HEARING STATEMENT TO ENVIRONMENT SOUTHLAND'S PROPOSED WATER AND LAND PLAN

Alistair and Bernadette Hunt, 79 Okapua Road, RD3, Gore

SUMMARY

1. We are Alistair and Bernadette Hunt, farmers from North Chatton, 16km North of Gore.
2. We have two young daughters, Charlotte age 8 and Hannah age 4. They are farm girls through and through and we value the opportunity to raise them on a farm and in a rural environment. *See photos provided, entitled "Us in our slice of paradise".*
3. We own a 175ha farm, and lease an additional 210ha on two blocks in the surrounding districts. *See photos provided, entitled "Location of our farming enterprise".*
4. On these farms we run a range of enterprises: sheep and beef finishing, arable cropping, dairy support, and a small agricultural contracting business. *See photos provided, entitled "Our mixed farming operation".*
5. We purchased the first 94ha of our farm in August 1996, and then the other 81ha one year later when our neighbour retired. Although our families are both very supportive and have helped us out in many ways, we have done this ourselves through sheer hard work and with plenty of debt – not through inheriting a lump of money or taking over a family farm. This means that we have to get the most from every hectare, from every hour worked (and there are many), and from every resource we have available to us.
6. It also means that we have to think sustainably. We cannot operate in a way that gives success this year at the expense of next year, or next decade… we have to service that debt every single year for many years to come.
7. That reality led us to the vision statement we set for ourselves early in 2014: Be an example of best farming practice – highly profitable, innovative, environmentally sustainable, and with good work-life balance. We refer back to that frequently and it drives the way we operate (although the work-life balance bit slips away more often than it should!).
8. But it's not something we established because of the Water and Land Plan, or any other initiative of its type… It just makes sense to us. Without each of those four elements, we will not be successful. If we do not look after the precious resources we have, they cannot look after us.
9. We absolutely agree that New Zealand needs to protect its water resource for future generations. There is no way that our nation's development and population increase can possibly have happened with no impact to our environment. But we have deep concerns at the way the blame is being laid at the feet of the farming community (if not officially, certainly publicly) and the negativity towards farming that has generated.
10. Farming is hugely important to the country, and to our region. And actually, non-farming, urban areas, are continuing to having a more adverse effect on water quality than farming areas are – as is shown in the MFE's recently released report "Our Fresh Water 2017".
11. The expressed purpose of Environment Southland's Water and Land Plan is to "hold the line" on water quality until limit setting.
12. The recent report published by Environment Southland, Water Quality in Southland: Current State and Trends 2012-2016, would suggest that, in general, the province is already doing that, despite the absence of regulation forcing change until very recently.

13. We're not suggesting for a minute that we should all put our heads in the sand and pretend there is no problem, but we do question the heavy regulation in the proposed plan.
14. One of the key findings in The Southland Economic Project was that the effectiveness of specific mitigations varied by industry and nutrient. Yet this plan proposes a range of rules and requirements which will be imposed across all farms in the province, regardless of the likely benefit to water quality.
15. We are the first to admit that our understanding of the ways in which we impact water quality has grown significantly since we purchased our farm a bit over 10 years ago. As we have learned more we have adjusted our practices. And we have seen many of our peers do the same. We haven't needed the "rules stick" to make us do that, we just needed the information that highlighted the need and suggested mitigations.
16. Now with this proposed plan, instead of being able to make the best decisions about how we spend the time and money we have available to make improvements on our farm for the benefit of water quality, we'll be forced to spend it following rules.
17. We have a real problem with being forced to spend time and money on things that will produce no benefit to water quality or to our farm business, just because the rules in this plan say so (such as mapping drains, producing a nutrient budget in Overseer, and measuring the varying degrees of slope in our paddocks to figure out where we can and can't cultivate).
18. As we stated in our written submission, Vaughan Templeton's Nuffield research found that "prescriptive regulation rarely achieves positive outcomes for the environment". Prescriptive rules will force us, and other farmers, into a position where we cannot innovate. We have no doubt at all that in many cases this will result in worse outcomes for water quality, as farmers will have to do whatever is required to manage stock and farm within restrictions.
19. Alistair has a degree in agricultural science and 20 years of experience in the industry. He and many other farmers in the region like him are well educated and informed, and very well-placed to make good decisions for our farming operation as well as long term environmental sustainability. Prescriptive rules will hinder, not help us to do our job well.
20. Further to that, we believe that this plan is pre-empting the limit setting process, prior to the consideration of community values and economic impacts. We implore Environment Southland to withdraw the highly regulative aspects of this plan and focus farmers on good management practice instead, thereby sticking to the stated purpose of holding the line.
21. The regulation that this plan imposes has the potential to impose significant expense and undermine profitability, without benefit to water quality. That will drive people like us out of farming as we struggle to cashflow our businesses, even though we are very mindful of the way we farm and are voluntarily improving our practices year by year.
22. That will have a raft of negative effects on the entire region, and we do not believe that Councillors actually intended that when they accepted the Plan in its current form. So please, do the right thing for this region.
23. **To wrap up, when you get to the end of this process and start to make decisions about the future of this plan, we ask you to focus on four key points. More detail that backs these up is contained throughout our full hearing statement. But the four key things we ask that you consider for every rule in this plan are:**
    1. **Is the rule imposing a cost which is justifiable in terms of the water quality outcomes that will result?**

2. **Is the rule focussed on holding the line, or does it go further than this and pre-empt the limit setting process?**
3. **Is the rule actually achievable for farmers and enforceable for Environment Southland?**
4. **Does the rule allow farmers to innovate and make the best decisions about good practice and water quality outcomes for their farm, or is it overly prescriptive?**

DETAIL / EXAMPLES

Physiographic Science

24. We strongly oppose the inclusion of the physiographic science in the plan, and believe it should remain outside the plan as a tool to help inform good management practice.
25. By including the physiographic maps and the assumptions about characteristics of the land in each zone within the plan, any changes will require a plan change. This is an expensive, time consuming, and very difficult process. We actually like the science and the information it gives us, but it is still very new and has not had time to be "ground-truthed".
26. It seems completely illogical to us that this level of detail, with such enormous repercussions for farmers, and which is going to be very subject to change, is imbedded in a planning document which is so difficult to amend, so we strongly oppose its inclusion in the Plan.
27. For example, assumptions made about the risk of nitrate leaching in a particular physiographic zone do not consider the ability of the soil to hold on to nitrogen, or the plants to uptake the nitrogen in the soil.
28. Irrespective of physiographic zone or soil type, the age and variety of pasture, and the soil's magnesium-calcium balance, will impact the retention of nitrogen and its uptake by plants. When magnesium and calcium are well balanced, nutrients are more effectively retained by the soil and taken up by plants, and are therefore less prone to leaching.
29. Further, drainage and/or aeration can positively influence the ability of the soil to retain nutrients for uptake by plants. A well-drained soil will have more ability to retain nitrogen in the soil and make it available for plant uptake, than a saturated, compacted soil which will have limited ability to retain nitrates and therefore allow them to leach through to subsurface levels. *The above two points are outlined in more detail in our supporting evidence – Chapter 4 of "Hands On Agronomy", by Neal Kinsey.*
30. Doug Fraser's farm at Roundhill is a great example of the issues associated with the inclusion of the physiographic information in the plan. The physiographic classification applied to that farm is hill country / bedrock. Therefore it was assumed, by Environment Southland through his consent process, that the land was steep, which it is not, and it was assumed that the soils had low phosphate retention, which expert input proved was incorrect.
31. Embedding this information in the plan makes amending it as it is ground-truthed extremely difficult. **Therefore we ask you to remove the physiographic zone maps and assumptions about soil and land characteristics based on physiographic zones from the Plan.**
32. Further, we strongly oppose regulation which is based on physiographic zones in this Plan. The physiographic information is one tool which can provide useful information, but this plan prematurely imposes prescriptive regulation using this science as the key determinant. At least one of the lead scientists involved in developing it has openly stated that they did not intend it for use as a regulatory tool.

33. We do not dispute that the physiographic science is useful for determining risk to water quality, but it does not indicate actual water quality.
34. Given that the stated purpose of this plan is to "hold the line" on water quality, we believe that the use of the physiographic science to restrict land use in some areas of the region is premature.
35. Farmers across the region can all make a contribution to improving water quality outcomes by adopting improved practices on their farms, and the vast majority are very willing to do this – and in fact already are. This will hold the line, and ES's latest evidence (in the Water Quality in Southland report) suggests that it already is!
36. Any further regulation should wait until limit setting when a full suite of factors will be considered in context – environmental impacts, economic impacts, and community values.
37. Already the economic effects of regulation based on physiographic zones are being felt. In fact recently when we were considering the purchase of a new farm, one of the first questions we were asked by our Bank about the farm we were considering was "What physiographic zone is it in?". There is no doubt that the land value of farms in physiographic zones which are targeted for heavier regulation in this plan has already been impacted.
38. The RMA requires planning to consider environmental and economic implications, and the limit setting process also requires the consideration of community values. This broad consideration has not taken place in the development of this plan, as is evidenced by the absence of any policies or rules which appropriately recognise the importance of land and water use to support Southland's economy through farming.
39. **Therefore we ask you to maintain focus on the stated goal of holding the line until limit setting, by removing regulation in this plan which is based on physiographic zones.**

Stock Exclusion

40. We endorse the exclusion of sheep from the stock exclusion policy, as the water quality benefits from excluding sheep from waterways are questionable and negative impacts may in fact result.
41. We do not believe that fencing of waterways on extensive farms (ie those with a low stocking rate eg 5 SU/ha or less) is required to allow the region to hold the line on water quality.
42. We question whether the cost of meeting this requirement (estimated at approx $10 per metre by a hill country farming friend of ours) on these extensive farms can be justified at this time, and therefore believe that this should only be considered if the region cannot meet required limit setting targets through other measures.
43. The $10/m estimate is a capital cost, but annual costs to maintaing these fences in flood prone areas can be very significant in some years. Fencing R & M is a major issue for those farmers already, both in cost and time, to maintain the river fencing that has already been completed.
44. This rule will push some farmers in more extensive areas to destock, as the enforced costs will make these farms unprofitable. This will have other negative environmental impacts due to the resulting absence of pest and weed control.
45. The other point to be considered with this rule, as witnessed in some of the recent Northland floods, was the spectre of dead cattle caught in fencing wire. Rivers in these areas can change very quickly, and it is not possible or safe for farmers to be able to get to stock under those conditions. Cattle are very strong swimmers in any conditions but once they have a foot or leg caught on a fence their chance of survival is almost zero.

46. **Therefore we ask that the rule to exclude stock from waterways is amended to exclude extensive farms with a low stocking rate, and that the exclusion of sheep from the rule is retained.**
47. **We also ask that the definition of a waterway in the proposed plan be amended to match the definition in the RMA ie permanently flowing or at least 1m wide and 30cm deep.** The definition currently included in the proposed plan is much too broad.

Cultivation

48. The definition of cultivation in the proposed plan is too broad. There are a range of cultivation options, including spraying and direct drilling (minimum-tillage), which should be encouraged as good practice alternatives to full-tillage cultivation (ie ploughing).
49. These options allow significant mitigation of the negative effects of cultivation, and should not be restricted by regulation in this plan which is supposed to be focussed on holding the line.
50. As well as being better for water outcomes, minimum-tillage cultivation options are much more cost effective, so should be encouraged to enable farmers to achieve positive environmental outcomes as well as productive and profitable results.
51. **We ask that the definition of cultivation in this plan is amended to "Preparing of land for growing pasture or crop by full mechanical tillage."**
52. Further, we believe that the restrictions on cultivation of slopes which are not near waterways should be removed and replaced with good practice guidelines to mitigate sediment run-off.
53. We recently cultivated a very steep paddock and have left the critical source area at the bottom of the hills untouched so that the long grass can capture the sediment and prevent its run-off. *See photos provided, entitled "Managing sediment run off on steep slopes".*
54. The sediment that would potentially run off any paddock is valuable, and as farmers it is not in our interest to have top-soil, nutrients and seed flowing off our farm. So we are careful to plan cultivation to minimise sediment run-off. In late Autumn when the risk of run-off is higher, we prefer minimum tillage cultivation. In the Spring we watch the weather forecasts closely and aim to ensure that paddocks at risk of top-soil run-off are cultivated at a time which reduces the likelihood of this occurring.
    See photos provided, entitled "Minimum tillage cultivaton".
55. Restricting and regulating the cultivation of paddocks or parts of paddocks which are steep will result in detriment to farm production and profitability with little or no benefit to water quality. Further, in practice this is unworkable. Many paddocks on our farm have huge variation of slope within a paddock, which makes the requirement to manage different levels of contour impractical. Environment Southland need to focus their efforts in this area on good management practices to minimise sediment run-off.
    See photos provided, entitled "Cultivation on slopes".
56. **We ask that regulations to restrict cultivation of steep slopes which do not boundary a waterway are removed from the plan and replaced with good management practice guidelines.**
57. The proposed rule regarding waterway buffer zone requirements depending on slope of the land is impractical and overly restrictive.

58. Even an 8 degree slope is considered to be gently sloping – so imposing a 10m setback for slopes greater than 4 degrees is excessive. We would like to see the research behind the numbers proposed to show that it will achieve a water quality benefit.
59. Once again, **we ask that the regulation is limited to only that which is required to hold the line on water quality**. We have no issue with a 3m setback for all cultivation, but how can a jump to 10m be justified when slope increases from 3 degrees to 4 degrees, and a jump to 20m when a slope increases from 16 degrees to 17 degrees? It may be simple to put numbers on paper, but **the production and profitability impacts are significant so this regulation should not be imposed unless it can be shown that the water quality benefits will justify the costs.**
60. An additional consideration is that far greater sediment related improvements to water quality could be achieved by appropriate gravel management in our rivers. A lack of management causes significant bank erosion, and we believe that the impacts of sediment run-off from cultivation, especially in paddocks which are not adjacent to a waterway, must be miniscule in comparison.
61. The upper Mataura river, above the Otamita bridge has numerous locations where the bank is regularly carved out and consumed by the river. This could be mitigated if the gravel banks were sustainably managed rather than nature being left to take its course, resulting in adverse water quality outcomes. Yet Environment Southland do not undertake this management, and prevents farmers from doing so.
    See photos provided, entitled River-bank Management".
62. Gravel removed from the upper areas of catchments, will have a positive effect on the sediment levels at the lower areas of the catchment. A potentially unconsidered consequence of limiting gravel extraction is the increased price of concrete, which has a flow on impact to the affordability of wintering barns, stand-off pads, sileage pits and the like.
63. It seems crazy to us that farmers are being required to manage sediment losses so closely, yet nothing is done to manage the natural effects which have far more detrimental outcomes.
64. **We ask that consideration is given to the inclusion of a rule and/or policy which provides for the management of gravel banks on the region's rivers, to mitigate erosion and its impact on water quality.**

<u>Intensive Winter Grazing</u>

65. We oppose any restriction on land area for intensive winter grazing, regardless of the location, in this proposed plan and believe that restriction of this nature should only be considered alongside the economic implications and community values at the time of limit setting.
66. The reality is that the stock in the province needs to be fed during the winter. Limiting the number of hectares for winter grazing on any one property will only serve to force farmers to work within the rules, regardless of water quality outcomes.
67. We believe that this is more likely to have negative effects on water quality than positive outcomes as there are a number of ways that farmers could work within the rules to feed their stock which will have adverse water quality outcomes. This is a perfect example of one of Vaughan Templeton's conclusions in his Nuffield research: "prescriptive regulation rarely achieves positive outcomes for the environment as farmers then tend to farm the regulations".
68. Restricted land area is likely to result in more animals being wintered on smaller areas, through the use of high yielding crops and additional supplementary feed. These two things will

undoubtedly have a negative water quality outcome due to the higher concentration of nitrates on smaller areas, and extensive soil damage.

69. If the same number of cattle could be wintered on a larger area, nitrate would be more widely spread and soil damage could be reduced.
70. Regardless of the restrictions that ES implement, the reality is that stock must be fed during the winter. Therefore intensive winter grazing will still take place at the same levels. Surely water quality outcomes would be better served by allowing the intensive grazing to be spread out as much as possible and in accordance with good management practice. Prescriptive regulation will not achieve those things.
71. When we winter stock outdoors on our farm, we do our best to minimise sediment run-off by:
    - Starting at the top of a hill and moving down
    - Moving toward critical source areas
    - Not cultivating and fencing off critical source areas
    - Back fencing
    - Limiting the number of stock on an area
    - Providing a large "feed face" so that stock can spread out
    - Placing our bales in paddocks before winter to avoid machinery on the mud during winter
72. Our farm is very rolling and we are aware that it is not ideal for winter grazing. So over the 10 years we have been there, we have: reduced the quantity of winter grazing we take on; avoided having adult cattle on the farm during winter; built a wintering barn; and carefully managed the grazing we have carried out. None of those measures required regulation.
    See photos provided, entitled "Indoor Wintering".
73. We know what works for our farm and intensely dislike the damage caused by winter grazing. But winter grazing was a tool that allowed us to keep our business afloat and as we have been financially able we have moved away from it. Let farmers make those decisions themselves rather than crippling them financially by imposing strict regulation, otherwise the outcomes for water quality may be worse, and the economic outcomes for the region could be devastating.
74. **We ask that the land area limits are removed, across the province, for intensive winter grazing and that the focus is shifted to enforcing good management practices.**
75. **We also ask that the definition of intensive winter grazing is amended to cover only the winter months of June through to August (inclusive), and that forage crops should be specified as swede, kale and beet crops**.
76. Other crops which may be grazed during the winter (eg cereals, grass, rape) regenerate after grazing which allows nutrient uptake, so these should not be considered forage crops.

<u>Farm Management Plans</u>

77. There are many ways that the development of a farm management plan could be beneficial but we believe that the scope of these plans is taken too far in the proposed plan.
78. Appendix N needs to be trimmed back to ensure that all of the required contents of Farm Management Plans will improve water quality. Items that are currently required to be included that will not benefit water quality are: copies of consents, maps of subsurface drains, location of riparian vegetation, location of heritage sites.

79. In addition, the requirement for all farms to include an Overseer nutrient budget in the plan is a very costly and challenging requirement that simply may not be possible for many farms to adhere to.
80. Dairy farms are already required to have a nutrient budget, so imposing this through the Water and Land plan for dairy farms is unnecessary.
81. For many other farms, particularly those with a mix of farm types such as ours, realistic modelling in Overseer will not be possible, due to the variety of stock classes, and complex crop rotation patterns. This was found by the Southland Economic Project which had to exclude three sheep and beef farms from the study out of the 95 selected farms. And that project had experts involved and funded! Yet this plan expects every individual farmer to be able to do this modelling.
82. We attempted to create a nutrient budget in Overseer with our fert rep some time ago, but it was just too complex. Sometimes we might have three crops in one paddock during a single season, and invariably we have a range of stock classes and types as well. Overseer can't cope with that.
83. **We ask that the requirement for farms to produce Overseer nutrient budgets is removed from this plan for non-dairy farms, including those that provide dairy support, and that this requirement is replaced with the inclusion of soil testing and a fertiliser plan if fertiliser is to be applied on the farm.**
84. For many, soil testing and fertiliser plans are produced anyway, with the assistance of a fertiliser rep, so this will not be an additional requirement. But it is good management practice, will be achievable, is manageable in terms of time and cost, and is much more likely to benefit water quality.
85. We align our fertiliser and soil management practices with the Albrecht/Kinsey system which encourages extensive testing of soils to inform the application of nutrients, in quantities and types to achieve the specific goals of production ie feed the soil so that the soil can feed the plant; rather than the more mainstream approach of feeding the plants, which Overseer is based on.
    (Chapter 1 from Neal Kinsey's book provides an overview of the system and is included in our supporting evidence.)
86. The Overseer system cannot model the benefit of the work we do to appropriately apply trace elements and adequately aerate and drain the soil, thus maximising nutrient retention in the soil and uptake into plants.
87. Broad investment in education in this area could have significant benefit to water quality outcomes, as well as benefiting production outputs and farm profitability… certainly more significant than extensive fencing of waterways, hours spent creating nutrient budgets in Overseer, or the hassle of working with slope degree rules.
88. **We recommend that this is researched and further considered by Environment Southland for the limit setting process.**

SUPPORTING EVIDENCE

1. Neal Kinsey's Hands-On Agronomy, 3rd Edition. By: Neal Kinsey & Charles Walters 2013

   Chapter 1 provided for an overview of the system

   Chapter 4 provided for further information regarding magnesium-calcium balance in the soil and its effects on nutrient retention and plant uptake

2. Sustainability of Agricultural Systems Regarding Nutrient Losses. By: Vaughan Templeton 2006

   Supplied, and publicly available at this link:

   http://www.nuffield.org.nz/uploads/media/2006_Vaughan_Templeton_01.pdf

3. Our Fresh Water 2017. By: Ministry for the Environment & Stats NZ 2017

   Not supplied but publicly available at this link:
   http://www.mfe.govt.nz/sites/default/files/media/Environmental%20reporting/our-fresh-water-2017_1.pdf

4. Water Quality in Southland: Current State and Trends 2012-2016. By Roger Hodson et al (Environment Southland) 2017.

   Not supplied by publicly available at this link:

   http://www.es.govt.nz/Document%20Library/Consultations/2016/Proposed%20Southland%20Water%20and%20Land%20Plan/Supporting%20Documents/7%20-%20Water%20Quality%20in%20Southland%20-%20Current%20State%20and%20Trends%20-%20April%202017.pdf

5. The Southland Economic Project: Agriculture and Forestry. By: Emma Moran et al (Environment Southland) 2017

   https://contentapi.datacomsphere.com.au/v1/h%3Aes/repository/libraries/id:1tkqd22dp17q9stkk8gh/hierarchy/Scientific%20reports/Agriculture%20and%20Forestry%20Report.pdf