BEFORE COMMISSIONERS APPOINTED
BY THE WAIKATO REGIONAL COUNCIL

IN THE MATTER	of the Resource Management Act 1991
AND	
IN THE MATTER	of the First Schedule to the Act
AND	
IN THE MATTER	of Waikato Regional Plan Change 1- Waikato and Waipā River Catchments and Variation 1 to Plan Change 1
AND	
IN THE MATTER	of submissions under clause 6 First Schedule
BY	**BEEF + LAMB NEW ZEALAND LIMITED** **Submitter**

EXECUTIVE SUMMARY OF RICHARD PARKES
27 June 2019

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BACKGROUND

1. My full name is Richard Parkes.

2. My area of expertise is in Sustainable Agriculture, Farm Systems, Extension and Education. I have over 20 years' experience specialising in agriculture systems and soil conservation and nutrient management.

3. In addition, I am currently member of the Good Farming Practice Governance Group (GFP GG). The GFP GG developed the Good Farming Practice Action Plan for Water Quality 2018.

4. I gave evidence for Beef + Lamb New Zealand Ltd (B+LNZ) as part of its case on the hearing stream 1 (HS1) topics. In my HS1 evidence, dated 15 February 2019, I set out my qualifications, current employment and employment history and professional affiliations. I confirm those details remain current. I have provided a brief of evidence for HS2 dated 3 May 2019.

5. I reconfirm that I have read the Code of Conduct for Expert Witnesses in the Environment Court's 2014 Practice Note and agree to continue to comply with it.

SCOPE OF EVIDENCE

6. I have been requested by Beef + Lamb New Zealand to provide expert evidence on PC1 HS2 in relation to the sheep and beef sector and the implications of Plan Change 1 and Variation 1 (PC1) to the sector in the Waikato. My evidence focusses primarily on the environmental profile of the sector, and the primary mechanisms which drive behaviour change and achieve environmental, and social outcomes, along with business viability.

EXECUTIVE SUMMARY

7. The New Zealand sheep and beef industry has evolved through many cycles of challenge and recovery over the last few decades because of changes in domestic policy, international markets, and environmental conditions including climate change. The sector's ability to adapt has been

dependent on its flexibility. Flexibility allows innovation to occur and builds resilience within the sector.

8. Because of this adaption the sheep and beef sector has developed into a highly diverse and resilient industry that has not only bounce back from challenges but bounced forward rising to the challenges it has faced.

9. Key points in relation contaminant and loss pathways from the Sheep and Beef Sector

    (a) Key potential water contaminants for the sheep and beef sector are sediment, P and faecal pathogens;

    (b) Overland flow is the primary contaminant transport pathway associated with sheep and beef farming;

    (c) Nitrogen loss to water is proportionally much less of a concern for the sheep and beef sector; and

    (d) Most contaminant losses for sheep and beef farms occur over short time scales and/or from small areas of the farm where areas of high contaminant sources and rapid transport processes coincide (CSAs).

10. Tailored Land Environment Plans (LEP) based on proven soil conservation and whole farm planning principals are the suitable method to manage contamination loss pathways from the sheep and beef sector.

11. An LEP is a tool that guides farmers through a recorded assessment of their farms natural capital assets including geology, soil, water, climate, erosion and vegetation. It assists farmers to understand the vulnerabilities and opportunities provided by these natural assets and records what, where and when actions are going to be undertaken

12. Land Environment Planning takes a wider approach to sustainability than purely acting as a compliance tool. Land Environment Planning should consider the economic, environmental and family wellbeing components of the farming enterprise. It acts to add real value to the farming business, guiding long-term strategic farm and business planning as well as day-today management decisions.

13. A strong focus of the LEP is to assist farmers to make the knowledge connections between their underlying natural assets and how their farming systems and enterprises can be optimised to fit the capability of the land

14. As part of a specific Land Environment Plan a farm scale (1:10,000) Land Use Capability (LUC) mapping exercise and Land Resource Inventory (LRI) should be undertaken. This assessment is undertaken regardless of land use and is used to ascertain the lands capability for use, while considering its physical limitations and its versatility for sustained production (Lynn et al.,2009).

15. The B+LNZ LEP Programme is rolled out in three stages and is structure to build farmer capability and drive continuous improvement. LEP 1 is aimed at building awareness and basic understanding of land environment planning. LEP 2 focuses on the identification of land management units and risk management and LEP 3 includes a detailed LUC map, nutrient budget, a works programme and includes on farm environmental monitoring. LEP 1 & 2 are delivered in workshops and are designed so that the farmer develops their own plan, this is essential for adoption and implementation. LEP 3 is delivered with the farmer in a one on one relationship with a professional farm consultant qualified in farm systems, soil conservation and nutrient management. At times due to the specialist nature of these skill a team of advisors may be required.

16. Farmers learn from people they trust, each other and seeing theory implemented and working on the ground. Farmers have low trust in the environmental information coming out of regional councils hence there is immense opportunity for councils to leverage off industry organisations that have farmer trust and networks.

17. B+LNZ LEP programme supported by our Catchment Community programme and RMPP Action Networks create the support required for farmer behavioural change and to support this in the Waikato we worked with the Regional Council to develop a Waikato specific Farmer Environment Plan that incorporates the key feature of Land Environment planning.

18. Since 2013, 249 sheep and beef farmers have attended B+LNZ LEP workshops in the Waikato and since December 2016 a further 194 sheep and beef farmers have attended B+LNZ Waikato specific Farm Environment Plan (FEP) workshops. B+LNZ has also established three environments demonstration farms and contracted a sub catchment coordinator to support sheep and beef farmers to play a lead role in the establishment of catchment community groups.

19. Hill country farms (greater than 15 degrees slope) are located amongst the headwater for many or our waterways including the Waikato River. These headwaters or higher order streams are often technically challenging and cost prohibitive to fence.

20. Where fencing is technically challenging and or prohibitively expensive a range of less costly strategies are often available. These strategies may also be beneficial and act as insurance against the failure of fencing to mitigate contaminant losses (McDowell et al., 2017). Such strategies include tailored farm environment planning including the identification and management of critical source areas, provision of shade and shelter away from waterbodies, reticulated water, and matching stocking class to the capability of the land.

21. Waikato Regional Council and the Upper Waikato Primary Sector Partnership developed the Menu practices to improve water quality. The dry stock menu details a number of additional strategies for example matching stock management to land use capability can have over a 50% reduction in Sediment and Phosphorous and 25% reduction in microorganisms.

22. The Good Farming Practice (GFP) Action plan is a voluntary commitment and like the 21 GFPs it contains, it was not developed with regulation in mind. Good Farming Practice (GFP) are intended to be an evolving suit of practical measures, and as such I do not support their inclusion through regulation in a way that is prescriptive and reduces the role of innovation and on farm adaption. The B+LNZ LEP programme will both deliver and drive the evolution of the Agreed National Good Farming Practice Principles for the Sheep and Beef Sector.

23. It is my recommendation that LEPs/FEPs including farm scale LUC maps along with the LUC Extended Legend for the Waikato Region be used to ascertain the land's capability for sustained use and to identify soil conservation and other mitigation measures to manage the land within the capability limits of its natural capital. The farm's LUC map can be used identify areas suitable for cropping, match management considerations and plan stock exclusion/management around waterways, including the identification and management of stock crossing point. FEPs based on LUC match land use to land capability. The FEP then identifies a programme of work custom made for the property. Critical areas such as very steep slopes, waterways, wetlands and highly erodible areas are identified, delineated and a programme of management put in place to remediate present erosion and reduce the potential for future problems.

Dated 27 June 2019

Richard Parkes