned on a bed of sawdust, straw or other organic material. The bedding system contains all manure within the confines of the pen with material only being removed at intervals dependant on the management system.

Factors to consider:

- ✔ Water spillage into the bedding from drinkers should be avoided.
- ✔ Availability and cost of bedding material
- ✔ Greater space allowances per pig, compared to non-bedded systems.
- ✔ Utilisation of used bedding by spreading to land, composting, or sale off- farm.
- ✔ Well stockpiled used bedding is stable and will compost slowly.

Composting

Screened piggery effluent solids when combined with a carbon source such as sawdust or straw, or material from organic bedding systems can be successfully composted.

Factors to consider:

- ✔ Ensure the appropriate mix of water, carbon, nitrogen and oxygen is maintained.
- ✔ Aeration of the material will speed the composting process.
- ✔ Composting requires specific plant, machinery and adequate space.
- ✔ Composting operations must be located away from surface water or waterways. Regional councils often specify a separation distances in their regional rules.
- ✔ Composting operations should be located on impermeable surface so that nutrients do not leach to land.

Carcass disposal

If managed correctly, the disposal of carcasses will have a minimal effect on the environment. There are a range of disposal methods that can be used, such as composting, offal holes, or off farm rendering. It is important to check council plan rules as councils can vary in their approach to carcass disposal.

Treatment options	Advantages	Disadvantages
Offal pits	Simple Cost effective Easy to manage	May involve stricter condition from regional council Offal pit seepage can contaminate groundwater Predator and pest control is required
Composting	Useful product generated- added value. High composting temperature destroys pathogens and prevents fly incubation.	A reliable supply (cost) of carbon service, e.g. sawdust, shavings or straw is required Requires knowledge of composting. Predator and pest control is required (minimal)
Burial	Simple and cost effective	Predator and rat control required. Labour intensive. Can contaminate groundwater
Off-farm rendering	Unlikely to have significant adverse effects on the environment No further handling or labour input.	Only available in some areas Requires secure area to store carcasses before pickup Potentially expensive Strict rules regarding on-farm incineration (highly probable that these rules will be further tightened in the future).
Incineration	Carcass and pathogens are completely destroyed	Only applicable in some areas Potentially expensive Smoke can be an issue if using oil or diesel burners. Strict regional rules regarding on-farm incineration. May not be permitted in some areas except for Biosecurity Act purposes.

Source: adapted from the EMS for the New Zealand Pork Industry, 2005

A guide to carcass composting can be found on the New Zealand Pork corporate website: www.nzpork.co.nz

Application of Manure to Land

Most regional councils in New Zealand require producers to use systems that discharge pig manure to land. The nitrogen content of piggery manure is usually the major determinant of the land area required for application. In recent years, various councils have used 200kg N/hectare/year as a guide for applying effluent to land. However, using a nutrient budget may demonstrate that higher levels of nitrogen can be applied. As a general guide, the table below provides example nutrient content for fresh, untreated effluent from pigs.

Table 5. Predicted nutrient values of fresh, untreated effluent

Type of pig	No. for a typical 100-sow farrow-to-finish (26 weeks) piggery	Total solids (kg/hd/yr)	Total nutrient output (kg/yr)		
			N*	P	K
Gilt	5	197	12.0	4.6	4.0
Boar	5	186	15.0	5.3	3.8
Gestating sow	83	186	13.9	5.2	3.7
Lactating sow	17	310	27.1	8.8	9.8
Sucker	177	11.2	2.3	0.4	0.1
Weaner	253	422	3.9	1.1	1.1
Grower	249	54	9.2	3.0	2.4
Finisher	330	108	15.8	5.1	4.1
Total	**1,119**				

Source: adapted from Table 4.1 and 9.1, APL (2010)

*It is important to note that various systems for effluent collection, processing, and application to land can reduce the amount of nitrogen by as much as 90%. If using any form of effluent processing system, testing is recommended to determine specific NPK levels for the end product prior to application to land.

Land application of piggery manure can be used to:

- Apply nutrients to the soil and improve soil structure
- Reduce fertiliser costs
- Irrigate

Land suitability - Soil type and hydraulic loading

Factors to consider:

- ✔ Soil infiltration should be considered when determining application rate.
- ✔ Soil type and moisture holding capacity should be considered when determining application volume.
- ✔ Nutrient application should be balance with crop/pasture utilisation.
- ✔ Climatic factors
- ✔ High rainfall events will limit the amount of liquid manure that can be applied to land

Land application equipment

Manure can be applied to land using various types of equipment including: travelling irrigators, stationary irrigators, slurry tankers, and soil injectors.

Manure applied off farm

Where manure is applied to land off-farm this activity may be subject to the same resource consent controls as on-farm application (check with your regional council).

Managing Discharges to Air

Management practices should be adopted to minimise nuisance. Sections 2, 3 and 4 above also provide guidance in these management practices.

Odour

Odour can be an issue for pig farms and can cause adverse effects to neighbours. The Resource Management Act effectively requires that there should be no offensive or objectionable odour beyond the boundary of the farm. In recent years, case law has established that reverse sensitivity is a valid effect and should be considered by councils.

Some regional councils will require an intensive piggery to apply for an air discharge consent for odour originating from piggery buildings including effluent storage pits and food storage.

Determining the offensiveness of odour is complex and reliant on individual perception, council methods of measurement, and management practices of the pork producer. To determine whether an odour has an offensive or objectionable effect requires consideration of what is known as the FIDOL factors. Table 6 below described these factors.

Table 6. Description of the FIDOL factors

Frequency	How often an individual is exposed to the odour.
Intensity	The strength of the odour.
Duration	The length of exposure.
Offensive/character	The character relates to the 'hedonic tone' of the odour, which may be pleasant, neutral and unpleasant.
Location	The type of land use and nature of human activities in the vicinity of an odour source.

Source: Ministry for the Environment (MFE, 2016)

Australian Pork have produced guidelines for minimising odour from piggeries (APL, 2015a) which are relevant to the New Zealand situation. The guidelines go through a number of practical options for reducing odour the main areas that generate odour in indoor piggeries including:

- Indoor sheds
- Channel, drains and pipes
- Sumps
- Solids Separators
- Effluent Treatment ponds

Guidance is also provided by APL for rotational outdoor piggeries in the National Environmental Guidelines for Rotational Piggeries (APL, 2015b). Many of the anticipated effects can be mitigated through the site selection process. Details on methods for odour modelling and odour assessments sits within the Australian Pork National Environmental Guidelines for Piggeries (APL, 2010) available online at: http://australianpork.com.au/industry-focus/environment/national-environmental-guidelines-for-piggeries/

The Ministry for the Environment has produced the Good Practice Guide for Assessing and Managing Odour (MFE, 2016). While this is not specific to pig farming it is the official guide that is used by council staff, consultants and industry and is available online at: http://www.mfe.govt.nz/sites/default/files/media/Air/good-practice-guide-odour.pdf

Other Management Requirements

Monitoring of resource inputs

A Farm Environment Plan (FEP) and resource consent conditions will include monitoring requirements. There are also other items that can be monitored that have an environmental impact. Farmers may already be monitoring these from a cost perspective but it is a good idea to monitor quantities (units) with the aim of improving the efficiency of use of these inputs.

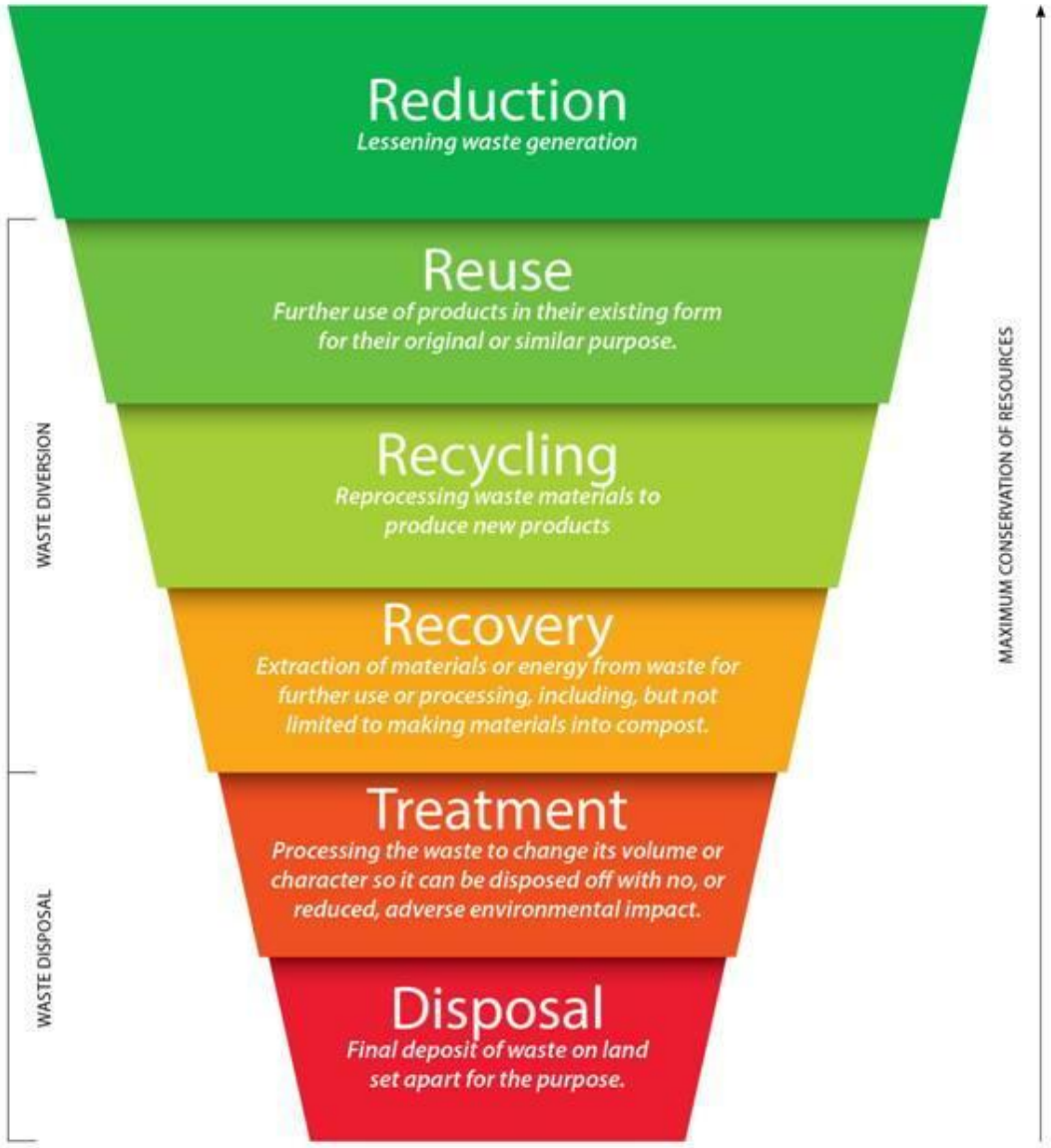
These may include but not limited to:

- Diesel consumed (litres)
- Natural gas consumed (kilograms or cubic metres)
- Electricity consumed (kilowatt hours)
- Water consumed (cubic metres or litres)
- Waste sent to landfill (cubic metres or kilograms)

It's a good idea to develop performance measures such as Key Performance Indicators (KPIs) that can be monitored and reported e.g. electricity (kwh) per kilogram of protein produced.

Waste Management

The generation of waste products not only causes environmental impacts but is a cost to the farm. While some regions allow for on farm landfills as a permitted activity it is expected that over time this will not be allowed or have tight controls. Organic waste buried in a basic 'pit' style landfill generates leachate that can contaminate groundwater and methane gas emissions. Non-organic wastes such as plastic, metal, treated timber, polystyrene etc. do not break down and can also cause contamination of land. The image below shows the waste management hierarchy with reduction at source being the most preferable option and disposal the less preferable.



Source: Kapiti Coast District Council (2016)

Greenhouse gas emissions

There are various methods of calculating emissions depending on what you are wanting to report. It is common calculate a 'carbon footprint' especially if you are reporting to consumers that are interested in issues such as 'food miles'. A carbon footprint often takes a Life Cycle Assessment (LCA) approach that looks at pre-farm emissions arising from the manufacture of inputs, on-farm emission during animal production and post-farm emissions arising from the processing and transportation of products to the retail point. A full LCA will also consider the post-retail emissions (e.g. refrigeration, cooking etc) and disposal (e.g. product packaging, meat leftovers etc).

If you are interested in a basic on-farm calculation then the current OVERSEER tool includes the ability to calculate on-farm emissions for methane, nitrous oxide and carbon dioxide. This requires

that you have data using for the same 12-month period as you are using for your nutrient budget for:

- Diesel
- Petrol
- Contractor fuel use (use can use the default values)
- Transport distances for animals (tonne/kilometre)
- Animal transport (brought in or sold stock) (tonne/kilometre)
- Waste sent to landfill (cubic metres or kilograms)
- Electricity (kilowatt hours)

There is also estimates made on the % of activity done using on-farm fuel for activities such as fertiliser spreading.

Nutrient Management and Nutrient Budgets

Nutrient management is becoming an important part of the regulatory landscape in New Zealand. This usually includes a nutrient budget being developed. There is the Good Practice Guide- Nutrient Management in Pork Production (NZPork, 2017) which is available at www.nzpork.co.nz . This guide is designed to assist pork producers in handling nutrients produced so that it does not pose an environmental risk to ground or surface water quality.

A commonly used nutrient budget tool is OVERSEER which is a software application. OVERSEER provides estimates of nutrient inputs and outputs on a per hectare basis. Nutrients from pig farms can be added as organic fertiliser. This will require the nutrient make-up of the material along with the application rate.

At present there has been a separate module for outdoor pigs developed and will be integrated with the main OVERSEER tool which is available at www.overseer.org.nz.

Note: indoor pig farms can use the main OVERSEER tool.

NZPork has developed guidance on how to use the outdoor pig module of OVERSEER and this is available at www.nzpork.co.nz

Farm Environment Plans

NZPork encourages all farmers to develop a Farm Environment Plan. The plan allows for a management system approach with a focus on continual improvement. The plan is a live document that is reviewed and updated regularly. There is information at www.nzpork.co.nz for those interested in developing a full Environmental Management System (EMS) such as ISO 14001 based on their existing Farm Environment Plan.

Outdoor farms

NZPork have developed a Farm Environment Plan (FEP) template for outdoor pig farms and guidance notes to meet the compliance requirements of Environment Canterbury. As more regional councils use FEPs as a regulatory tool then regional specific FEP templates will be developed. Download the latest FEP and guidance from www.nzpork.co.nz .

Indoor piggeries

NZPork is working to develop a Farm Environment Plan template and guidance for indoor pig farms. This will be announced to all farmers via our newsletter when available.

Emergency Management

There is a chance that an emergency may mean that the piggery may not be able to meet the above guidelines and legal obligations. For example,

- Industrial action/protesters, either on or off the farm
- Floods
- Other extreme weather events
- Earthquake
- Tsunami
- Fire

- Electric power failure

Despite the fact that these events are unavoidable, there should be a plan in place that ensures adverse effects on the environment are kept to a minimum. There are also animal welfare issues to consider.

WorkSafe New Zealand provides guidance for emergency planning for farms online at: http://www.saferfarms.org.nz/guides/a-guide-to-developing-safety-management-systems/#emergency-planning.

WorkSafe New Zealand in conjunction with the Environmental Protection Agency have developed a set of general emergency procedures that can be adapted to suit most situations. The template is available online at: http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/emergency-procedures

Please note: that the WorkSafe guidance does not include farm protesters or animal welfare issues.

References

APL. (2010). *National Environmental Guidelines for Piggeries (2010)*, Australian Pork Ltd. Barton, ACT, Australia.

APL. (2015a). *Project 2013/031 Minimising Odour from Piggeries (2015)*, Australian Pork Ltd. Barton, ACT, Australia.

APL. (2015b). Project 2013/031 Rotational Outdoor piggeries and the Environment (2015), Australian Pork Ltd, Barton, ACT, Australia.

Kapiti Coast District Council (2016). https://greenerneighbourhoods.net/resources/waste/ downloaded on 14/12/2016.

Matrix of Good Management. 2015. *Industry-agreed Good Management Practices relating to water quality. The Canterbury Matrix of Good Management project, April 2015. New Zealand.*

Ministry for the Environment. 2016. *Good Practice Guide for Assessing and Managing Odour*. Wellington.

NZPork. 2017. *Good Practice Guide- Nutrient Management in Pork Production*. New Zealand Pork Industry Board, Christchurch, New Zealand.

Useful resources

- The Industry Agreed- Good Management Practices for outdoor pigs (www.canterburywater.farm/gmp/)
- Australian Pork Limited environmental resources (http://australianpork.com.au/industry-focus/environment/)
- Energy Efficiency Conservation Authority (www.eecabusiness.govt.nz)
- Water New Zealand Good Practice Guide- Beneficial Use of Organic Materials on Land (www.waternz.org.nz)

Glossary

Aerobic Bacteria	Bacteria that require free oxygen for growth.They are involved in effluent treatment in an aerobic pond.
Aerobic	In the presence of free oxygen.
Aerobic Pond	A pond where effluent is treated in the presence of aerobic bacteria. Usually preceded by an anaerobic pond.
Anaerobic Bacteria	Bacteria that do not require free oxygen for growth. They are involved in effluent treatment in an anaerobic pond.
Anaerobic	In the absence of free oxygen.
Anaerobic Pond	The pond where effluent is treated anaerobically by anaerobic bacteria.
BOD	Biological Oxygen Demand - the quantity of oxygen required for breakdown of organic compounds in water.
COD	Chemical Oxygen Demand - the measure of the oxygen consuming capacity of inorganic and organic matter in water.
Composting	The process in which organic material undergoes biological aerobic degradation of solids to a stable end product.
Constructed Wetland	Includes man-made permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions.
Contaminant	Includes any substance (including gases, odorous compounds, liquids, solids, and micro-organisms) or energy (excluding noise) or heat, that either by itself or in combination with the same, similar, or other substances, energy, or heat – 1) when discharged into water, changes or is likely to change the physical, chemical, or biological condition of water; 2) when discharged onto or into land or into air, changes or is likely to change the physical, chemical, or biological condition of the land or air onto or into which it is discharged.

Controlled activity	An activity that complies with any standards, terms or conditions specified in the District or Regional Plan is assessed according to matters the Council has reserved control over, and is allowed only if a Resource Consent is obtained.
Organic bedding system	Housing system in which pigs are kept on a layer of organic bedding material, usually straw or sawdust.
Discharge Permit	A resource consent to do something (other than in a coastal marine area) that otherwise would contravene s15 of the Resource Management Act 1991.
Discharging	Includes 'emitting', 'depositing', or 'allowing to escape' any contaminant into the environment.
Discretionary Activity	An activity that requires a resource consent and is allowed at the discretion of the local authority.
District	An area in relation to, and under the management of, a District or City Council.
Effluent	Animal excreta and waste water containing animal excreta.
Effluent Treatment	Any treatment resulting in the alteration of the characteristics of effluent as it leaves the piggery, including anaerobic and aerobic lagoons, solids/liquids separators, bio-gas manufacture, chemical flocculation, composting, and package treatment systems.
Extensive Farming	Keeping, breeding or rearing for any purpose, of pigs on pasture (but including areas used for access to shelter) at a stocking density that sustains the maintenance of pasture or ground cover.
Farrowing	Giving birth to piglets.
Hydraulic Loading	Depth of water applied to an area of land (mm/ hectare).
Intensive Farming	The breeding or rearing of pigs where the predominant productive processes are carried out within buildings or closely fenced outdoor runs where the stocking density precludes the maintenance of pasture or ground cover.
Leaching	The removal of soluble constituents (e.g. salts, fertiliser nutrients) from the soil by water moving downward through the soil profile.

Lifestyle/Hobby farm	A farm where the *primary* motivation for farming is the enjoyment of the rural lifestyle and not financial gain.
Local Authority	A Regional Council or Territorial Authority(i.e. District Council, City Council or Unitary Authority).
Mahinga Kai	Traditional food or other natural resources (e.g. freshwater species) that have been traditionally used as food, tools, or other resources.
Manure	Any substance, e.g. dung, urine, compost (including 'fresh' effluent), or artificial material that is spread over, or mixed with soil, to fertilise it.
Mechanical Aeration	Mechanically mixing air and effluent together, using air pumps, agitators or liquid sprayers, in order to raise the concentration of dissolved oxygen within the effluent.
Micro-organisms	Microscopic organisms, such as bacteria, viruses, algae, protozoa and fungi that can live in water, soil, air, animals and plants.
Non-complying Activity	Contravenes a rule in a District or Regional plan and is allowed only if a resource consent is obtained from the relevant local authority
Permitted Activity	An activity that is allowed by a Regional Plan or District Plan without a resource consent if it complies in all respects with any standards, terms, or conditions.
Pig Farming	The keeping, raising or breeding of pigs for any purpose in numbers exceeding those defined as "Pig keeping".
Pig Keeping	The keeping, raising or breeding for any purpose, of not more that five pigs which have been weaned, or two sows, providing that any progeny are not retained beyond the weaner stage. See Pig Farming
Polishing	Where primary and secondary treated effluent undergoes a final treatment.
Pond system	A constructed ponding system. Usually comprises anaerobic pond followed by an aerobic pond.
Prohibited Activity	An activity that is expressly prohibited in a Regional or District plan.
Region	An area in relation to, and under the management of, the Regional Council.

Regional Plan	A plan prepared by the Regional Council for managing the use and protection of natural and physical resources (i.e. Land, river and lake beds, water, geothermal, air, and coast).
Resource Consents	refer to Resource Management Act 1991 (s87).
Reverse Sensitivity	The effects of the existence of a sensitive activity on a pre-existing activity in their vicinity leading to restraints in the carrying out of the pre-existing activity.
Sediment	Solid material (e.g. silt and sand) that is carried in water or effluent that will ultimately settle to the bottom of sumps, ponds, barrier ditches, constructed wetlands or waterways.
Silent Files	Sites that are of particular importance to local Maori these may be waahi tapu or other sacred sites. These sites are identified as a general location on a map without disclosing their precise location.
Sow	An adult female pig, which has had one or more litters.
Stocking Density	The number of pigs kept per square metre of pen area.
Stormwater	Rainwater that has drained from the farm buildings and yards and is collected in guttering/pipes, or has run off from the surrounding land.
Wahi Tapu	A sacred place to Maori in the traditional, spiritual, religious, ritual, or mythological sense.
Water	Means water in all its physical forms whether flowing or not and whether over or under the ground and includes fresh water, coastal water, and geothermal water and does not include water in any form while in any pipe, tank or cistern.
Water Table	The surface below which fissures or pores in the strata are saturated with water. It approximately conforms to the configuration of the ground. Where the water table rises above ground level a body of standing water exists.

Appendix A: New Zealand legislation

The table below lists the key legislation that include environmental provisions that may affect pork producers. Links to all of the Government Ministries mentioned below can be found at http://www.govt.nz.

Activity	Legislation	Regulator
Air Pollution Dust Odour Fumes	• Health and Safety at Work Act 2015 (incl. exposure standards) • Health Act 1956, section 29 (nuisance) • Resource Management Act 1991 (air discharge consent)	• WorkSafe New Zealand • Ministry of Health • Regional Council
Animal Welfare	• Animal Welfare Act 1999 • Animal Welfare (Pigs) Code of Welfare 2010	• Ministry for Primary Industries
Biogas	• Gas Act 1992 (gas manufacture on farm) • Energy Efficiency and Conservation Act 2000 • Resource Management Act 1991	• WorkSafe New Zealand • Energy Efficiency and Conservation Authority • Regional Council
Biosecurity	• Biosecurity Act 1993	• Ministry for Primary Industries • Regional Council (pest management)
Fire	• Fire Service Act 1975 • Fire Safety and Evacuation of Buildings Regulations 2006 • Forest and Rural Fires Act 1977	• New Zealand Fire Service • City or District Council • Department of Conservation
Land and Buildings	• Resource Management Act (Land Use) • Local Government Act 2002 (zoning, subdivision consent) • Building Act 2004	• Regional Council • City or District Council (consent, code of compliance, building warrant of fitness) • Ministry for Business, Innovation and Employment (Building code)

Noise	• Health and Safety at Work Act 2015 • Health Act 1956 (s29) • Resource Management Act 1991 • Local Government Act 2002 (zoning)	• WorkSafe New Zealand • Ministry of Health • Ministry for the Environment • Regional Council • City or District Council
Pork Industry	• Pork Industry Board Act 1997	• Ministry for Primary Industries
Waste disposal	• Health Act 1956. Nuisance, noise, water pollution • Hazardous Substances and New Organisms Act • Health and Safety at Work Act 201 • Local Government Act (waste bylaws) • Resource Management Act (pollution)	• Ministry of Health • Environmental Risk Management Authority • WorkSafe New Zealand • City or District Council • Regional Council
Water	• Health Act 1956 (se60, 62). Control of water pollution • Local Government Act 2002. Supply of water. • Resource Management Act 1991. Environmental protection	• Ministry of Health • Ministry for the Environment • City or District Council • Regional Council