

**IN THE ENVIRONMENT COURT
CHRISTCHURCH REGISTRY**

Under the Resource Management Act 1991

In the matter of appeals under clause 14(1) of the First Schedule to the Act

Between

**FEDERATED FARMERS OF NEW ZEALAND (INC)
MACKENZIE BRANCH**
ENV-CHC-2009-000193

**HIGH COUNTY ROSEHIP ORCHARDS LIMITED AND
MACKENZIE LIFESTYLE LIMITED**
ENV-2009-CHC-000175

MOUNT GERALD STATION LIMITED
ENV-2009-CHC-000181

MACKENZIE PROPERTIES LIMITED
ENV-2009-CHC-000183

**MERIDIAN ENERGY LIMITED AND GENESIS E
ENERGY LIMITED**
ENV-2009-CHC-000184

THE WOLDS STATION LIMITED
ENV-2009-CHC-000187

FOUNTAINBLUE LIMITED & OTHERS
ENV-2009-CHC-000190

**R, R AND S PRESTON AND RHOBOROUGH DOWNS
LIMITED**
ENV-2009-CHC-191

HALDON STATION
ENV-2009-CHC- 000192

Appellants

And **MACKENZIE DISTRICT COUNCIL**
Respondent

STATEMENT OF EVIDENCE OF DAVID JOHN COOPER

9 September 2016

I. INTRODUCTION

1. My name is David John Cooper. I am a Senior Policy Advisor for Federated Farmers of New Zealand. I have a Masters in Political Studies and a Bachelors in Economics from the University of Otago.
2. I have worked for Federated Farmers in a Policy role since January 2009, and as a Senior Advisor since April 2012. In my role, I provide advice on local government and RMA planning and policy issues to Federated Farmers provincial committees and members across the South Island in the context of farming related issues. This role involves regular and close interaction with a wide cross section of the farming community, often in the context of discussing how resource management policies and rules affect farming enterprises and the wider community, and assessing the impacts of proposed provisions on the economic viability of primary production and the broader socio-economic impacts on rural communities.
3. Areas of my experience I consider to be most directly relevant to this case:
 - a. Significant experience in the implementation of the Resource Management Act 1991 (RMA) and its effect on farmers. This experience has included the preparation of submissions, further submissions and hearing evidence on both district and regional planning matters.
 - b. A particular focus of my role involves assessing the robustness of the Section 32 analysis accompanying proposed plan changes, particularly in relation to the economic costs to both individual landowners and the wider economy.
 - c. I am currently involved in District Planning processes in the Queenstown Lakes District and Dunedin City, and have been providing pre-consultation feedback on the forthcoming Waitaki and Central Otago District plan processes. I formulated the Federated Farmers submission to the proposed Otago Regional Policy Statement. I am involved in working groups focussed on the implementation of the Otago Water Plan, providing experience in

relation to the public good implications of individual landowner behaviour and the management of nutrient runoff.

- d. I have further experience in assessing and providing feedback on Council funding and revenue policies, including the equity, efficiency and behavioural implications of funding, and how these may guide individual decision making, particularly in the agricultural context. This experience includes analysis of proposals for the funding of economic development initiatives, and council related tourism expenditure, as well as local government funding for irrigation infrastructure.
 - a. I have submitted to a number of national policy documents, primarily in order to ensure appropriate linkage between district and regional planning outcomes and these national documents. These submissions include the Productivity Commission's reviews into Housing Affordability and Using Land for Housing, the Local Government Act 2002 Amendment Bill (No. 3) and the Government Policy Statement on Land Transport 2015/16 – 2024/25.
4. As a result of this role, my qualifications and previous experience, I have considerable knowledge and expertise in relation to resource management, and particularly analysis of the economic implications of provisions proposed under the Resource Management Act. I acknowledge my advocacy role for Federated Farmers of New Zealand. I have provided some opinions in this evidence. In doing so, I have endeavoured to put considerations relating to my role with Federated Farmers to one side and to give my honest expert opinion in order to ensure the economic assessment of the proposed plan change is robust.
 5. In this evidence I review and comment on the evidence provided by Dr Douglas Fairgray on behalf of Mackenzie District Council in these proceedings. In summary, while I broadly agree with Dr Fairgray's overall approach, I consider there are some additional areas to consider in relation to the economic impacts of Plan Change 13.
 6. While I broadly agree with Dr Fairgray's economic assessment, I consider the following caveats apply in respect to his overall conclusion that PC13 "may be considered both efficient and effective, from an economic perspective".
 - a. Because of the difficulty in quantifying the myriad and often competing values which underpin the plan's objectives, there is some difficulty in concluding that the economic costs of delivering on the plan's overall objectives outweigh the economic benefits.

- b. The economic assessment assumes that farming activities without the ability to intensify, develop or diversify as a result of PC13 are economically sustainable propositions in the long term.
- c. The economic assessment assumes there is sufficient certainty for both plan users and the Council around how the provisions apply to the geographic areas, the portions of each farm, and applicable activities.
- d. The proposed discretionary activity consent status and inherent associated costs and uncertainties do not dissuade development which may otherwise be considered feasible or compatible with the overall objectives of PC13.

II. SCOPE AND PURPOSE OF EVIDENCE

- 7. As he outlines at paragraph 3.1 of his evidence, Dr Fairgray has been engaged by the Mackenzie District Council (Council) to provide evidence in relation to its post consultation version of Plan Change 13 to the Mackenzie District Plan (PC13 (s 293V)). Dr Fairgray's approach has been to carry out an assessment of the economic implications of Council's proposed controls for pastoral intensification under PC13 (s 293V).
- 8. Dr Fairgray notes the key matters considered in his evidence are:
 - a. the extent to which the provisions of PC13 - in themselves and in combination with other provisions of the district plan - are likely to achieve the greater protection which is sought;
 - b. the appropriateness of the proposed provisions in terms of their efficiency and effectiveness, and;
 - c. the extent and nature of the costs and benefits to the community and economy of achieving such protection.
- 9. My evidence primarily focusses on the latter two aspects; the appropriateness of the proposed provisions in terms of their efficiency and effectiveness, and the extent and nature of the costs and benefits to the community and economy of achieving such protection.

III. STRUCTURE OF EVIDENCE

10. I will largely follow the structure of Dr Fairgray's evidence with a view to:
 - a. Providing further information around the economic context facing farmers in the Mackenzie District;
 - b. Expanding upon the likely socio-economic impacts of provisions of PC13 on both the primary production sector and the rural communities of the Mackenzie District;
 - c. Discussing the implications of these areas in addition to Dr Fairgray's evidence, and how they may be considered to impact Dr Fairgray's conclusions.

IV. MACKENZIE DISTRICT ECONOMY

11. Dr Fairgray discusses the Mackenzie District economy in his evidence at paragraphs 4.9 to 4.20. In his evidence, Dr Fairgray provides national data around the relative importance of the Dairy and Tourism sectors (at 4.11 to 4.13), concluding at 4.13 that:
 - a. *"national level data suggests that tourism will continue to grow rapidly in the future to become the largest export earner. The dairy sector is expected to decline in the near future and then stabilise at a slower rate of growth (substantially slower than tourist activity)."*
12. In providing this comparison, Dr Fairgray focusses solely on levels of employment. This is a reasonable measure, although the qualifier should be applied that this is not the only relevant measure to assess the relative contribution to the Mackenzie District economy from different sectors. In particular, Dr Fairgray does not acknowledge that different sectors provide different remuneration.
13. Employment numbers do not reflect the relative contributions to employment remuneration between sectors - Statistics New Zealand data¹ indicates that at a national level the Agriculture, Forestry and Fishing sector provided the following wage and salary rates in 2015:
 - a. Average Hourly Rate: \$22.72
 - b. Median Hourly Rate: \$19.18

¹ Statistics New Zealand: "Earnings from main wage and salary job by industry (ANZSIC2006)", 2009 onwards.

c. Median Weekly Earnings \$800

14. Comparatively, the Retail Trade and Accommodation sectors provided the following wage and salary rates in 2015:

a. Average Hourly Rate: \$20.02

b. Median Hourly Rate: \$16.63

c. Median Weekly Earnings \$578

15. While these are national figures, and the 'granularity' of the data and its relevance to the Mackenzie District remains unclear,² if these figures are taken to be indicative of the relative remuneration for these sectors in the Mackenzie District, the following is of interest in relation to the different wage and salary rates between sectors (2015):

a. The Average Hourly Rate for the Agriculture, Forestry and Fishing sector exceeds the Average Hourly Rate for the Retail Trade and Accommodation sectors by 13.5%.

b. The Median Hourly Rate for the Agriculture, Forestry and Fishing sector exceeds the Median Hourly Rate for the Retail Trade and Accommodation sectors by 15.3%.

c. The Median Weekly Earnings for the Agriculture, Forestry and Fishing sector exceeds the Median Weekly Earnings for the Retail Trade and Accommodation sectors by 38.4%.

16. This further information does not contradict Dr Fairgray's conclusions in relation to the growing nature of tourism related employment in the Mackenzie District when compared to the number of those employed in the agricultural sectors. However, it does underline that not all employment is equal in terms of socio-economic benefit to the District. In relation to Median Weekly Earnings, a significant factor in the difference between the sectors will be the hours of employment, with the Retail Trade and Accommodation sector likely employing a larger proportion of part time workers. The nature of employment will also impact (to a lesser extent) the median and average hourly rates, as part-time employment will presumably provide lower wages or salaries. However, it is worth noting that industries with higher hourly and weekly wages and salaries provide relatively more benefit to the District, and while the

² In particular, there is an important question as to how the aggregate data captured under the overall grouping 'Agriculture, Forestry and Fishing sector' and 'Retail Trade and Accommodation sector' may reflect the primary production and tourism related industries within the Mackenzie District. This specific information does not appear to be available.

tourism sector may be providing an increasing proportion of the District's employment, this does not mean it is relatively high value employment.

V. ADDITIONAL ECONOMIC INFORMATION

17. In addition to the discussion contained in Dr Fairgray's evidence, it is useful to provide some further socio-economic information to provide context to farmer concerns.
18. District and Regional trends for farming - Statistics New Zealand has tracked the number of farm holdings and the total area of farms, since 1990. While these statistics have only been recorded specifically between 1990 and 1996, they have been recorded for the Canterbury region more generally until recently (please see **Appendix 1: Number of Farm Holdings and Total Area of Farms for the Mackenzie District and Canterbury region**).
19. This data indicates a significant reduction in the Number of Farm Holdings:
 - a. In the Mackenzie District, reducing from 305 holdings in 1990 to 265 holdings in 1996;
 - b. In the Canterbury region, reducing from 9,961 holdings in 1990 to 8,460 holdings in 2015.
20. The data also indicates a reduction in the Total Area of Farms:
 - a. In the Mackenzie District, reducing from 580,499 hectares in 1990 to 567,607 hectares in 1996;
 - b. In the Canterbury region, reducing from 3,096,774 hectares in 1990 to 2,682,476 hectares in 2015.
21. Number of Farm Holdings - In respect to the Number of Farm Holdings, it is naturally expected that there will be some consolidation in farm holdings due to economies of scale. However, there will also be a relationship between a reduction in the proportion of land used for farming and the number of farm holdings.
22. Reducing Total Area of Farms (regional statistics) – There are two points to make in respect to this trend in reduced land; the overall land used for primary production across the Canterbury region as a whole, and by extension the Mackenzie District:
 - a. The first is that this underlines Dr Fairgray's evidence around the reduced reliance of employment in the agriculture sectors within the Mackenzie District.

Fewer farming operations and less land farmed leads in turn to fewer employment opportunities within the primary sector, all else equal.

- b. The second is to discuss the potential drivers for this reduced use of land for agriculture, how this explains the concerns from farmers that unnecessary restrictions inhibit the economic sustainability of farming in the District, and the broader implications (addressed further in this evidence).
23. Rate of Return on Farm Capital - There is limited capacity for farms (particularly extensive farms) to incorporate additional costs if these are not at least offset by increased farm productivity or profitability, particularly over a significant period of time. There is also a need to provide farming operations with the ability to diversify beyond primary production, and, within reason, make reasonable changes to land use. This is because the overall rate of return (RoR) on Farm Capital is low, relative to other potential investments.
 24. The RoR or gain on investment is the income gain on an investment, plus realised capital gains but excluding unrealised capital gains. While the RoR will differ by farming type and specific farming performance, the benchmark indications used by the Beef and Lamb sector indicate a relatively low RoR from South Island High Country and South Island Hill Country farming operations over the past three years.
 25. Investment in farming 'assets' of these types will have or will be expected to deliver benchmark returns of less than 1% over the previous three years as is shown in **Appendix 2: Performance Indicators Per Farm South Island High Country**. This compares poorly to the expected RoR of other financial vehicles, particularly over time.
 26. One implication of this low RoR is that there is limited capacity for farmers to shoulder additional costs where these do not contribute to additional productivity or lower costs, particularly over the long term. Another implication is that for future investors, returns from farming may not seem as feasible against other alternative investments, where these offer a higher RoR.
 27. A further point from the Performance Indicators contained in Appendix 2 is that these 'benchmark' farming systems are currently relatively well capitalised (with equity sitting at 77%). While specific and individual circumstances will vary, well capitalised farms are generally those which have been farmed for a significant period of years, with newer entrants to the industry more likely to be required to borrow to fund the farm purchase. This would generally be expected either where a farm is purchased by

a new entrant to the industry, or where farm succession has taken place (for instance, a son or daughter purchasing a farm off his or her parents, or capitalising to 'buy out' siblings from the farming operation). The other general alternative is subdivision of the farm, either changing land use or subdividing to provide for a retirement residence for the previous owner (where allowed under district planning provisions).³

28. Farmers as a demographic are ageing - While farmers are attracted to the industry for a number of reasons beyond the expected financial returns, indications are that farmers as an overall demographic are ageing. Research based on Census data indicates that the average age of farmers in the 2013 census was 47.7 years, up from 46.4 in 2006, and against an average age of the employed population (15 years of age and over) in the 2013 census of 41.⁴ This in turn raises questions around the issue of farm succession, and the viability of farm succession.
29. In summary, current farm returns (based on return on equity) are relatively low, there is limited ability to shoulder additional costs which are not at least offset by increased productivity over the long term, and there is a need to provide sufficient scope for farms to diversify and provide for farm succession planning. In any respect, with the farmer demographic ageing as a general trend, there is the potential for changing ownership or management. Changing farm ownership brings with it a requirement to assess the economic feasibility (and expected RoR) for investment in the asset, as one of a number of factors (including lifestyle choices and other social considerations).
30. A further point in relation to the Beef + Lamb benchmark data is the costs of pest plant and animal control. These costs are forecast at an average expenditure of \$25,630 per farm in 2015/16, up from a provisional spend of \$24,588 in 2014/15 (a 4.2% increase year on year). While this expenditure is of direct benefit to the farming operation, it is also expenditure which contributes to the public good maintenance of the visual amenity values which are underpinning the objectives of the proposed plan. This expenditure is underpinned by the economic viability of the farming operation overall.
31. This information does not contradict the fundamental points made by Dr Fairgray in his evidence, in relation to his discussion around the Mackenzie District Economy and

³ See, for example, the ANZ guide to farm succession planning at http://www.anz.co.nz/resources/9/0/903b5162-1d0a-480d-bcab-1322294f5200/passing_baton.pdf?MOD=AJPERES

⁴ Based on work by agribusiness scientists John Fairweather and Stephanie Mulet-Marques (F&MM) of Lincoln University, summarized at <http://www.stuff.co.nz/business/farming/agribusiness/71539606/Farmers-are-an-ageing-demographic>

Community. However, it does underline some of the socio-economic pressures which underpin the need to provide sufficient scope for farmers to diversify and/or intensify in the District.

32. There will likely be a proportion of farmers who are engaged in some form of tourism in the District, particularly in relation to farmstays and bed and breakfasts on-farm. These enterprises will likely have no or little impact on the employment data referred to by Dr Fairgray, in that it is likely that these will largely be serviced by the owners, rather than directly resulting in additional employment in the District. However, it is important to recognise that these enterprises provide an inherent incentive for farmers to place a value on the tourist attractions provided by landscape and amenity values in the rural areas, while providing an option for the farmer to diversify beyond solely primary production activities. At the same time, given likely economies of scale and restrictions around development in the rural area, tourism focussed enterprises of this sort on-farm are likely to be predominantly ancillary to farming rather than a viable stand alone enterprise comprising a significant proportion of on-farm income.

VI. ECONOMIC THEORY AND RMA

33. The argument for regulatory intervention – In section 5 of his evidence, Dr Fairgray discusses economic theory and how it relates to the Resource Management Act. I agree with the comments contained in paragraphs 5.1 to 5.3, particularly that:
- a. *Social efficiency, which considers the distribution of resources taking into account both internal benefits and costs (market), and external benefits and costs (externality), is an especially relevant concept for the RMA.*
34. I further agree with Dr Fairgray in respect to a point made at paragraph 5.4 that a regulatory approach is required where optimal economic outcomes are not achieved “through the operation of ‘monetisable’ markets”. However, it should be noted that there is a difference between the overall need to regulate to provide for optimal public (or net) outcomes on one hand, and the shape and imposition of the regulatory approach on the other. This is particularly the case where regulation imposes some costs on the private sector or private individuals; where equity and efficiency can conflict.
35. As acknowledged at paragraph 3.4 of Dr Fairgray’s evidence, there are costs imposed on the farming sector through proposed regulation, with benefits (largely) accruing elsewhere, or to the public good. Without a mechanism to transfer this value the

consequence is an imposition on those regulated, to the betterment of others or the public good. In addition, the 'shoe leather' costs of that regulation (both in respect to those regulated and the regulator) are an additional cost which should be considered in respect to the net economic benefit of a regulatory approach. While this is not an argument not to regulate, these costs are relevant considerations, and it does underline the need to shape that regulation in a manner that attempts to limit the costs imposed upon those facing the regulation and consequential costs.

36. At paragraph 5.9, Dr Fairgray discusses the potential for farming to conflict with the protection of landscape values and environmental quality:

a. In the case of land use for farming (and other) purposes a range of externalities commonly exist. In the Mackenzie Basin, farming activity has the potential to affect the landscape values and environmental quality of the Basin. The issue at hand is how best to achieve the objectives of PC13, given there is potential for direct conflict between those objectives – that is, to enable pastoral farming on land in the Mackenzie Basin, and to provide adequate protection of the landscape values and environmental quality.

37. There is without doubt potential for land use to impact on both landscape values and the environment. At the same time, as stated by Dr Fairgray in relation to his discussion around the need for a regulatory approach at paragraphs 5.11 to 5.18, it is important to also recognise the costs (including opportunity costs) imposed on those facing regulation and the implementation costs (including shoe leather regulatory costs) when considering the nature of that regulation. As discussed earlier in this evidence this is a particular concern given the relatively low Rate of Return (RoR) from farming at present.

38. I agree with Dr Fairgray's comment at 5.10, that "adverse effects (on landscape) may not automatically ensue from intensification", and that "from a societal perspective, the optimal outcome would arise where the benefits of additional farming activity can be maximised provided that the adverse effects on landscape values and environmental quality are at a level acceptable to society". Providing for an optimal outcome will ideally provide for compatible or marginal development of intensification in a way that does not directly or cumulatively undermine the landscape values PC13 is seeking to preserve. Indeed, as addressed earlier in this evidence, I argue that providing for reasonable land use intensification and development up to this point in fact underpins

the economic viability of the farming operations which deliver a significant proportion of those landscape values.

39. Consequently, I agree with Dr Fairgray's discussion at paragraphs 5.11 to 5.18 (encapsulated at para 5.17) on the need for a regulatory intervention to provide for an optimal public (or net) outcome. As a qualifier, it should be noted that there is a further risk to acknowledge in relation to Dr Fairgray's discussion around the difficulty of quantifying the costs and benefits associated with landscape values and the natural environment. I agree that this represents "a complex balancing act for local and central government authorities and community groups, as well as for direct users of the land". However, in attempting to achieve this optimal balance there is also a risk of over-regulation. This is particularly important as the net benefits of regulation in order to protect landscape values and the natural environment are indeed difficult to quantify, while the costs (including opportunity costs) of this regulation are (largely) imposed upon the private individual or specific sectors rather than being internalised by the wider public or the regulator. If the public benefits are difficult to quantify, and the costs are borne by a small proportion of the community, there is a risk that the costs imposed through regulation do not achieve the balance Dr Fairgray refers to. Again, in my view, this underlines the need to appropriately consider the cost impositions on the farming sector through the proposed plan change.
40. Relevant Benefits and Costs – Dr Fairgray discusses the direct costs to consider between paragraphs 5.19 to 5.27. I largely agree with Dr Fairgray's discussion, with the following qualifiers. The first is that, while I agree with Dr Fairgray's discussion that it is the *net benefit* of foregone production which should be considered, it is important to recognise that the costs in providing for additional productivity discussed in paragraph 5.19, including "capital costs for equipment such as irrigators and livestock (especially for dairy conversion), as well as in farm operating costs" will be costs that are spent in the District and Regional economies. This is an important qualifier to Dr Fairgray's statement at paragraph 5.20 that the opportunity costs are "predominantly private costs". While it is not stipulated, it appears Dr Fairgray is referring to the direct opportunity costs in this statement. This should be made clear to those reading the evidence, although Dr Fairgray addresses the public benefits of additional spending at paragraphs 5.22 to 5.24, and the indirect or wider public opportunity costs at 5.28 to 5.35.
41. The broader direct opportunity costs are difficult to quantify for the reasons outlined at paragraphs 5.24 to 5.26. However, this is likely to be significant. As outlined in Dr

Fairgray's evidence, there has been work put into estimating the overall value of irrigation at a national level,⁵ with the overall findings that irrigation contributes to New Zealand economic activity in a number of direct and indirect ways:

- a. *it lifts agricultural production, which boost farm gate returns;*
- b. *this additional production draws in additional inputs such as agricultural services and transport;*
- c. *the extra on-farm volumes also lead to more activity in the primary processing sectors.*⁶

42. I agree with Dr Fairgray's point of view that estimating these costs would require an understanding of the extent of the potential irrigable land, and that this information does not appear to be available. As stated earlier in this evidence, a more fundamental question is whether the return on farm investment is sufficient to ensure that farming activity without access to irrigation and farm development which would otherwise occur is an economically sustainable proposition in the long term. Although this is well outside the scope of Dr Fairgray's evidence it is a concern for the affected farmers and a broader consideration for the District's decision makers overall.

43. District-wide effects - Dr Fairgray discusses the indirect effects of increased farm output at paragraphs 5.28 to 5.35. I agree with Dr Fairgray's approach. However, in terms of leakage (discussed at paragraphs 5.31 to 5.32), while I agree that in "smaller and less comprehensive economies such as Mackenzie, a substantial share of farm and other spending on goods and services will 'leak' out of the local economy", it should be noted that to an extent there will be an inter-reliance between smaller rural economies. This may mean, for example, that local townships develop a relative comparative advantage which results in integration and differentiation of goods and services between towns and cities outside and within the district. Therefore the economic losses to the District from these leakages should not be over-played, and in fact it may be appropriate to consider the region-wide impacts rather than the District impacts specifically.

44. Benefits from Landscape Values – I agree with Dr Fairgray's treatment of this discussion. In particular I agree there has been as yet no systematic economic valuation of New Zealand landscapes, either generally or for specific locations such

⁵ *Value of irrigation in New Zealand: an economy wide assessment.* NZIER and AgFirst Consultants, November 2014.

⁶ *Ibid.*, page 4.

as Mackenzie Basin, and that this creates a difficulty in assessing the necessary trade-offs. However, I outline the following qualifiers already stated within this evidence. The first is that as the benefits from landscape values are difficult to quantify, and the direct costs of regulating landscape values are largely borne by private landowners, there is some risk of 'over-regulation' or a lack of appropriate consideration of the regulatory costs imposed on these individuals. The second qualifier is that from an individual landowner's perspective, a large proportion of the costs of maintaining the visual amenity is shouldered by the landowner (for example, through pest plant and pest animal management) which is in turn underpinned by the on-going economic viability of the farming operation overall. Overall this necessitates finding a balance between the costs imposed on farming operations and the level of protection provided to landscape and visual amenity.

45. Potential Costs from Loss of Landscape Values - I agree with the discussion between paragraphs 5.48 to 5.56 around the difficulty of quantifying the economic costs of a loss of landscape values. I also agree that this economic loss can not simply be taken to be the potential losses to the tourism industry, as there would also be some loss to locals and loss that is not captured through an economic assessment of the impact on the value of landscapes to tourism. As discussed earlier in this evidence I consider that farmers will also place significant economic and non-economic value on the District's landscapes and visual amenity.
46. Context for Assessing Costs and Benefits of PC13 – Dr Fairgray discusses, at paragraphs 5.57 to 5.59, that while the economic information discussed “is very useful for establishing context, and as background for assessing location-specific benefits and costs as proposals arise” it is less use for “assessing the benefits and costs of PC13 at the whole-of-subzone level”. While I agree with Dr Fairgray in this respect, it should be acknowledged that this is a source of tremendous frustration to the farmers facing the implications of proposed regulation, as their primary concerns relate to the cost imposition (including opportunity costs, regulatory costs and indirect costs) of the proposed plan change. The ability to appropriately quantify the relative costs and benefits of the proposal would provide for recognition and consideration of these costs, particularly the costs being borne by individual landowners in the aim to protect visual amenity and landscape values. As these remain unquantified, this provides the affected landowners with little objective information to put forward in relation to the likely imposed costs.

VII. PC13 PROVISIONS

47. Proposed PC13 Provisions – Dr Fairgray discusses the broader context for farmer decision making at paragraphs 6.4 to 6.9. As outlined in this section, plan provisions such as those proposed within PC 13 are not the only factor guiding investment and business decisions on-farm. Further factors include “market conditions, financial requirements, other statutory requirements (such as employment and safety laws), social conditions, and environmental conditions (including weather and climate)”.
48. Dr Fairgray mentions these factors, and then concludes (at paragraph 6.7) that farm operators would generally seek to maximise the extent (land area) of pastoral intensification, and seek consent accordingly. I agree that this is essentially the expectations applicable to a ‘rational actor’ facing similar investment decisions with a view to maximising economic returns. However, I consider this section places little weight on some of the mitigating factors discussed in paragraph 6.4, and as a result *may* overemphasise the likely extent of irrigation and intensification.
49. The first concern is the conflation of ‘irrigation’ with ‘intensification’. While it is entirely possible that future irrigation will result in maximisation of productive intensity, it is also possible that irrigation may in many cases be used to underpin existing intensity, particularly in the face of increasing climate variability. For a number of reasons, including land use capability and access to water, farmers do not necessarily intensify as a result of irrigation, and in particular do not necessarily change land use to dairying. For example, while this information relates to the Canterbury region as a whole, Irrigation New Zealand indicates that as of 2015, only 52% of Canterbury’s major irrigated areas were under dairying production, with 22% under sheep and beef and 20% under arable production.⁷
50. While the natural limitations of water availability and land use will play a part in restricting intensification,⁸ so too will regional regulation, in particular restrictions imposed on intensification through Plan Change 5 to the Canterbury Land and Water Regional Plan, as outlined at paragraph 6.2 of Dr Fairgray’s evidence. In addition, demographic factors such as the ageing of farmers may deter significant land use change until farm succession or farm sales occur (indeed, this may also partially

⁷ 2015 New Zealand Irrigation Industry Snapshot, Irrigation New Zealand, page 8.

⁸ As Dr Fairgray outlines in section 5 of his evidence, there is not currently sufficient information to assess the natural limits to further irrigation in relation to the Mackenzie District.

explain the Irrigation New Zealand data I refer to in the preceding paragraph). The result is that irrigation should not necessarily be considered as leading to intensification. This in effect means that regulation should not be considered the only constraint to intensification. While this is not what Dr Fairgray states in his evidence, it is also not made clear how the non-regulatory factors Dr Fairgray discusses in paragraph 6.4 can act as a significant inhibitor to intensification in paragraphs 6.5 to 6.9.

51. Efficiency – Dr Fairgray discusses the Efficiency of Process and the Efficiency of Scale between paragraphs 6.15 and 6.22 of his evidence. I agree with the discussion. I particularly highlight the point made in respect to efficiency being contingent on the certainty of regulation as discussed at paragraphs 6.15 to 6.18. As Dr Fairgray discusses, the PC13 provisions “need to offer certainty as to the geographic areas – and therefore the parts of each farm – to which the provisions apply”. Whether the required certainty has been provided is outside the scope of my evidence and expertise.
52. I would highlight the discussion in paragraph 6.20 of Dr Fairgray’s evidence. There is some uncertainty (Dr Fairgray labels this ‘less certainty’) in relation to how the methods against which a farm’s proposal to intensify will be assessed. A discretionary activity requires a resource consent before it can be carried out, yet a consent authority can exercise full discretion as to whether or not to grant consent and as to what conditions to impose on the consent if granted. Therefore, a discretionary activity status brings with it a significant degree of uncertainty when compared to other consent activity status. As outlined in Dr Fairgray’s evidence, a significant proportion of the values PC13 is seeking to protect, the costs associated with this protection, and the balance between the two, is uncertain. While this does mean that a site or case specific assessment of these matters may be the most effective way of balancing the direct factors relating to each consent application, it also means that the consent applicant is being asked to meet the costs of this uncertainty through consent related costs. A proportion of these costs are essentially the internalised costs of public expectations for (or values of) landscape and visual amenity, or internalisation of the inability to accurately quantify a set of values.
53. Furthermore, as Council has full discretion as to whether or not to grant consent, this investment by the consent applicant can result entirely in a sunk cost. This in itself may act as a deterrent to applicants considering applying for resource consent, with consequential lost production. As Dr Fairgray discusses in relation to the efficiency of

scale, the farm level and site-specific level of assessment is the most efficient way of balancing and adjudicating between the potentially competing matters being assessed. However, it should be acknowledged that the costs of this farm and site specific assessment sit with the consent applicant, as does the related uncertainty.

54. Effectiveness – Dr Fairgray outlines the two matters considered in respect to the effectiveness of proposed provisions in PC13 in:

- a. Protecting the value of the landscapes and environmental features, and;
- b. Enabling farming activity, including intensification, in locations where it is feasible.

55. Dr Fairgray concludes that the proposed provisions in PC13 are likely to be effective, on both aspects. I agree that this is the case in relation to the protection of the value of the landscapes and environmental features of the area covered by PC13. However, I apply the following caveats in relation to the effectiveness of enabling farming activities.

56. The first is, as acknowledged by Dr Fairgray, the effectiveness is contingent on the extent to which locations are deemed 'feasible' for development, and what kind of development this enables. The second is that at a broader level, this assumes the long term economic viability of the farming operations without the on-farm diversification, irrigation and intensification options that would exist without PC13. In relation to landscape and visual amenity values this is a relevant concern given the contribution of the District's farming operations to pest animal and pest plant maintenance. Finally, it is important to acknowledge that the discretionary activity status may dissuade potential farm development in situations where some development may be deemed feasible, as the discretionary activity status provides a significant amount of uncertainty and the direct economic costs of this uncertainty sit largely with the consent applicant.

57. Further, Dr Fairgray again assumes at paragraph 6.25 that the proposed provisions restrict intensification. There is a small but important distinction between intensification at one end of the scale and farm development which enables greater resilience without significantly intensifying the farming operation. This balance is a consideration that can be addressed through the consenting framework; however as above the costs of proving this is the case and uncertainty largely sit with the consent applicant. This is relevant to Dr Fairgray's comment that:

- a. *there may be instances where a farm operator is unable to feasibly intensify a sufficiently large land area, because the restriction on land due to the landscape provisions means it is not feasible to intensify across a smaller land area which is not affected by the provisions.*

VIII. CONCLUSIONS AND IMPLICATIONS

58. Dr Fairgray discusses his conclusions at section 7 of his evidence, concluding that PC13:
 - a. provisions are, overall, likely to be both effective and efficient in economic terms;
 - b. is supported by efficient processes and good information, especially in terms of where change may not occur, and where it can potentially occur; and the provisions against which it will be assessed;
 - c. is likely to be effective because it will place an upper limit on intensification, which itself may be assessed through a relatively efficient process;
 - d. will apply at an appropriate scale in terms of the entities involved and the nature of the key economic processes - farm owners/operators on one hand in relation to intensification, and Council in relation to protection.

59. Dr Fairgray acknowledges the costs to the individual farm operators impacted by the proposed PC13, primarily through opportunity costs (foregone activity, revenue and profit). Dr Fairgray also outlines the benefits to the district economy in terms of economic activity, incomes and employment benefits to tourism sector operators directly, and to the Mackenzie Basin and district economy, from protection of the landscape and other values which will sustain a higher level of tourism activity than would otherwise be the case should the proposed provisions not be implemented. Dr Fairgray further outlines the benefits to the Mackenzie district, regional and national economies and communities, which go beyond that captured through the economic assessment of impacts on the farming and tourism sectors.

60. I agree overall with Dr Fairgray's assessment of these factors; however I consider the following caveats apply in respect to his conclusion that PC13 "may be considered both efficient and effective, from an economic perspective".

- a. Because of the difficulty of quantifying the myriad and often competing values which underpin the plan's objectives, there is some difficulty in concluding that the economic costs of delivering on the plan's overall objectives outweigh the economic benefits.
- b. The economic assessment assumes that farming activities without the ability to intensify, develop or diversify as a result of PC13 are economically sustainable propositions in the long term.
- c. The economic assessment assumes there is sufficient certainty for both plan users and the Council around how the provisions apply to the geographic areas, the portions of each farm, and which activities.
- d. The proposed discretionary activity consent status and inherent associated costs and uncertainties do not dissuade development which may otherwise be considered feasible or compatible with the overall objectives of PC13.

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Appendix 1: Number of Farm Holdings and Total Area of Farms for the Mackenzie District and Canterbury region.

Source: Statistics New Zealand Infoshare series

Variable by Territorial Local Authority (Annual-Jun)		
Mackenzie District		
	Number of Farm Holdings	Total Area of Farms
1990	305	580,499
1991	388	613,433
1992	362	605,607
1993	354	607,831
1994	291	576,656
1995	271	563,812
1996	265	567,607

Variable by Regional Council (Annual-Jun)		
Canterbury Region		
	Number of Farm Holdings	Total Area of Farms
1990	9,961	3,096,774
1991	10,021	3,089,356
1992	9,947	3,026,613
1993	10,500	3,469,096
1994	9,388	3,417,023
1995	9,381	3,407,844
1996	9,139	3,406,299
1997
1998
1999	10,581	..
2000
2001
2002	10,292	3,150,891
2003	9,763	3,123,254
2004	9,655	3,041,828
2005	9,741	2,971,108
2006	9,578	3,006,495
2007	9,520	3,080,261
2008	9,247	2,966,079
2009	9,021	2,985,122
2010	9,084	2,914,680
2011	8,799	2,910,207
2012	8,826	2,801,462
2013	8,682	2,795,676
2014	8,718	2,706,012
2015	8,460	2,682,4

Table information:

Units:

Number of Farm Holdings: Number, Magnitude = Units

Total Area of Farms: Hectares, Magnitude = Units

Footnotes:

There was no agricultural survey conducted in 1997 or 1998. Horticulture was excluded from the 1999 agricultural production survey.

Prior to 1994, the population base for the agricultural production survey's was businesses recorded on Statistics New Zealand's Business Directory that engaged in horticulture, cropping, livestock farming or exotic forestry operations.

Between 1994 and 1996, the population base for the agricultural production survey's was those businesses registered for GST and recorded on Statistics New Zealand's Business Frame as being engaged in horticulture, cropping, livestock farming or forestry.

The population base for the 1999 Agricultural Production Survey was all units recorded on AgriQuality New Zealand's national database 'AgriBase' as holding livestock and/or engaging in grain/arable cropping.

Users should note that 2004 deer figures are not directly comparable with 2002 and 2003 figures. Statistics New Zealand estimates an undercount of about 70,000 deer at 30 June 2002, and 50,000 at 30 June 2003.

Source: Statistics New Zealand

Appendix 2: Performance Indicators Per Farm South Island High Country (Beef + Lamb NZ Analysis)

Financial Indicators – South Island High Country			
Units	2013-2014	2014-15 (Provisional)	2015-2016 (Forecast)
Economic Farm Surplus (\$ per hectare)	9.02	3.67	6.64
Economic Farm Surplus (\$ per stock unit)	7.18	2.87	5.25
Earnings Before Interest, Tax and Rent (per hectare)	31.20	26.55	29.85
Earnings Before Interest, Tax and Rent (per SU)	24.83	20.82	23.58
Rate of Return on Total Farm Capital (%)	0.6	0.2	0.4
Equity At Close (%)	77	77	77

Source: Truncated information from Beef + Lamb NZ Benchmarking analysis, available at <http://portal.beeflambnz.com/tools/benchmarking-tool>