

BEFORE THE HEARING COMMISSIONERS AT CHRISTCHURCH

In the Matter of: A hearing of submissions relating to Proposed Variation 1 to
the proposed Canterbury Land and Water Regional Plan

Between: New Zealand Pork Industry Board

And: Canterbury Regional Council

Statement of Evidence of Anita Murrell
on behalf of the New Zealand Pork Industry Board.

Introduction

1. The New Zealand Pork Industry Board (NZPork) appreciates the opportunity to present our submission on proposed Variation 1 to the proposed Canterbury Land and Water Regional Plan. My name is Anita Murrell and I have been employed as the Environmental Advisor for NZPork since September 2013.
2. I have a Bachelor of Science degree (Environmental Science) from The University of Auckland. I have 8 years' experience working in resource management for Hawke's Bay Regional Council, including positions in Compliance Monitoring, Pollution Response and Environmental Education. I have also completed courses in Environmental Incident Investigation and Sustainable Nutrient Management. This has provided me with considerable experience in environmental management and policy implementation using both regulatory and non-regulatory methods.
3. Also here today is Ian Barugh, NZPork Technical Advisor, who will be sharing some facts and figures regarding the pork industry in the Selwyn Te Waihora zone. Ian has a Bachelor of Agricultural Science, Diploma of Science (Nutrition) and has actively been involved in the pork industry in a technical support role since 1980. We are also joined by Paul Davey, local pork producer, who will be giving a personal perspective on the economic impacts of the proposed variation.
4. NZPork 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.
5. Nationally there are less than 110 commercial pork producers, comprising a relatively small but significantly integrated sector of the New Zealand agricultural economy. In 2007 it was estimated by the New Zealand Institute of Economic Research that the total economic activity associated with domestically farmed pigs was in the range of \$750 to \$900 million per annum.

6. New Zealand pork producers are facing a number of 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 approximately 51% of the domestic market supply.
7. Pig farmers in New Zealand have a firm grasp of environmental issues, especially water quality and quantity pressures. They demonstrate a high level of innovation and environmental stewardship, particularly in regard to manure and nutrient management which has important implications for water quality. The New Zealand pork industry has committed significant time and resource to Sustainable Farming Fund projects centred on nutrient management and environmental initiatives, including development and implementation of the EnviroPork Manual and an industry Environmental Management System, environmental stewardship, biogas, "Money for Manure" 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.
8. Commercial pork production units provide a range of economic and social benefits to the Canterbury region. The operations have important flow-on effects to the community, forming an integral part of the rural value chain as they utilise other farming resources such as grains for feed production as well as providing employment.
9. Pig farmers in Canterbury and throughout New Zealand often operate mixed farming systems (e.g. cropping, sheep, beef or dairy) and are therefore represented by a number of other organisations that are involved in the hearing process. NZPork is an affiliated member of Federated Farmers and supports their submission. NZPork is also a member of the Canterbury Primary Sector Policy Group, which works proactively to facilitate sustainable agriculture in the region.

Pig Farming in Canterbury

10. Pig farming in Canterbury comprises a wide variety of methods and systems. These range from conventional indoor farming systems where collected manure (liquid or solid) is applied to land in a controlled way as a consented activity, through to extensive outdoor farming operations.
11. Outdoor pig farming is popular in Canterbury for a variety of reasons, including proximity to grain growing for feed and straw for bedding, a low rainfall climate and light, free draining soil conditions. For farmers entering the industry, there is less capital outlay in terms of construction and potential for greater land use flexibility. Consumer interest in outdoor pork production, driven by perceived animal welfare and environmental benefits, has also led to a greater number of farmers adopting outdoor farming practices. This farming method generally consists of sows and their progeny (up to weaning at 4 weeks of age) being run outdoors in paddocks. Weaned animals are then moved indoors or into shelters for finishing.
12. Canterbury is New Zealand's largest pig production region, however the industry is small when compared to other primary industries. Approximately 60% of the national pig herd of 31,500 sows resides within Environment Canterbury's jurisdiction. Of these, approximately 13,000 sows with their unweaned litters are farmed outdoors on pasture in the region, compared with 1,797,462 cattle (dairy and beef), 5,222,094 sheep and 287,603 deer (Statistics New Zealand 2013). NZPork information indicates approximately 5000 sows are farmed in the Selwyn Waihora nutrient management zone, with 2260 of those farmed outdoors on 6 farms. At Good Management Practice stocking rates of 17 sows per ha, that would equate to 133 hectares used in outdoor production. It is these outdoor farms that would feel the most immediate impacts of the proposed variation.
13. NZPork commends Environment Canterbury in its efforts to improve water quality in the region and give effect to the National Policy Statement for Freshwater Management (NPS-FM). We especially support the development of good practice guidelines and Farm Environment Plans as tools to improve environmental

management. NZPork further accepts that as a result of the NPS-FM some form of reporting nutrient discharges and setting limits is necessary. However, we have substantial concerns about the details of the variation in its current form.

Baseline Land Use and Nitrogen Baseline

14. The proposed definition of Baseline Land Use (and Nitrogen Baseline) prompted a number of submissions, including from NZPork. Our primary concern is that in using an average nitrogen leaching loss over the four baseline years as a basis for a permitted activity, properties that been in a development phase over this period will have a baseline that does not reflect the current legally established land use. In the pLWRP an exemption has been allowed for new or upgraded dairy milking sheds, but not for any other type of farming activity.
15. Although Nitrogen Baseline is defined in the pLWRP, Baseline Land Use is a new definition introduced by this variation. NZPork submits that it is appropriate to ensure that this definition allows for development during the baseline period. This could be achieved by ensuring that the definition treats any new or changed activity established during the baseline period as fully operational.
16. In order to farm sustainably and minimise environmental impact, many outdoor pig farmers operate on a rotational basis. This means that pigs are confined to an area for a set period of time, for example 3 years, then moved on to fresh pasture. The area previously occupied by pigs can then be planted in crops to fix nitrogen. Sometimes additional land is leased to enable rotation, and NZPork is concerned that this activity may be regarded as a change in land use and therefore limited by the proposed rules and definitions regarding Nitrogen Baseline and Baseline Land Use.
17. Environment Canterbury has accepted that there are issues with the definition of Nitrogen Baseline, and has issued a compliance note (April 2014), which states that they *“reserve the right to take enforcement action against a farmer if the nitrogen loss calculation for the property is higher than the **worst** year in the nitrogen baseline period...”* NZPork commends Environment Canterbury for recognising the issues, but we remain concerned about the legality of this compliance note, given that this is

substantially different to the wording and likely interpretation of policy and rules in the pLWRP. This is of particular concern if development has occurred during the baseline period. The intention of the compliance note must be codified in the plan to provide clarity and certainty, and a variation is an appropriate way to do so.

Good Management Practice

18. NZPork is a partner in the Matrix of Good Management (MGM) Project and supports the development of industry derived Good Management Practice. We remain committed to working through the project to completion. Outcomes from the project in terms of tables of nutrient loss rates will not be available until 2015. For outdoor pigs, outcomes will be delayed further as these farming systems cannot currently be modelled using OVERSEER, which is the basis for the matrix. In the interim, agreement has been reached between NZPork and Environment Canterbury to use a mass balance model to estimate nitrogen losses from outdoor pig farming.
19. Work is underway by NZPork, AgResearch and Massey University to integrate outdoor pig farming into OVERSEER, but AgResearch are unable to begin work on the project until mid-2015, with development of a prototype expected to take approximately 6-8 months. Once this prototype is available, further time will be required to model case study farms and test the reliability and accuracy of the software before nutrient loss rates from pig farms applying good management practice can be estimated.
20. Policy 11.4.13 (b) requires that *“Where a property's nitrogen loss calculation is greater than 15 kg of nitrogen per hectare per annum, meet the Good Management Practice Nitrogen and Phosphorus Loss Rates for the property's baseline land use”* from 1 January 2017. Given that the Matrix of Good Management is not due to be codified in the plan until October 2016, farmers may have only two months to ensure compliance with loss rate limits that are currently unknown. This is not sufficient time to implement changes to farm systems, which can take several months or even years to phase in.

21. NZPork supports the submissions of other primary sector organisations (particularly Federated Farmers) who propose that Good Management Practice is included in the plan through a schedule 1 process once the MGM project outcomes are known. It is not reasonable to include Good Management Practice in the plan until it has been defined and quantified. Good Management Practice for pig farming cannot currently be modelled using OVERSEER, and therefore loss rates cannot be estimated for inclusion in the MGM according to the project methodology. Without accurate measurement, effective management is impossible.

Post 2022 Reductions in Nitrogen Discharges

22. A large number of submissions on Variation 1 related to the proposed post 2022 percentage reductions in discharges. NZPork agrees that limits must be set and reductions in nitrogen loss made in order to improve water quality, however the level of regulation and mitigation required of any sector should be directly related to the degree of overall environmental pressure exerted by that sector.

23. As previously mentioned, outcomes from the MGM project, in terms of nitrogen loss rates under Good Management Practice, will not be available until 2015 at the earliest. That means that it is impossible to know whether the proposed reductions in loss rates are required or achievable. Inclusion of arbitrary numbers in plans and policies before completion of the MGM project risks undermining the collaborative process, goodwill and partnerships established. A situation where farming sectors are pitted against each other to argue relative percentage reductions may also result, making collaboration difficult.

24. NZPork is concerned with the percentage reduction figures included in the variation. The section 32 report states that the zone committee solution package aims to set nitrogen loss rate reductions midway between Good Management Practice and maximum feasible mitigation (page 49). A 10% reduction in nitrogen losses under dryland pigs (20% under irrigated pigs) is noted as being maximum feasible mitigation in the same document (page 53). As outdoor pig farms are not irrigated, it is unreasonable to require a higher reduction of 20%, as has been included in the

variation. Furthermore, other farming sectors have proposed nitrogen loss rate reductions of less than maximum feasible mitigation (as discussed in the section 32 report), so it is not reasonable or equitable to require more from pig farmers.

25. The NPS-FM requires councils to consider economic and social implications as part of catchment objective and limit setting processes. Without knowing nutrient loss rates under Good Management Practice, the implications of required reductions below these rates cannot be considered, and section 32 analysis is impossible. Therefore effect cannot currently be given to the RMA and NPS-FM in this regard as required.
26. NZPork understands that OVERSEER nutrient budgets (including estimates of nutrient loss) modelled at steady state have a margin of error of 30%, and that estimates of nutrient loss under a proposed changed system have a similar margin of error. If that is the case, it is difficult to see how the model can be used to enforce percentage nutrient loss reductions less than the margin of error.
27. The proposed catchment nitrogen load limit for Selwyn Te Waihora is 4830 tonnes per annum. While nitrogen leaching rates from outdoor pigs cannot be modelled by OVERSEER, leaching estimates can be determined in the interim using the ECan/NZPork agreed mass balance calculations. This mass balance takes into account the nitrogen coming into the system via bought in feed, straw for bedding, replacement stock, and losses via sale of weaners, sale of cull breeding stock, pig mortality, feed loss to birds, and straw removal. The fate of nitrogen in the soil is determined by amounts that are volatilised, remain in roots and soil, pasture uptake denitrification and leaching to ground water.
28. Each farm is different and would have a different approach to mitigating nitrogen loss. Farm differences will depend on land area available, feeding system, housing, stocking rate, layout, scale and integration with other farming enterprises such as arable and dairy farms. Reduction of nitrogen leaching by 20% would realistically give farmers two options to manage it on farm: either reduce the sow herd numbers

on the existing fixed farm size, or maintain the same sow herd size on a larger land area.

29. Reducing sow herd size would reduce output, thereby reducing sales and income, making existing post weaning infrastructure (grower facilities and pork processing) underutilised and increasing staff costs per pig produced. Outdoor pig breeder units operate with a ratio of 220-250 sows per staff member. Reductions in sow numbers in amounts less than 250 effectively mean the operation is over-staffed and proportionally increases the labour cost per weaner sold.
30. Maintaining the existing sow herd would require the use of extra land adjacent to the existing property. This may not always be available. If land is available, the purchase would require extra capital input, and the parcel may be larger than what is required adding further cost. In addition to this, costs of extra fencing, water reticulation and troughs, shade, gates and access ways would need to be included. Extra ongoing running costs include re-grassing 25% of the farm per year. The larger land area would mean more staff time spent moving stock longer distances between mating and dry sow paddocks, and dry sow to farrowing paddocks, then back to the mating area.
31. Moving a sow herd onto land not currently used for that purpose may also be restricted by rules relating to the nitrogen baseline and nitrogen loss calculation. Depending on stocking rate and nitrogen loss, the change of land use in this manner may be a prohibited activity.
32. New Zealand is unique in the high proportion of outdoor sows, which has built a point of difference in the marketplace. A method of mitigation to reduce nitrogen loading to soils would be to put sows indoors and to collect manure which could then be applied to land in a controlled manner. There would be a large capital cost for the building and manure handling infrastructure. Housing sows indoors also affects the integrity of the free-farmed system, eliminating any market advantage gained from farming outdoor pigs. This would be a complete change in farm system and philosophy.

33. Given this background, the proposed percentage reductions required beyond good management practice nitrogen and phosphorus loss rates do not appear to have any scientific basis or be derived from a robust and defensible process. This does not give effect to the NPS-FM and presents risks to the catchment in economic, social and environmental terms. NZPork therefore submits that any required reductions below good management practice nutrient loss rates are introduced to the plan by way of a schedule 1 process at the same time as Good Management Practice, once the outcomes of the MGM project are known.
34. Farmers make every effort to support local suppliers of goods and services, their children attend local schools, and they employ local people. These local networks and relationships are critical in building resilience and strengthening communities. When farming businesses cease to be viable, the trickle down effects are seen throughout the community.
35. NZPork appreciates the opportunity to speak to our submission on variation 1, and we welcome the opportunity to provide clarification as required on any of the points raised.

References

Statistics NZ Infoshare website (2013 data) <http://www.stats.govt.nz/infoshare> accessed 2 September 2014.

Ministry for the Environment (2014). *National Policy Statement for Freshwater Management 2014*. Wellington: Ministry for the Environment.