



SUBMISSION

TO THE

**MINISTRY FOR THE ENVIRONMENT &
MINISTRY FOR PRIMARY INDUSTRIES**

ON THE

**ACTION FOR HEALTHY WATERWAYS:
A DISCUSSION DOCUMENT ON
NATIONAL DIRECTION FOR OUR
ESSENTIAL FRESHWATER**

BY

Beef + Lamb New Zealand Ltd

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BY FARMERS. FOR FARMERS

SUBMISSION TO THE MINISTRY FOR THE ENVIRONMENT & MINISTRY FOR PRIMARY INDUSTRIES

Submission on the Action for healthy waterways – A discussion document on national direction for our essential freshwater.

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The specific provisions of the proposal that Beef + Lamb NZ Ltd submission relates to and the decisions it seeks from the Ministries are as detailed on the following pages. The outcomes sought and the wording used is as a suggestion only, where a suggestion is proposed it is with the intention of 'or words to that effect'. The outcomes sought may require consequential changes or restructuring of the proposals, or parts thereof, to give effect to the recommended amendments.

INTRODUCTION

1. Beef + Lamb New Zealand (B+LNZ) is an industry-good body funded under the Commodity Levies Act through a levy paid by producers on all cattle and sheep slaughtered in New Zealand. It is the organisation mandated by farmers to speak on behalf of sheep and beef cattle farmers.
2. Its vision is 'Profitable farmers, thriving farming communities, valued by all New Zealanders'. An important part of B+LNZ is investing in building capability and capacity to support a vibrant, resilient, and profitable sector based around thriving communities. Protecting and enhancing New Zealand's natural capital and economic opportunities and the ecosystem services¹ they provide is fundamental to the sustainability of the sector and to New Zealand's wellbeing for current and future generations.
3. In 2019, the New Zealand sheep and beef sector:
 - Exported over \$9.8 billion of product;
 - Sold an additional \$2.9 billion of product domestically;
 - Employed 80,000 people.²
4. The sector is New Zealand's second largest goods exporter and New Zealand's largest manufacturing industry.
5. A vibrant exporting sector is critical to the wealth of New Zealand. Productivity per New Zealand worker is 36% greater if they are in a firm that is exporting. Employment grows 7% to 12% faster when New Zealand firms start exporting³.
6. The health and wellbeing of the sheep and beef farming sector is important for New Zealand's economy, accounting for 3.2 percent of gross domestic product.

Our Principles

7. B+LNZ supports the general intent and purpose of the '*Action for Healthy Waterways*' proposals (Essential Freshwater proposals) which is to take a holistic view to the sustainable management of natural resources. The sector is actively seeking solutions that enable and empower multiple benefits across New Zealand's range of natural

¹ Ecosystem services are defined as "*the benefits people obtain from ecosystems*". The 'ecosystems approach' has its origins in ecological economics, recognising that the economy is a subsystem of the ecological system, and that sustainable economic activity needs to be performed within the biophysical limits of the natural environment. Natural resources scarcity is nowadays the limiting factor to economic development.

² "Economic Contribution of the Sheep and Beef Sector", NZIER

³ R. Fabling and L. Sanderson (2010), *Exporting and performance: Market entry, expansion and destination characteristics*, Reserve Bank of New Zealand Discussion Paper 2010/17

assets including biodiversity, aquatic ecosystem health, soils, climate, and healthy vibrant communities.

8. Sheep and beef farmers host 2.8 million⁴ hectares of native biodiversity, including 1.4 million hectares of native forest. This is New Zealand's second largest holding of native forest and native biodiversity – bettered only by the Crown Estate. In some regions, such as East Coast, there is more native biodiversity on sheep and beef farmland than in Crown ownership. Added to this is an estimated 180,000 hectares of forestry blocks. This means that the sheep and beef sector is particularly invested in indigenous biodiversity; and this is why B+LNZ has, through its Environment Strategy, committed to leading the sector towards its vision of sheep and beef farms providing habitats that support biodiversity and protect native species.
9. There is no doubting that the challenges facing New Zealand are significant and will require step-changes in how New Zealanders value and manage the natural resources that support their way of life.
10. Sheep and beef farmers have an in-built capacity for change. The shifts in the industry in the 1980s when subsidies were removed, and farming businesses were restructured are an extreme example. New farming systems were developed to maximise economic opportunities within the constraints of the natural environment. However, the policy changes of the 1980s were not without significant costs to the industry, farming businesses, and the rural communities they supported. Sheep and beef farmers adapted to climatic, societal, consumer and regulatory requirements, because there was the flexibility and time to do so.
11. The principles B+LNZ adheres to are:
 - (a) Policy should recognise, reward, and incentivise the protection and where degraded, enhancement of aquatic ecosystem health on farm; and
 - (b) Healthy aquatic ecosystems are a valued and inherent part of productive farming systems.
12. Freshwater policy and implementation pathways should be transformative in design, enabling and empowering individuals and communities to build resilience across all their wellbeings, including ecosystem services, community and cultural wellbeing, and economic wellbeing. Policy and pathways need to provide for clear and time-bound outcomes to provide business and community certainty including investment certainty. They also need carefully crafted frameworks that enable flexibility and innovation and to provide for business and community adaptation.
13. It is imperative that domestic freshwater policy is not created in isolation of other considerations. Instead, freshwater policy has to provide a transformational policy foundation that will empower New Zealand's sheep and beef sector to continue to build diverse, resilient, productive landscapes for the benefit of all New Zealand and maintain vibrant thriving communities.

⁴ Norton D., Pannell J., 2018. Desk-top assessment of native vegetation on New Zealand sheep and beef farms.



Figure 1: B+LNZ's Environment Strategy Pillars⁵

- 14. B+LNZ requests the opportunity to further discuss the points above with the Ministries, Ministers, and the independent advisory panel.
- 15. For any inquiries relating to this feedback please contact Corina Jordan on 027 202 7337 or email corina.jordan@beeflambnz.com.

Yours faithfully,

Sam McIvor
Chief Executive Officer

31 October 2019

⁵ B+LNZ's Environment Strategy: <https://beeflambnz.com/environment-strategy>

PART 1: GENERAL SUBMISSION

16. The government has released its Essential Freshwater proposals, which constitute an extensive and wide-ranging suite of standards aimed at ‘holding the line’ and ‘no further degradation in water quality’. The suite of proposals includes changes to the National Policy Statement for Freshwater Management (NPSFWM), a National Environmental Standard (NES) including requirements for a Freshwater Module to Farm Plan (FM-FP), and section 360 Regulations for stock exclusion from waterbodies.
17. Overall, the discussion document sets out the problem fairly well and considers most of the obvious challenges and opportunities facing the natural environment now and in the future. However, there are a number of areas where the proposals will fail to achieve the sustainable management of natural resources, and where perverse outcomes are likely to eventuate including significant impacts on environmentally responsible farming systems, and the health and wellbeing of rural communities. These are addressed further below.
18. B+LNZ is supportive of the overall objective of protecting and restoring the health of New Zealand’s rivers and lakes for future generations and is committed to playing its part towards that objective. We believe that this objective is more than just water quality, and rather represents a holistic and integrated view of the health of aquatic ecosystems⁶.
19. The concept of ‘ecosystem health’ has become increasingly incorporated into policy for the management of freshwaters. An overseas example is the implicit reference to the concept in the European Union Water Framework Directive which seeks to attain “good ecological status” in freshwaters. In New Zealand, the National Policy Statement for Freshwater 2014 recognises the importance of values relating to “safeguarding the life-supporting capacity of water and associated ecosystems” which include the value of “healthy ecosystem processes functioning naturally”, in giving effect to Part 2 of the Resource Management Act (RMA) (1991)⁷
20. Healthy freshwater ecosystems and processes are not synonymous with water quality. Water quality is a part of water’s health, but the level of quality (numerical outcome) and the parameters chosen are dependent on what values are being provided for. As such, concepts of ‘maintenance and where degraded restoration’ are more appropriately shaped by that end goal which is ecological health and the full suite of national and more

⁶ ‘Ecosystem health’ has been defined as a combined measure of the vigour, organisation and resilience of an ecosystem (Rapport et al., 1998). In this context, ‘vigour’ can be related to the ability of an ecosystem to sustain life. In freshwaters, this may, for example, become impaired by the presence of a toxic pollutant. ‘Organisation’ relates to the extent of integration between ecosystem components. In freshwaters, this may, for example, become impaired by the extirpation of native species due to a change in habitat quality. ‘Resilience’ has been identified as an important feature of a ‘healthy’ ecosystem. In freshwaters, increasing pollutant levels or habitat loss would indicate instability and therefore impaired resilience (Dobiesz et al., 2010).

⁷ Part 2, section 5 Purpose (1) The purpose of this Act is to promote the sustainable management of natural and physical resources. (2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while— (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

locally relevant values including community values. Other relevant matters therefore more clearly and closely related to the broader concept of 'ecosystem health' and which are more widely recognised in the ecological literature to be considered when assessing the health of a waterbody include:

- (a) River geomorphology and processes;
 - (b) Connectedness;
 - (c) Ecological corridors, and riparian margins;
 - (d) Additional water quality parameters (Dissolved Oxygen, temperature, conductivity, deposited sediment);
 - (e) Biodiversity indicators such as the Macroinvertebrate Community Index (MCI) and measurements of biota (e.g. fish, birds); and
 - (f) Mātauranga Māori indicators such as the cultural health index (CHI).
21. The key issues to be resolved in these proceedings, and which B+LNZ's submission is focussed on, are therefore the appropriate linkages between the Essential Freshwater proposals and the requirements of the higher level statutory documents including the recognition of the full suite of values which must be provided for, the methods including standards by which to achieve them, and the timeframes for any transitions that may be required. The requirement to give effect to the RMA, and to safeguard the life supporting capacity and ecosystem health and processes of freshwater are not, in the opinion of B+LNZ in contention, but the methods to achieve this, including the appropriateness of the Essential Freshwater proposals and water quality freshwater objectives are.
22. B+LNZ submits that the government's objective of "*holding the line*" and "*no further degradation*", in relation to water quality, represents a narrow view of what is required to safeguard the life-supporting capacity and ecological health and processes of freshwater resources, and has led to a suite of proposals which essentially adopt a narrow view of health and a one size fits all approach to its achievement. The outcome is that low emitting farming systems such as sheep and beef operations, will bear a disproportionate effect of the proposals, well in excess of the sector's environmental impacts, with cascading effects on rural communities.
23. B+LNZ submits that the Essential Freshwater proposals are, in part, inconsistent with the sustainable management principles of the Act, in relation to reflecting both limbs of sustainability under Part 2, and have not been developed in consideration of the suite of values which are to be recognised and provided for under the RMA and in giving effect to the NPSFWM. Furthermore, the proposals and their supporting Regulatory Impact Analysis (RIS) reflect at best an immature understanding, and at worst a biased view, of the relative primary sector activities and businesses and the impact that this suite of proposals will have on them.
24. B+LNZ overarching concern with the Essential Freshwater proposals is therefore its incorrect philosophy of 'hold the line', and its corresponding range of essentially

“grandparenting”⁸ provisions which, in effect, place a higher cost of compliance on environmentally responsible farming systems including lower intensity sheep and beef systems. While the government says these are interim until Councils have new plans in place, there are no timeframes, and based on previous experience Council processes take many years to implement. This then coupled with the provision of consenting pathways through Essential Freshwater have the effect of tying up natural resources for up to 10 years and potentially longer. This would cement the grandparenting approach to allocation and the management of Natural Resources in policy. This flies in the face of assurances this government has given to not allocate natural resources by grandparenting and rather base allocation on the natural capital of our natural resources.

25. B+LNZ has had a longstanding approach with respect to concerns about grandparenting, one that is based on sound principles of fairness, equity, ownership of own issues and responsibility. Underlying all of this, is the principle that we should not offset impacts either between farming systems, catchments, or communities. B+LNZ’s allocation principles are attached as Appendix 1.
26. The sheep and beef sector requires flexibility in land use and farming systems, and in relation to potential emissions, in particular nitrogen allowances. This is in order for farmers to be able to address other more relevant environmental concerns for our sector such as phosphorus, sediment, and faecal losses, along with other imperatives such as biodiversity, and climate change and adaptation, and in ensuring business viability and resilience moving forward, especially in the drive to high value- products for discerning customers. The sheep and beef sector is also fundamental to the health and wellbeing of our rural communities, therefore the survival of these businesses is inextricably linked to the survival of these communities.
27. B+LNZ is therefore deeply concerned that the sheep and beef sector will be disproportionately and negatively affected by the suite of policies to address other environmental issues, when it is not the main contributor to those issues, and will be subject to rules which in general are not suitable for the environmental issues the sector faces.
28. B+LNZ seeks that any regulatory or policy requirements be commensurate with the impact of the particular activity, farming system, or land use, that provisions are effects based, and that individuals or enterprises are held accountable for their own contaminants. Flexibility must be provided for farmers to adapt and innovate to meet the multiple demands on their businesses both environmentally and from our markets, and that any policy framework should empower and incentivise the farm practice changes required to deliver on an environmentally and economically sustainable future for New Zealand.
29. There is also the requirement for certainty if imposing regulation on communities. That certainty allows for communities to plan for their future and make decisions about their wellbeing, including socially, economically and spiritually. The Essential Freshwater proposals create significant uncertainty by locking in extensive farming systems.

⁸ As defined in natural resource economics as holding an activity or resource use to historic levels

'Holding the line' can significantly increase compliance costs to address issues that are not relevant to a catchment.

30. By locking in farming systems to very low nutrient loss levels, it removes the capability of these producers to adapt and remedy environmental issues that are pertinent to their catchment. For example, if sediment was an issue for a property but financially prohibitive mitigations and practices had been applied to reduce nitrogen leaching on a farm with minimal nutrient loss, their ability to address sediment issues would be prohibited. However, farming systems that have excessive environmental impacts will have flexibility to change their production and defer reducing their environmental impacts for the current 10-year planning cycle of the proposals.
31. Agriculture is essential to New Zealand's economic wellbeing and is vitally important to the sustainability, vibrancy, and health of its communities. The sheep and beef sector is a significant farm type and employer across New Zealand. These factors combined mean that the sheep and beef sector is inextricably linked to the country's viability and economic success.
32. The sheep and beef industry is diverse, adaptable and to date has been resilient, continually making eco-efficiency⁹ gains in how it produces red meat. Sheep and beef farmers have managed to maintain meat production, while decreasing the total number of animals farmed, made significant progress in reducing their environmental footprint, protected significant native biodiversity, while losing some of their most productive land to other land uses. This speaks to the sustainability of the sector and its environmental integrity. The profile of the sector is set out in Appendix 3 Technical Report by Mr Andrew Burt.
33. In relation to water quality, the main contaminants that sheep and beef farmers should consider and on which an appropriate effects-based policy should be based, are those which flow over the land such as phosphorus, sediment, and faecal matter. Nitrogen loss to water is proportionally much less of a concern for the sector¹⁰. National State of the Environment Reports, such as Environment Aotearoa, show that while sediment and phosphorus remain an issue in some catchments, these contaminants are reducing overall.
34. In relation to nitrogen emissions, the sheep and beef sector has an average nitrogen leaching rate (as modelled by OVERSEER) of 17kgN/ha/yr and a lower range of 9kgN/ha/yr (just above the modelled nitrogen leaching of forestry). It has reduced its overall annual N leaching from 113 million kg/yr in 1990 to current levels of 68 million kg/yr in 2017 (-40%). On other intensive farming systems, the average nitrogen leaching (as modelled by OVERSEER) is closer to 50kgN/ha/yr depending on the land use, and can be as high as 120kgN/ha/yr for some horticultural crops and intensive irrigated dairy

⁹Eco-efficiency has been proposed as one of the main tools to promote a transformation from unsustainable development to one of sustainable development. Eco-efficiency is based on the concept of creating more goods and services while using fewer resources and creating less waste and pollution.

¹⁰ Parkes (2019) Evidence in Chief Mr Parkes on behalf of B+LNZ on Waikato Regional Councils Plan Change 1

on coarse soils. The annual N leached from the dairy sector has significantly increased – from 73 million kg/yr in 1990 to 130 million kg/yr in 2017 (+78%).

35. At the management scale such as catchment or sub catchment, those that are under extensive farming systems or sheep and beef do not have a nitrogen issue in that environmental bottom lines (DIN 1mg/L) are met or the catchment water quality is better than this¹¹. As shown by the modelling undertaken by Dr Canning, instream nitrogen issues are predominantly related to intensive farming systems (as determined by animal type and stocking density) and in more vulnerable environments such as on the gravels in Canterbury¹². In catchments that breach the new proposed DIN bottom line (1mg/l), 83% of nitrogen leaching comes from dairy, 7% from beef, 9% from sheep and the rest from deer and other livestock. In these catchments, the average nitrogen leaching required to achieve no greater than a DIN outcome of 1mg/L is 17kgN/ha/yr.
36. Overland flow pathways are best managed through tailored Land and Environment Plans (LEP) and the identification and management of critical source areas¹³ (CSA – the areas that accumulate contaminants and deliver them to surface waterbodies). These areas accumulate around 80% of the contaminants but they only occur on around 20% of a farm or catchment¹⁴. Modelling by MfE supports the effectiveness of targeted Land and Environment Plans (LEPs) and management of CSAs, indicating that the sheep and beef sector should be able to meet the new proposed sediment environmental bottom lines in the National Policy Statement through these approaches, without the need for whole farm afforestation. However, MfE's own evidence is not reflected in the suite of regulatory tools proposed to manage this issue.
37. B+LNZ therefore seeks amendments to the Essential Freshwater proposal so that policy and management approaches take into account the relative environmental impacts of land uses and discharges, are sensitive to farm systems and provide for land use flexibility within boundaries. B+LNZ submits that this approach will more efficiently and effectively provide for the integrated management of natural resource management, achieve the purpose of the Act, and give effect to the NPSFWM.
38. B+LNZ's position is summarised as:
 - (a) Support for the overall goal of the proposals to ensure that freshwater systems are healthy and safe for people to swim in and gather food from;
 - (b) Support clear, science-based environmental bottom lines that protect human and ecological health that are locally relevant and provide for the full range of community and national values;

¹¹ Canning. A (2019) Land Use and the Proposed Nitrogen Bottom – line.

¹² IBID

¹³ A critical source area is: a landscape feature like a gully, swale or a depression, an ephemeral waterbody, or field tiles, that accumulates runoff from adjacent flats and slopes, and delivers it to surface waterways such as artificial waterways, wetlands, rivers and lakes, estuaries, or the coastal marine area.

¹⁴ Dodd, M.B., McDowell, R.W., Quinn, J.M. 2016. A review of contaminant losses to water from pastoral hill lands and mitigation options. Hill Country – Grassland Research and Practice Series 16, 137-148.

- (c) Support frameworks that empower farmers and communities to work together to achieve these outcomes;
 - (d) Oppose the proposed frameworks, rules, and standards that penalise environmentally responsible farming systems and land uses including sheep and beef farms by locking them into current land uses and discharge profiles through the restrictions on land use change rules, FM-FP, and Winter Grazing Rules.
39. B+LNZ seeks the following relief:
- (a) The government re-thinks its 'grandparenting' (based on current land uses and discharge profiles) approach to regulation and standards, and instead adopt an approach that provides flexibility to adapt land uses for low intensity farming systems, which include sheep and beef farms;
 - (b) Amend the restrictive land use change rules to prevent land use change only in high discharging / high intensity land uses, and allow land use change and increases in discharges for extensive, low discharge farms;
 - (c) Delete the FW-FP, and
 - (d) Enable hill country cropping as a permitted activity, and delete standards that hold the area of crop to current or historic amounts.
40. B+LNZ submits that tailored integrated sub-catchment management provides the most efficient and effective method to sustainably manage land and water resources in a way which provides for the economic, social, and cultural wellbeing of communities, and should be enabled and empowered through the Essential Freshwater proposals.
41. B+LNZ submits that tailored Land and Environment Plans focussed on reflecting the natural character of the farm in its catchment context, along with the identification and management of critical source areas, provides an approach which is farm, and catchment-specific, adaptable and can be implemented and owned by farmers and communities, and will be effective in improving water quality as required. The Essential Freshwater proposals should therefore be amended to support and enable industry assurance and Farm Environment Planning programmes such as the Red Meat Sector's New Zealand Farm Assurance programme (NZFAP and NZFAP +) and B+LNZ's Land and Environment Planning (LEP) programme.
42. The recommendations made through this submission are designed to provide land use flexibility, and allow for innovation, adaptability and resilience within the sheep and beef sector, while giving effect to the RMA, NPSFMW, and New Zealand's aspirations for vibrant and future proofed primary industries, thriving healthy communities, and resilient and healthy natural environments.

PART 2: ECONOMIC CONSIDERATIONS

43. The government has produced an interim regulatory impact statement (RIS) to inform Cabinet decisions on the policy proposals and support public consultation on the proposals contained in the Essential Freshwater consultation documents. B+LNZ has considered this interim RIS, and has significant concerns about it. B+LNZ believes that the interim RIS is deficient as it significantly underestimates the impacts and costs of the proposals on the sheep and beef sector and on rural communities.
44. Further economic analyses undertaken by LGNZ^{15,16} and BakerAg¹⁷ (appendix 2) have highlighted the disproportionate impact of the proposals on the sheep and beef sector, which are far in excess of those suggested by MfE. The impacts on the sheep and beef sector are punitive and do not achieve the objectives of the proposal, rather than driving or enabling success, they look fit to cripple a sector which is leading in the sustainable management of land and water resources, and which is well placed to meet global changes in markets into ethical and sustainable red meat production.
45. Modelling by LGNZ¹⁸ in the Waikato-Waipā catchment showed a 68% reduction in land area used for sheep and beef production due to the proposal making farm businesses unviable, while horticulture and dairy land-use remained unchanged. A separate analysis by LGNZ¹⁹ in the Bay of Plenty region showed a 32% decrease from baseline operating profit for the sheep and beef sector, with declines of 5.4% for the dairy sector and 11% for horticulture. Case studies undertaken by BakerAg²⁰ showed a range of declines in Earnings Before Interest Tax and Rent (EBITR) between 5.4% and 30%, and deemed a drop over 10% unsustainable.
46. B+LNZ notes the following comments in the interim RIS from the Ministry for the Environment's Regulatory Impact Analysis Panel *"Some of the individual RIS require further assessment of the impacts and costs on users and Local Government. However, we understand that this analysis is set to be undertaken during (but also informed by) planned public consultation. A final RIS will be developed following public consultation and when final policy decisions are being sought. Though there is no overarching statement of the overall impacts of the package, we recommend that this be developed through and after consultation and included in the final RIS."*

¹⁵ Local Government New Zealand (2019), Initial Economic Advisory Report on the Essential Freshwater Package available here <https://www.lgnz.co.nz/assets/bcbc3efa29/RSWS-Advisory-Report-10-September-2019.pdf>

¹⁶ Local Government New Zealand (2019) Regional Case Studies for Essential Freshwater: Action for Healthy Waterways.

¹⁷ BakerAg (2019), Economic Evaluation of the Government's Proposed "Action for Healthy Waterways" Policy Package, commissioned by Beef + Lamb New Zealand.

¹⁸ Local Government New Zealand (2019), Initial Economic Advisory Report on the Essential Freshwater Package available here <https://www.lgnz.co.nz/assets/bcbc3efa29/RSWS-Advisory-Report-10-September-2019.pdf>

¹⁹ Local Government New Zealand (2019) Regional Case Studies for Essential Freshwater: Action for Healthy Waterways.

²⁰ BakerAg (2019), Economic Evaluation of the Government's Proposed "Action for Healthy Waterways" Policy Package, commissioned by Beef + Lamb New Zealand.

47. B+LNZ is yet to see any further assessment of the impacts and costs on users and local government and is very concerned by the process that is been undertaken. If additional information is being prepared by government agencies to present a more detailed estimate of the impacts of these proposals on the economy, in particular on users such as sheep and beef farmers, it is critical that this information be made public in time inform robust submissions. It is particularly concerning that as it currently stands no further opportunity will be given to members of the public to consider any new information provided by the government before final policy decisions are made. In B+LNZ's view this process, combined with a very short public consultation process, is statutorily unsound.
48. B+LNZ's review of the interim RIS has focused on the short-term costs on farmers presented by the government. As presented by the government, these costs are:
- (a) Freshwater Modules in Farm Plans (FW-FP): an estimated \$3,500 per FW-FP and ongoing auditing costs.
 - (b) Reducing nitrogen: auditing costs of \$1,500 per year per applicable farm in high N-impacted catchments.
 - (c) Intensive winter grazing of forage crops: \$3,000 per consent, with an estimated 2,000 consents required.
 - (d) Addressing high risk land use activities such as stock holding areas and feedlots: \$3,000 per consent and an estimated \$72 per cattle beast to meet infrastructure costs.
 - (e) Restrictions on land use change: Opportunity costs from revenue foregone from intensification (no dollar figure provided) and \$3,000 per consent plus costs for expert opinion/evidence to support consent applications.
 - (f) Stock exclusion: \$400 million across the country for fencing and lost opportunity cost of retiring land within fences (no dollar figure provided).
49. In B+LNZ's view the costs presented by the government are extremely conservative and significantly underestimate the cumulative impacts of these proposals on the sheep and beef sector. They also demonstrate a complete lack of understanding on how the sheep and beef sector operates, as what it needs to be resilient and deal with additional compliance costs brought on by new regulation. Namely policy frameworks which provide flexibility and enable adaption and innovation. In particular, flexibility within the natural capital of the land should be provided for in farming systems.
50. Additionally, BakerAg, in its economic evaluation of the proposed Essential Freshwater proposals commissioned by B+LNZ²¹, has argued that:
- “A disturbing feature of this modelling is that many of the proposed Essential Freshwater regulations would have landowners divert time and capital into works that would have a dubious impact on the environmental health of the farm. Many informed*

²¹ BakerAg (2019), Economic Evaluation of the Government's Proposed "Action for Healthy Waterways" Policy Package, commissioned by Beef + Lamb New Zealand.

farmers are already addressing the “big ticket items” that are affecting water quality, such as critical source areas and sediment flows. There is a grave risk that this legislation would cause a misdirection of resources into capital expenditure and policy shifts that have much less effect on freshwater quality, than do the mitigating actions that they are already employing.

The grandparenting of farming enterprises and feed cropping programmes has a substantial impact on both lowland and non-lowland properties. This approach assumes negative effects unless proven otherwise (i.e. it is not effects-based), and it essentially locks-in land use options, limiting business growth and capital growth”.

“The proposed legislation is probably the most comprehensive assault on property management and property rights that this industry has ever seen. It is unhelpful that the proposal makes little effort to differentiate between urgent and non-urgent action. A sensible approach would be to identify the “big ticket items”, i.e. those the actions for each property that will deliver the greatest improvements to environmental impact. I.e. what is grossly lacking in this legislation is a sense of ‘bespoke practice”, whereby priorities for individual farms are identified and prioritised, with incentive and encouragement to pursue those priorities. Instead, we have a “one size fits all” approach which is confronting and represents an insurmountable capital cost for landowners”.

51. B+LNZ has undertaken its own assessment of some of the potential impacts on sheep and beef farmers and rural communities that would stem from the suite of proposals from the government. This assessment has been based on a review of a number of regional case studies and planning evidence, and shows the disproportionate impact the sheep and beef sector is likely to have to bear should the proposals from the government be finalised as they currently stand. Key findings from B+LNZ’s assessment are provided below.

Waikato-Waipā catchment

52. B+LNZ has noted with concern a Local Government New Zealand (LGNZ) report²² published shortly after the Essential Freshwater package was released. In this report LGNZ assessed the implications of the proposed bottom lines for nutrients (DIN and DRP) based on a Waikato Regional Council model designed for the Waikato-Waipā catchment for the Healthy/Rivers/Wai Ora (Plan Change 1) process.
53. According to this modelling, drystock farming would fall from 43% of modelled land use in the catchment to 14 percent, while forestry would increase from about one-fifth of the catchment to more than one half. The area allocated to dairy farming would also fall by 13%, drystock farming would fall by 68% and forestry land use would increase by 160%.
54. The total profit estimated to be obtained from land use declines only by around \$7 million per year, but this is because the falls in profits for the dairy sector (of around 7%) and

²² Local Government New Zealand (2019), Initial Economic Advisory Report on the Essential Freshwater Package available here <https://www.lgnz.co.nz/assets/bcbc3efa29/RSWS-Advisory-Report-10-September-2019.pdf>

drystock sector (around 40%) are offset by very large increases in forestry profits (190%).

55. These changes in profits also do not include the costs of land use transition, which the model estimates at an annualised rate of \$84 million. Combining the change in land use profitability and transition costs gives an estimated annual cost of meeting the DIN and DRP attributes in the Waikato-Waipā catchment of around \$100 million (or around 11% of the total profits derived from land use in the catchment).
56. It is important to note that these estimates do not take into consideration flow-on impacts on services and communities. A recent report²³ prepared by BakerAg for B+LNZ has illustrated that large-scale conversion of sheep and beef farms, using the Wairoa District as a case study, would have significant negative impacts on rural New Zealand, potentially resulting in significant job losses and decreases in net local expenditure.

Bay of Plenty

57. The LGNZ Regional Case Studies²⁴ has presented a preliminary high-level assessment of the economic impacts of five of the proposals set out in the Essential Freshwater package for the Bay of Plenty region. These five proposals (DIN and DRP attributes, restrictions on further intensification of land use, farm planning, management of nitrogen in high N catchments and stock exclusion requirements) potentially have the greatest impact on the Bay of Plenty region. The focus of this assessment was on the costs to the agricultural sector.
58. Of particular note, the assessment has presented an estimated region-wide impact analysis on operating profit by industry from the FW-FP and stock exclusion requirements. The results of this analysis show a 32.1% decrease from baseline operating profit for the sheep and beef sector (and 32.5% decrease for the industry), compared to much lesser impacts on other agricultural industries such as kiwifruit (4% decrease), horticulture (11.2% decrease), arable/grain growing (6.8% decrease) and dairy (5.4% decrease).
59. These results clearly show that the drystock sector will bear a disproportionate impact from these proposals, mainly because of lower baseline profits and far fewer system levers to pull. The report makes it clear that there is a risk that the proposals will lead to some landowners going out of business and defaulting on their loans, particularly when considered alongside other upcoming requirements (eg, Zero Carbon Bill and other Essential Freshwater proposals), and future external shocks such as price drops.
60. Due to the nature of New Zealand's sheep and beef sector being generally a low input and low intensity farm system, sheep and beef farmers inherently need to work within the natural capital and productive capability of the land asset. The primary constraint of this low impact system is the seasonal growth of the grass (grass curve). Generally, the greatest growth period is in the spring with a smaller peak in autumn, and the least

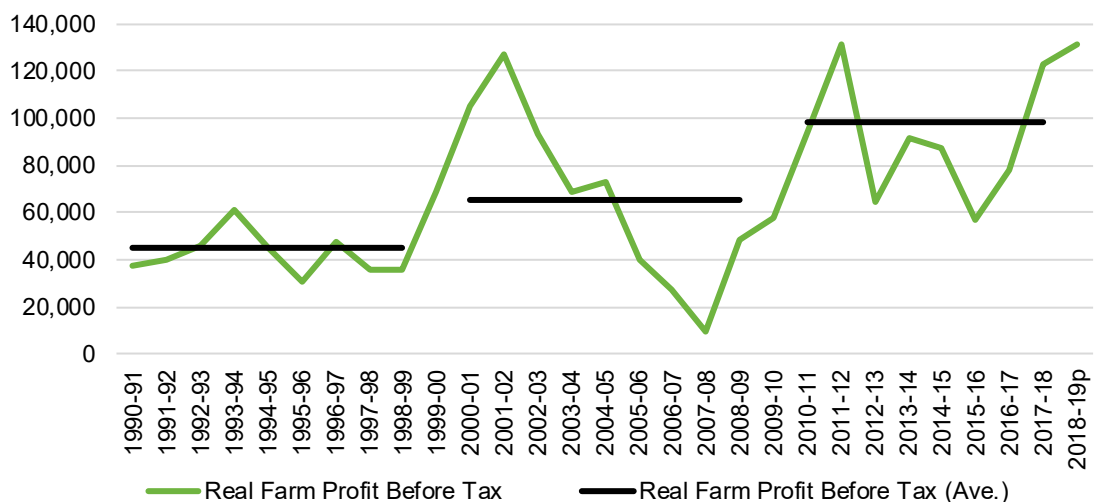
²³ BakerAg, Socio-economic Impacts of Large-scale Afforestation on Rural Communities in the Wairoa District, commissioned by Beef+Lamb NZ available here

https://beeflambnz.com/sites/default/files/Wairoa%20Afforestation_FINAL.pdf

²⁴ Local Government New Zealand (2019) Regional Case Studies for Essential Freshwater: Action for Healthy Waterways.

growth in late winter. While nutrient inputs are generally low and used to meet plant demand some flexibility is required to maintain plant and soil health. Nutrient applications can be deferred for a variety of short-term reasons – such as climate disruption, seasonal pasture growth variation, changing market conditions, livestock pricing and availability. The policy proposal removes flexibility to use nutrient applications as a tool improve soil and plant health, or to address both short, medium and longer-term climate, market and personal changes.

61. Farm Profit Before Tax for the sheep and beef sector can be variable (Figure 2). Sheep and beef farms have built in resilience measures to maintain viability through the peaks and troughs of profitability – taking a long-term view. These resilience measures can be a variety of tools, such as; relative farm debt levels to economic farm surplus (compared to other primary sectors), forward planning of livestock composition and stocking rates, and efficiency gains through working within the natural capital and productive capability of the land asset. Farm business resilience can be stressed by climatic disruption, family obligations (e.g. educating family from remote locations), investment in non-production areas (e.g. conservation projects). However, these stresses are necessarily included in the farm business' forward planning.



Source: Beef + Lamb New Zealand Economic Service, Sheep and Beef Farm Survey

Figure 2: Sheep and Beef Farm Profit Before Tax per farm averaged across all production regions and farm class types, in real terms (\$ 2004-05, year ending September). The 2007-08 season was the least profitable on record due to the global financial crisis, low overseas pricing and a strong New Zealand dollar.

Economic Analysis of the proposals

62. B+LNZ commissioned BakerAg to quantify the true financial impacts of the proposed regulation on sheep and beef farms (see Appendix 2). The costs imposed by the proposal that have been presented by the government in the RIS by MfE have been severely underestimated, as presented in the table below (and contained in Table 1, Appendix 2).
63. Of particular note, this analysis shows that the estimated capital costs of compliance per farm varies from \$185,000 (mixed cropping farm) to \$680,000 (hill country sheep & beef farm). The annual costs of compliance range from \$35,000 to \$80,000. These annual

costs comprise 5.4% to 30% of these properties' respective Earnings Before Interest Tax and Rent (EBITR). We would consider that any annual cost greater than 10% of annual EBITR are unsustainable. Additionally, annual opportunity costs or "Loss of future income" ranged from \$85,000 to \$184,000.

64. Scaling these figures to represent hill country and lowland commercial sheep and beef farms based on the Sheep and Beef Farm Survey Farm Class classification, provides the following estimates of these costs at farm and sectoral level:

Action for Healthy Waterways - Estimated Costs as promulgated at 31 October 2019

	Sheep & Beef Farm Tally	Up Front Capital \$ per Farm	Annual Costs \$ per Farm	Annual Opportunity Cost \$ per Farm	Up Front Capital Sector \$ m	Annual Costs Sector \$ m	Annual Opportunity Cost Sector \$ m
Hill country farms	4,795	\$476,058	\$58,616	\$87,270	\$2,932	\$361	\$548
Lowland farms	4,370	\$159,793	\$24,372	\$64,652	\$886	\$136	\$362
Total	9,165	\$325,258	\$42,288	\$76,485	\$3,818	\$497	\$910

65. These results undoubtedly show that the economic impacts from the proposals as presented in the RIS are grossly underestimated, in particularly for sheep in beef farmers. It is critical that the government and officials take note of this study and of the estimated costs before making financial policy decisions.

Table 1: Summary* of the impacts of the “Action for Healthy Waterways” policy package on four case study farms

Farm	Effective Ha	Description	Up front capital costs	Kilometres of fencing (Km)	Annual costs	Annual costs per effective Ha	% Increase in farm working costs per effective Ha	Nitrogen (N) leaching kg N/Ha/Yr	Phosphorous (P) loss kg P/Ha/Yr	Annual opportunity costs or "Loss of future income"	Annual lost income from 5m stock exclusion set backs
A	622	Hill country sheep & beef breeding and semi finishing	\$643,508	35	\$79,514	\$128	21%	11 (2019)	0.7 (2019)	NC	\$18,389
B	819	Hill country sheep & beef breeding and finishing	\$566,712	27	\$72,468	\$88	14%	18 (2018)	0.7 (2018)	\$95,000	\$12,318
C	655	Mixed cropping, bull and lamb finishing	\$185,350	16	\$35,337	\$54	8%	17 (2018)	0.3 (2018)	\$117,520	\$17,415
D	900	Hill country sheep & beef breeding and finishing	\$680,485	24	\$80,304	\$89	29%	7 (2016)	1.9 (2016)	\$184,195	\$6,408

* A full explanation and calculations are in the body of the report and in Appendix 2.

NC : Not calculated

Macro-economic implications of water policy

66. In addition to the assessment above which focuses mainly on the direct impacts on sheep and beef farmers from the Essential Freshwater proposals, B+LNZ has also assessed some of the macro-economic implications of water policy.
67. Sheep and Beef Farms are an integrated mix of hill country and down-land finishing country farming systems – with hill country livestock sold to down-land finishing farms. However, more livestock are now finished to prime condition on hill country than in the 1990s due to small sheep and beef farms on finishing country being converted to large dairy farms of 500 plus dairy cows.
68. Overall, 0.8 million hectares of down-land sheep and beef farms have been converted to dairy since 1990-91. In addition, a further 3.4 million hectares of sheep and beef land has been converted to other uses, a total decline in sheep and beef farm pastoral area of 4.2 million ha (-35%) since 1990-91. The loss has been to dairy, the DoC estate, QE-II covenanted land, reversion to native woody vegetation on farms, viticulture, horticulture, and life-style blocks near population centres. Correspondingly sheep numbers have declined 53% and beef cattle numbers declined by 17 %.
69. Reducing sheep and beef livestock numbers ‘significantly’ due to water policy would impact negatively on farm support industries and rural communities and their economic and social wellbeing.
70. Reducing sheep and beef numbers will reduce export receipts which are a key input into the economy and New Zealand’s overall wellbeing and participation in the global economy. Any replacement of sheep and beef farming is likely to be forestry, which is a commodity focussed industry leaving New Zealand more vulnerable to changes in commodity cycles. Analysis shows that reductions in sheep and beef farming will likely be replaced by dairy and forestry which are more predominantly commodity-based industries and therefore more susceptible to global market fluctuations. This would add greater risk to New Zealand’s economy.
71. A 20 per cent reduction in sheep and beef numbers due to water policy would have a corresponding reduction in export receipts that equates to NZD 2 billion. This magnitude of reduction will have the negative effect weakening the NZD exchange rate, unless another NZD 2 billion alternative export industry with low import content and environment impact can be developed as an offset.
72. The economic, social, cultural and environment are interconnected and not discrete.
73. A weak NZD will raise the price of imports to the urban (and rural) population for imported items such as fuel, overseas travel for New Zealanders, medicines, and imported consumer goods, imported building materials and manufacturing inputs. i.e., lower overall wellbeing.
74. Keeping in mind New Zealand’s population of 4.9 million:
 - 84% are urban who generate 25% of merchandise trade

- 16% are rural who generate 75% of merchandise trade, with a low import content.
75. Farmers are stewards of the land for future generations and are the key people to work with who will make the difference to land management and water quality.
 76. The government must keep in mind sheep and beef farms are diverse and complex farm businesses. Sheep and beef farms predominantly have very diverse landscapes compared to dairy, arable and horticulture with a mix of hill, easy and flat areas and differing altitudes. The government through its water policy must recognise these complexities to work with farm owners to achieve practical water policy outcomes.

PART 3: SPECIFIC SUBMISSION

Part 3.1: National Policy Statement for Freshwater Management

77. B+LNZ supports the government's intent to ensure that New Zealanders' values for freshwater are recognised and protected including healthy freshwater ecosystems, cultural values, the interconnected nature of freshwater systems, and community wellbeing, and values which protect and enhance our way of life for future generations.
78. In particular, B+LNZ supports proposals which aim to ensure consistency in interpretation and implementation of the National Policy Statement for Freshwater Management (2014) across regional councils, including setting and managing to freshwater Objectives (attributes, limits, targets). Inconsistent interpretation and implementation by regional councils is inefficient, and results in inequities between different catchments, regions, communities, and sectors. It also, provides mixed signals to communities around what is required to sustainably manage land and water resources, leading to confusion, and often expensive and time-consuming legal challenges. Often disparate regional approaches to setting water quality outcomes / limits, and managing land and water resources, vary significantly in their economic implications of managing to freshwater outcomes, which is driven by differences in allocation and regulatory approaches for managing primary productive land uses.
79. B+LNZ supports the establishment of integrated measures of aquatic ecosystem health, specifically the proposed freshwater objectives / outcomes related to macroinvertebrate community health, fish community health, and plant community health. B+LNZ submit that these suite of indicators and the establishment of adaptive management approaches which use these as the cornerstone for community engagement and action, will be more effective in ensuring that the ecological values are met, while ensuring the wellbeing of people and their communities including economic wellbeing, rather than reliance on freshwater attributes based simply around water quality alone.
80. As set out in the introductory section to this submission, the National Policy Statement for Freshwater 2014 recognises the importance of values relating to "safeguarding the life-supporting capacity of water and associated ecosystems", which include the value of "healthy ecosystem processes functioning naturally", in giving effect to part 2 of the RMA.²⁵
81. Healthy freshwater ecosystems and processes are not synonymous with water quality. Water quality is a part of water's health, but the level of quality (numerical outcome eg 1mg/L DIN) and the parameters chosen are dependent on what values are being provided for including community and economic wellbeing. As such, concepts of

²⁵ Part 2, section 5 Purpose (1) The purpose of this Act is to promote the sustainable management of natural and physical resources. (2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while— (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

'maintenance and where degraded restoration' are more appropriately shaped by that end goal which is ecological health and the full suite of national and more locally relevant values. Other relevant matters that are more clearly and closely related to the broader concept of 'ecosystem health' and are more widely recognised in the ecological literature to be considered when assessing the health of a waterbody include:

- (a) River geomorphology and processes;
 - (b) Connectedness;
 - (c) Ecological corridors, and riparian margins;
 - (d) Additional water quality parameters (Dissolved Oxygen, temperature, conductivity, deposited sediment);
 - (e) Biodiversity indicators such as the Macroinvertebrate Community Index (MCI) and measurements of biota (e.g. fish, birds); and
 - (f) Mātauranga Māori indicators such as the cultural health index (CHI).
82. B+LNZ supports the establishment within the NPSFWM of freshwater objectives that are more directly related to ecosystem health and processes, and which enable and empower community engagement in considering the health of freshwater and where required responding to impacts on health in an inclusive and adaptive way. As discussed under Section 3.6. B+LNZ supports management frameworks which enable as wide a range of locally relevant tools to be employed as possible to address community concerns around freshwater where they exist, and to enable and empower collective community responses.
83. In New Zealand the Macroinvertebrate Community Index (MCI), and its numerical derivatives such as Quantitative Macroinvertebrate Community Index (QMCI) and Semi Quantitative Macroinvertebrate Community Index (SQMCI), have been widely used for 25-30 years by Regional Councils, and are now utilised throughout New Zealand, as a measure of the ecological health of freshwaters and of nutrient enrichment. The MCI was developed by Stark in 1985²⁶, and, while there are a number of variants, such as QMCI, SQMCI and Soft-bottom MCI, it is the most widely used by environmental agencies and even the general public through citizen science. The use of macroinvertebrate indices as an indicator of ecological river health, was recognised by LAWF and its advisory National Objectives Framework Reference Group, which supported its application through the NPSFWM as a freshwater objective. Macroinvertebrate indices are widely utilised in developed countries and are an umbrella indicator for protecting other sets of values. Macroinvertebrates and communities are year-round integrators of water quality, hydrological regimes, and habitats, and can be used to represent the state of ecosystem integrity.
84. Advantages of macroinvertebrates as indicators are well reviewed and have led to the development of comprehensive sampling programmes in New Zealand. There are

²⁶ Stark, J.A macroinvertebrate community index of water quality for stony streams. Water & Soil miscellaneous publication. 87: 53.1985.

well-established numerical thresholds for macroinvertebrate community health, which can be separated into the four attribute states (A, B, C and D) and utilised within the National Objectives Framework. These have been in widespread use for quarter of a century.

85. B+LNZ seeks that the macroinvertebrate community index be established as a numerical attribute within the NPSFWM to be applied as a freshwater objective through regional plans. There is very little difference between using the index as a monitoring tool and applying it as a freshwater objective. Both approaches require that Regional Councils implement methods to manage to the numerical outcomes over time. These methods should be integrative and adaptive and can be established based on a mixed policy approach (regulatory and non-regulatory), which includes voluntary community projects as part of the Regional Council's toolkit. The MCI is the best available measure of the integrated values of life-supporting capacity and ecosystem health in New Zealand.
86. B+LNZ supports recommendations to ensure that regional councils adopt dual nutrient management approaches and set instream nitrogen (DIN) and phosphorus (DRP) objectives, when managing to ecological health reflective of the communities' aspirations and values. This approach is consistent with the recommendations of LAWF²⁷, and reflects the New Zealand Freshwater Science Society's submission on the previous government's 'Next Steps for Freshwater' consultation document on this point.
87. The consensus of both international and national policy guidance that is published in the peer reviewed literature, and the decisions from the judiciary²⁸ in New Zealand, is that both nitrogen and phosphorus need to be controlled to mitigate the adverse ecological effects of eutrophication²⁹, particularly in catchments that are upstream of sensitive receiving coastal waters, not just one or the other.
88. The relationship between instream nitrogen and phosphorus and ecological health however is complicated. These relationships are nonlinear and are often confounded by long lag phases between the discharge and its environmental outcome or effect on the value, and the complexity of freshwater systems and their species. As such precaution needs to be provided in setting appropriate dual nutrient freshwater objectives. Once impacted, it becomes very difficult to restore freshwater systems. This is particularly so for nitrogen contamination which results from contamination of groundwater reservoirs through leaching of nitrogen from land uses, and impacts on freshwater through groundwater recharge to surface water. If freshwaters become impaired, then attempts to retrospectively address the problem are expensive and have a high failure rate³⁰, and investment in infrastructure, land uses, and systems can become stranded.

²⁸ Final Report and Decision of the Board of Inquiry into the Tukituki Catchment Proposal: volume 1 of 3

²⁹ Conley D.J., Paerl H., Howarth R.W., Boesch D.F., Seitzinger S.P., Havens K.E., Lancelot C., Likens G. E. (2009). Controlling eutrophication: nitrogen and phosphorus. *Science* 323: 1014–1015.

³⁰ Jarvie *et al* 2013

89. Improvements in the ecosystem health of freshwaters, including river systems, can be slow to occur initially, in response to restoration actions such as implementation of best management practices on farms to reduce nutrient loads³¹. It is therefore desirable to adopt proactive and precautionary approaches to setting dual instream nutrient outcomes and to manage both point and diffuse sources of nutrient contamination. Undertaking a science-based approach to setting in dual stream outcomes on nutrients is therefore essential for safeguarding ecosystem health in New Zealand's freshwaters, and in providing for community wellbeing including economic wellbeing.
90. The Resource Management Act 1991 is the main piece of legislation governing how natural resources including land and water are to be managed in New Zealand. Under section 45(1) of the RMA (1991), National Policy Statements are to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the Act.
91. Part 2 section 5 "purpose and principals of the RMA" (1) explains that the RMA's purpose is to promote sustainable management of natural and physical resources. "Sustainable management" is defined in s 5(2) of the RMA as: ... managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while — (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.
92. The NPSFWM reflects the dual arms of sustainable management through its provisions and in particular in setting appropriate freshwater objectives which reflect the range of values communities hold including their economic wellbeing.
93. The NPSFWM is clear in its requirements to determine values for freshwater and establish freshwater objectives:
- (a) Objective AA1 consider and recognise Te Mana o te Wai in the management of freshwater, and that this includes the recognition of the connection between water and the broader environment. The definition of Environment under the Act is set out above and includes the health of people including economic wellbeing. Objective AA1 under policy AA1 also requires that the values of the community are identified and inform the setting of freshwater objectives and limits;
 - (b) Objective A1 safeguarding the life supporting capacity, ecosystem processes and indigenous species including their associated ecosystems and the health of people and communities;

³¹ Meals *et al* 2009

- (c) Objective A4 enable communities to provide for their economic well-being, including productive economic opportunities, in sustainably managing freshwater quality.
94. When considered holistically, the full suite of national and community values should be considered in setting and managing to freshwater objectives. B+LNZ submit that this is also relevant in considering the establishment of environmental bottom lines in the NPSFWM in the Essential Freshwater proposals. The RMA recognises all elements of the health and wellbeing of freshwater resource, and communities, and the relationships people have with water, including their social and economic wellbeing.
95. Setting and managing to freshwater outcomes (freshwater objectives, attributes, limits, targets), including through allocating nutrient discharge allowances, has the very real risk of significantly impacting on the economic wellbeing of individuals and communities. These impacts then flow through to rural communities, and the wider economic wellbeing of New Zealand. Flow on effects include adverse impacts on communities and their health and sustainability including social and cultural wellbeing. Where these issues are not considered or taken into account and provided for, then setting and managing to environmental outcomes, is contrary to sustainable management under the RMA.
96. Regional council decisions on whether or not to adopt dual nutrient management and the establishment of (or lack of) numerical instream water quality outcomes, to protect and enhance the ecological health and primary contact recreational values of freshwater, have to date been highly variable. This has resulted in expensive and time intensive judicial challenges, and created uncertainty and confusion around what communities are required to do in ensuring the sustainable management of land and water resources. National direction to ensure consistency of regional approaches is urgently required to reduce further litigation on these issues, and to clarify requirements on communities so that they can make informed decisions, appropriately manage environmental and social risks and benefits, adopt appropriate timeframes, and undertake the necessary task of managing to limits.
97. B+LNZ therefore seeks that Regional Councils are required to adopt dual nutrient management and establish water quality outcomes that provide for ecological health and community wellbeing including economic wellbeing, and which are locally relevant. Where water quality is degraded and communities seek improvement over time, then adaptive management approaches which empower community engagement and local solutions should be preferred and which establish a trajectory of improvement and timeframes which provide for current and future generations.
98. B+LNZ supports the establishment of numerical attributes for inclusion into the NPSFWM NOF to ensure national consistency in establishing freshwater objectives which recognise and provide for primary contact recreation with water, which take into account flow regimes of waterbodies, and which aim to manage the risk to human health from waterborne zoonotic diseases. B+LNZ supports the regional approach to determining the community values for freshwater including for swimming and human health.

99. B+LNZ however understands that the link between E.coli and pathogenic risk is very poor, and that there are disagreements in the science community about how attributes for primary contact recreation should be expressed and measured. Appendix 4 sets out the evidence of Dr Dada on the Waikato Regional Council's Plan Change 1, and specifically addresses issues of using E.coli as a measure of pathogenic risk, and in setting specific E.coli freshwater objectives. Dr Dada concludes that E.coli is a poor proxy for pathogenic risk, is not highly correlated with land use activities or management, may in fact be driven in some instances by natural stream events, and further that the models used to determine the numerical freshwater objectives were not validated and as such that the models are not fit for purpose.
100. B+LNZ submits that an approach which incorporates the principles as set out below would be more reflective of the Government's narrative around what they are trying to achieve and more socially and scientifically acceptable. B+LNZ seek that the NPSFWM be amended to include the following freshwater objectives for human health in relation to swimmability and human health;
- (a) E.coli 260/100ml < 50th percentile applies 1 November to 30 April when the river is below medium flow;
 - (b) E.coli 550/ 100ml < 20th percentile the concentration of E.coli must not exceed 550 per 100ml year-round when flow is at or below the 20th flow exceedance percentile (ie not in the top 20% of flows).
101. Summary of the relief sought by B+LNZ:
- (a) That the NPSFWM is amended to ensure that the life -supporting capacity and ecosystem health and processes of freshwater are protected, while recognising and providing for community values including economic wellbeing and future generations;
 - (b) That attributes for primary contact recreation for inclusion into the NPSFWM NOF are amended as set out under paragraph 71;
 - (c) Include integrated numerical freshwater objectives within the NPSFWM for Macroinvertebrate community health, fish community health, and plant community health;
 - (d) Amend the NPSFWM to enable tailored regional and catchment specific approaches for identifying and providing for community values for freshwater;
 - (e) Amend the NPSFWM to ensure that the economic wellbeing and sustainability of communities and future generations are a key consideration when setting and managing to freshwater objectives (attributes, limits, and targets), and in setting environmental bottom lines.
102. B+LNZ supports catchment communities working together to recognise and provide for the values the community holds for freshwater, and which enable the establishment of water quality and quantity outcomes which provide for these values, along with

management frameworks which ensure current and future generations are provided for. B+LNZ consistently advocates for targeted catchment or sub catchment approaches for the integrated management of land and water resources, and which incentivise, empower, and enable communities to work together to achieve their aspirations. B+LNZ seeks that the government keeps a collaborative community focussed sub-catchment or watershed approach firmly in mind when considering changes to government direction around sustainable land and water management and any proposed policy changes.

Table 2: Feedback on the Proposed changes to the National Policy Statement for Freshwater Management

Provision	Standard	Position	Relief Sought
National Policy Statement for Freshwater Management			
Te Mana O Te Wai and integrated management of freshwater	<i>Proposals strengthen and clarify the current directions around Te Mana O Te Wai, which is in the existing NPS-FM. Strengthens requirements to identify Maori values in freshwater management, and integrated management of freshwater.</i>	Support the Te Mana O Te Wai vision of healthy waterways from the mountains to the sea. Support approaches which provide for the integrated management of land and water resources, and which represent the wellbeing of natural resources, wellbeing of people, and the wellbeing of communities, and which recognise the interconnected nature of these.	Retain approaches which provide for the integrated management of land and water resources, and which clearly establish objectives which represent the wellbeing of natural resources, wellbeing of people, and the wellbeing of communities, and which recognise the interconnected nature of these values. Objectives for freshwater are more appropriately related to ecosystem health and processes, in accordance with the RMA and NPSFWM (2014 as amended 2017), rather than having a narrow focus on water quality, and which prioritise maintain water quality at current state irrespective of its overall ecological health and the relationship of this to the wellbeing of people and communities including economic wellbeing.
New Attributes for Nitrogen, Phosphorus, and sediment. Five year audit and measurement for sediment	NPSFWM establishes new environmental attribute states and national bottom lines for sediment, nitrogen (DIN), and Phosphorus (DRP), which are intended to provide for ecosystem health and processes.	Support in principle Oppose provisions which seek improvement in water quality irrespective of the level of its ecological health and the provision of other community values such as the health and wellbeing of people, communities, and including economic wellbeing.	Freshwater objectives (attributes, limits and targets) provide for the ecosystem health of freshwater resources, and the wellbeing of communities including economic wellbeing. Freshwater objectives (attributes, limits, and targets) should provide for ecosystem health which is sensitive to the characteristics of the waterbody in its catchment context, and account for natural variation and conditions such as erosion, nutrient levels, geology, geomorphology, and land type and cover. Freshwater Objectives (Attributes, limits, and targets) should be informed by the best available science, and where uncertainty exists should be precautionary in the way they are applied both environmentally and also in relation to compliance with them by land owners. Catchments which significantly exceed environmental bottom lines, should be provided with alternative pathways in relation to meeting environmental bottom

Provision	Standard	Position	Relief Sought
		<p>Oppose the five-year audit and measurement on the programme's success for sediment reduction in all catchments.</p>	<p>lines, which recognise the full suite of community values including economic wellbeing, and which take into account intergenerational impacts and timeframes for transition.</p> <p>Support clear numerical environmental bottom lines which provide for business and community certainty in relation to the outcomes being sought and ensure equitable approaches across regions and catchments, but which also represent local conditions and community aspirations.</p> <p>Oppose the five-year audit and measurement on the program's success for sediment reduction in all catchments. Improvements in water quality including sediment levels are related to the state and trends in the health of the freshwater systems and the drivers of this health.</p> <p>Where sediment levels exceed national bottom line, or where the current state is worse than the state required to provide for community values then sediment levels should be managed through adaptive management frameworks³² over time to achieve a trajectory of improvement.</p> <p>Numerical attribute states should take into account natural processes and be tailored to the specific freshwater body type in its catchment context.</p>
<p>New measurement units (attributes) for macro invertebrates, fish, and plants</p>	<p>Integrative indicators of ecosystem health are proposed to be included in the NPSFWM, where the health of the indicator falls below the bottom line the council is required to develop an action plan in consultation with the local community. Indicators of health include fish health, macroinvertebrate community health, and plant community health.</p>	<p>Support and seek that they be retained in their entirety</p>	<p>That they be retained in their entirety and underpin management decisions in relation to maintaining or where degraded enhancing the life supporting capacity and ecological health and processes of freshwater, and in meeting the aspirations of communities, and in providing for their values including economic wellbeing.</p>

³² Adaptive management recognises that whilst our scientific understanding of complex environmental systems is incomplete, uncertainty should not necessarily prevent activities from occurring. In keeping with the precautionary approach, however, activities need to be carefully managed and constantly assessed and adjusted in light of the potential environmental impacts.³²

Adaptive management is a structured process of learning by doing, and adapting management practices based on what has been learned. It has been defined as: '...flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process.

Part 3.2: Section 360 Regulations for Stock Exclusion

103. The section 360 Regulations (s360 Regulations) for stock exclusion propose the exclusion (through temporary or permanent fencing or virtual fencing) of deer, cattle and pigs out of water bodies on “low-slope” land, and fencing in areas that are not “low-slope” where stocking rates could potentially be higher (14SU/ha/per farm/yr or 18SU/paddock). Stock exclusion from waterbodies is also picked up as a requirement in the FW-FP. Both proposals are discussed below.
104. B+LNZ supports the intent of proposed s360 Regulations to prioritise stock exclusion on land where stock are more intensively farmed, and where fencing provides an efficient and effective method to prevent the direct deposition of pathogens, and damage to the bed and banks of waterbodies. B+LNZ however, proposes a number of amendments to the provisions to ensure that the intent of the proposals are clear within the policy, and that the policy is implementable, and is effects-based. These amendments are set out in the following paragraphs and in **Table 3: Feedback on the Proposed Regulations for Stock Exclusion from Waterbodies**
105. B+LNZ notes that exclusion of intensively farmed cattle from waterbodies has been supported by primary industries over the last 16 years and as such is a key requirement of the Dairy and Clean Streams Accord (2003), and later as the Sustainable Dairy Water Accord (July 2013), and was put forward for national regulation in draft form by the previous government. B+LNZ considers that the current draft s360 Regulations generally provide appropriate criteria for determining where stock are required to be excluded from waterbodies. In particular, B+LNZ supports the separation between “low-slope” land (5 degree slope or less as mapped nationally) and “non low-slope” land, and the inclusion of 1m or wider in relation to river width. B+LNZ submit that these standards provide a clear distinction of where exclusion is required, are workable on the ground, and are related to the risk to receiving environments as well as the cost implications of fencing.
106. B+LNZ submits that the approach set out above is a more efficient and effective method to achieve the purpose of the Act, than alternatives such as capturing land that is above 5 degrees slope, and smaller waterbodies. In relation to more diverse landscapes, extensive farming systems, and smaller waterbodies, methods which are bespoke to the farm in its catchment context provide the most efficient and effective approach for managing environmental impacts. This is discussed further below.
107. The s360 Regulations are not the only proposed provisions which address stock exclusion from waterbodies. Stock exclusion is also covered through the FW-FP under section 38 clause (3)(f) in combination with section 38 clause (4), which requires farmers to put in place actions and timeframes which address stock management and exclusion, and the establishment of riparian setback distances from waterbodies. As currently proposed, the FW-FP places a higher burden on extensive farming systems on diverse landscapes than the s360 Regulations do for “low-slope” and intensive pastoral farming. The FW-FP does not limit the definition of either ‘stock’ or ‘waterbodies’ which means that exclusion applies across all stock types including non-ruminant animals and sheep, and across all waterbodies irrespective of size and whether or not they flow year-round. B+LNZ opposes the FW-FP and seeks that this be deleted from being a regulatory requirement. This is discussed later under Part 3.3 Improving Farm Practices through

Farm Planning.

108. For extensive land uses or those on more diverse landscape, it is not stock access to waterbodies that is the primary environmental issue, but rather the overland flow of pathogens, nutrients, and sediment. A fence does little to stop the overland flow of these contaminants even when combined with riparian margins^{33,34,35} in these landscapes. Furthermore, fencing of waterbodies is often technically challenging and cost prohibitive where the land use is extensive, or where the landscape is diverse, or both³⁶. Fencing, in these landscapes can lead to unintended environmental impacts including increasing erosion and sediment discharges and creating critical source areas, due to requirements to excavate fence lines, ongoing maintenance, and potential impacts on animal behaviour including movement³⁷. Where fencing is technically challenging or prohibitively expensive or both, a range of less costly and more effective strategies are available. These strategies may also be beneficial and act as insurance against the failure of fencing to mitigate contaminant losses³⁸. Such strategies include tailored Land and Environment (LEP) or Farm Environment (FEP) Planning, including the identification and management of critical source areas.
109. Other more effective environmental mitigation approaches include gully retirement, targeted riparian areas, stock exclusion areas, provision of shade and shelter away from a waterbody, stock water reticulation, and changes in stocking rate, and how stock are managed including the timing and location of stock movements and paddock selection³⁹.
110. The Economic Evaluation of the government's proposed "Action for Healthy Waterways" Policy Package (Appendix 2) (BakerAg Report) sets out some of the costs associated with fencing streams on more extensive land uses and in landscapes outside of the 'low slope land' (5 degrees or less)⁴⁰. Farm A upfront capital costs of \$578,358 and ongoing annual costs of \$53,024; Farm B upfront capital costs of \$566,712 with ongoing annual costs of \$72,468; Farm C upfront costs of \$157,470 with ongoing annual costs of \$14,437; and Farm D upfront capital costs of \$399,185 with ongoing annual costs of \$36,597. It is important to note that these case study farms represent a diversity of

³³ Barling, R. D., & Moore, I. D. (1994). Role of buffer strips in management of waterway pollution: a review. *Environmental management*, 18(4), 543-558.

³⁴ Zhang, X. et al. (2010) 'A Review of Vegetated Buffers and a Meta-analysis of Their Mitigation Efficacy in Reducing Nonpoint Source Pollution', *Journal of Environmental Quality*. Madison, WI: American Society of Agronomy, Crop Science Society of America, Soil Science Society, 39, pp. 76–84. doi: 10.2134/jeq2008.0496.

³⁵ Beyond 10% slope (~5 degrees), buffers lose their effectiveness so other options needed

³⁶ Daigneault et al., 2017; Ministry for Primary Industries, 2013

³⁷ Beetham. R., Garland. C (2019) Economic Evaluation of the Governments proposed "Action for Healthy Waterways" Policy Package. pages 25 to 34.

³⁸ McDowell et al., 2017

³⁹ Beetham. R., Garland. C (2019) Economic Evaluation of the Governments proposed "Action for Healthy Waterways" Policy Package. Pages 25 to 34.

⁴⁰ Beetham. R., Garland. C (2019) Economic Evaluation of the Governments proposed "Action for Healthy Waterways" Policy Package. pages 25 to 34.

farming systems, and are farms which are already leaders in environmental sustainability.

111. The BakerAg Report concludes that “*MfE have grossly underestimated the economic impact. The cost of fencing off waterways and wetlands on hill country is substantially higher than on lowlands because (i) broken and steep contour accentuates the expense of fencing, (ii) four-wire electric construction is a minimum for practical purposes and (iii) the cost of reticulating alternative water supplies is substantially higher on hill country*”⁴¹. For farming businesses that have already made significant environmental investments, won awards, made huge eco efficiency gains, and have a small environmental footprint, these additional costs are unjustifiable in relation to the environmental outcomes of fencing.
112. The s360 proposals include using a 14SU/ha/farm/yr or/and 18SU/ha/paddock threshold based on the potential carrying capacity of the farm or the paddock as calculated in accordance with ‘The Rules for Assessment of Carrying Capacity of Crown Pastoral Land (Rents for Pastoral Leases)’ published on LINZ’s website <https://www.linz.govt.nz/regulaotry/30302>. B+LNZ opposes the use of this proxy for either determining landscapes suitable for fencing, or for determining where stock could be farmed more intensively. Under the RMA it is the effects of activities which are required to avoided, remedied, or mitigated⁴². The current proposal intends to manage land uses and proposes specific actions, irrespective of the actual effect of this land use including its actual stocking rates on the health of freshwater ecosystems.
113. As set out in the technical report by Dr Ben Hancock, Appendix 5, the approach for determining potential carrying capacity as set out in the Crown Pastoral Lands methodology is not fit for purpose within national regulation. The LINZ South Island high-country methodology was created for quantifying potential carrying capacity of pastoral lease land – largely high-country, exclusively in the South Island – without any land development. The methodology includes incorporation of a narrow suite of Land Use Capability (LUC) units specific to the South Island high-country, the productive capacity of a unit under indigenous cover, along with mean elevation, mean aspect, mean soil temperature, and mean water vapor deficit. The LUC units used in the Crown Pastoral Lands methodology are not statistically representative of the full range of LUC units across New Zealand. In particular the LUC Class 2 and 3 land that occurs in the South Island high-country is only 0.02% of total in NZ, and 0.8% of total on NZ, respectively. The LUC Classes 4 through 8 are better represented, however, only those LUC units occurring in the South Island high-country were considered in the LINZ analysis. There is limited representation of other units in these Classes, such as units representing soft rock hill country or volcanic and tephra mantled landscapes that cover large proportions of the North Island.
114. A more appropriate proxy for intensity or suitability of the land to fencing can be provided through the Land Use Capability (LUC) Classification system, either at the national scale mapping resolution 1:50,000 or more appropriately through farm scale mapping

⁴¹ Beetham. R., Garland. C (2019) Economic Evaluation of the Governments proposed “Action for Healthy Waterways” Policy Package. page 6, para 7.

1:10,000. Land Use Capability mapping is already used within national instruments and underpins the erodible land maps and risk classification system used in the National Environmental Standards for Plantation Forestry (NES-PF) which applies across both the North and South Islands.

115. B+LNZ submits that LUC provides a more robust, and efficient and effective approach for identifying risk and in informing appropriate management interventions than alternatives, and that the NES should be amended to incorporate LUC within its proposals.
116. B+LNZ considers an actual stocking rate of 14SU/ha/whole farm/yr to be an appropriate threshold for differentiating between extensive and more intensive farming systems. This is supported by data provided by B+LNZ’s Sheep and Beef Farm Survey set out under Figure 3. The 2017/18 Farm Survey estimates that 97% of commercial sheep and beef farms had a stocking rate that was less than or equal to 14 SU/ha which is representative of the extensive nature of the sheep and beef sector, with stocking rates declining since the 1990s. 3% of commercial sheep and beef farms had an average stocking rate in excess of 14SU/ha, and less than 1% of commercial sheep and beef farms had an average stocking rate above 17SU/ha. Detailed information and analysis is set out in the technical report by Mr Andrew Burt in Appendix 3. Those farms with higher stocking rates occurred on flat to rolling land generally under 0 to 3 degrees slope, which enables land use intensification through bought in feed, irrigation, or use of feedpads and barns. This supports the proposed approach in Essential Freshwater to focus stock exclusion regulations on land below 5 degrees slope as mapped nationally, and on more intensive farming systems eg those above 14SU/ha/whole farm/year.

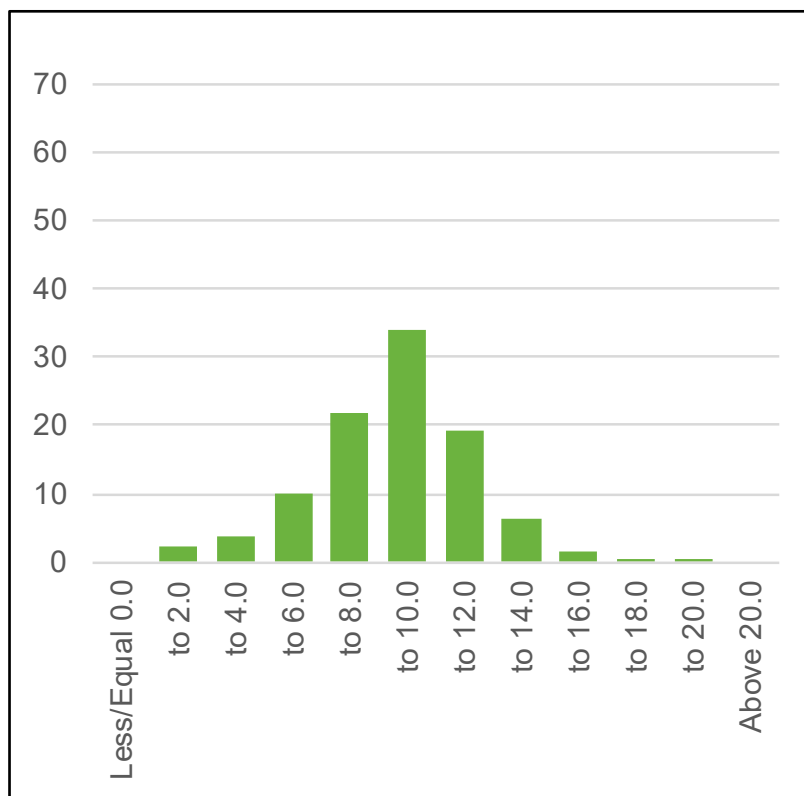


Figure 3: Distribution of Stocking Rate in New Zealand - 2017-18

117. B+LNZ opposes use of 18SU/paddock and seeks that this be deleted in its entirety. As currently proposed this would capture rotational grazing practices, and periods where stock were mobbed up for even very short periods of time such as hours or a few days. Intensive farming practices where stock exclusion should be considered are appropriated addressed under the 'livestock control' provisions for example 'feedlots', and 'intensive winter grazing on forage crops'.
118. The s360 regulations apply to waterbodies $\geq 1\text{m}$ wide which can include permanently flowing or intermittently flowing waterbodies, lakes and wetlands. Where lakes are defined through the RMA and the definition of wetland is also as defined in the Resource Management Act (regardless of whether it is dominated by indigenous or exotic vegetation), except that it does not include (a) wet pasture, or paddocks where water temporarily ponds after rain in places dominated by pasture, or that contain patches of exotic sedge or rush species; or (b) constructed wetlands; or (c) geothermal wetlands.
119. B+LNZ supports the s360 Regulation only applying to waterbodies that are $\geq 1\text{m}$ wide, but seeks that the definition of waterbody is constrained to those that are permanently flowing.
120. B+LNZ support the intent of the proposals in relation to recognising the importance of protecting wetlands. Wetlands provide valuable habitat, have high ecosystem service values, and can provide important habitat within sustainable and productive farming systems. Wetlands are also a useful tool in mitigating impacts on the environment, within farming systems. However, the definition of wetland for management purposes is broad and encompasses areas within the farming landscape, which as set out in the BakerAg report, would be more effectively managed through other mechanisms than fencing.
121. Where wetlands are identified in plans, this is generally through a Schedule and/or maps and focuses on the identification of wetlands with significant values, in order to ensure that rules and standard which relate to land uses and activities and their impacts on wetlands are efficient and effective. Examples include:
- (a) Gisborne Freshwater Plan (Proposed) 7: has mapped regionally significant wetlands but also has rules relating to wetlands generally (which are not identified/mapped);
 - (b) Marlborough Environment Plan (proposed): has identified approximately 1600 significant wetlands (spatial area unknown). These are all spatially defined on planning maps and the rules only relate to significant wetlands. This appears to be the most certain approach in the plans reviewed.
 - (c) West Coast Land and Water Regional Plan (operative): two schedules of wetlands are mapped. Schedule 1 wetlands are ecologically significant wetlands as determined by the ecological criteria in Schedule 3 of the Plan. Schedule 2 are wetlands that are, or are likely to be, ecologically significant and the plan notes that a site specific assessment is still required to determine if these are significant according to the criteria in the plan (NB: Schedule 2 was the result of an Environment Court decision);

- (d) Southland Land and Water Plan (proposed): has mapped regionally significant wetlands, but also has rules relating to wetlands generally (which are not identified/mapped).
 - (e) Other councils have identified the location of significant wetlands, but these are not mapped. These include:
 - (i) Auckland Unitary Plan (operative in part): includes a Wetland Management Area Overlay where the location of overlay is identified on planning maps, but spatial extent of the overlays/wetland area is not mapped. The plan also includes rules for wetlands generally that are not within this overlay;
 - (ii) Taranaki Regional Freshwater Water Plan (operative): includes two schedules of significant wetlands with general details on the listed wetlands. One schedule includes grid reference to identify the location of the wetland.
122. B+LNZ seeks that the definition of wetland in relation to the suite of standards and rules proposed in the Essential Freshwater proposals be amended to “apply to wetlands which have an extent of open water which is 0.1ha or greater and excludes wet pasture, damp gully heads, or where water temporarily ponds after rain, or pasture containing patches of rushes, and damp gully heads”, and/ or significant wetlands are mapped nationally to provide enough certainty to support regulatory function⁴³.
123. Riparian margins used for mitigating the loss of particulate contaminants have different treatment efficiencies according to the land slope, vegetative cover, seasonality and intensity and volume of rainfall, and soil drainage properties. Annual and seasonal variations in rainfall affect both the amount and timing of surface runoff and mobilised particulate material and hence, the efficiency of buffer strips, as does slope. These characteristics will govern the buffer strip width required for a given trapping efficiency. Setbacks could be calculated according to the following formula (x meters) plus 0.65 X the slope (Barling & More, 1994). With slope being taken from the Land Resource Inventory (LRI) or LUC unit description in the extended legend, to aid determination in the field and reduce subjectivity.
124. As such riparian buffer zones are more appropriately established through bespoke policy approaches or methods which sit outside of regulation such as tailored LEPs which take into account the geology of the landscape, the activity being undertaken, and the sensitivity of receiving environments. A blanket setback as proposed through the Essential Freshwater proposals will not be effective at addressing environmental concerns especially in more diverse landscapes.
125. The Ministries through the consultation document have sought feedback on the ‘exemptions regime’. B+LNZ submit that the draft 2017 stock exclusion regulations proposed a pragmatic solution to addressing site or regional specific issues around the workability and practicality of excluding stock from waterbodies through fencing

⁴³ Refer Day v Manawatu Whanganui Regional Council Interim decision [2012] NZEnvC 182; Horticulture New Zealand v ManawatuWhanganui Regional Council [2013] NZHC 2492

requirements. B+LNZ seek that the exemptions regime include: “Where a land owner is unable to meet the requirements set out above (e.g. due to significant practical constraints), they may apply to the relevant regional council for permission to instead develop a ‘stock exclusion plan’. This must set out where and when stock will be excluded from water bodies on their land, and where complete stock exclusion is not feasible, what alternative mitigations will be undertaken to manage the environmental impacts of stock access to water bodies. This could be standalone or form part of a wider farm environment plan or land environment plan and must be approved in writing by the regional council.”

126. Exemptions should be provided for 1) low-slope land that is not intensively farmed, 2) where paddock configuration does not lend itself to stock exclusion, or/and 3) where the geology or climate is such that fencing is not the most efficient or effective way to address potential environment risks. As noted above, low-slope land occurs in high country stations and hill country farms where intensive stocking rates may not be practiced. Unimproved tussock land with waterways for example can represent a significant land area of a high-country station. Paddock configuration may also discourage stock exclusion. The low-slope zones shown in the map could be comprised of more than one paddock and some of these paddocks may well include other zones/slope classes (e.g. a paddock in the upper part of a catchment that contains a small section of river flat, so is not intensively used). B+LNZ is conscious that sheep and beef farming, and dairy farming on the West Coast will have considerable challenges in excluding stock from waterways on low-slope land.

Table 3: Feedback on the Proposed Regulations for Stock Exclusion from Waterbodies

Provision	Standard	Position	Relief Sought
360 Regulations			
Stock Exclusion (permanent or temporary fencing or virtual fencing)	Lowlands ($\geq 5^\circ$, 10° , 15° , degree slope)	Support with amendments 0 to 5 degrees slope as a robust proxy for high stocking rates, and for land classes where fencing is a more efficient and effective approach to address environmental concerns.	Support 5° slope threshold mapped at the national scale as proposed. Oppose use of 10 or 15 degrees slope thresholds.
	Non lowlands (where stocking rate exceeds 14su farm or 18su paddock) Carrying capacity means as specified in The Rules for Assessment of Carrying Capacity of Crown Pastoral Land (Rents for Pastoral Leases) published on LINZ's website https://www.linz.govt.nz/regulaotry/30302	Oppose	Retain 14su/ha/whole farm Delete 18su/paddock Delete carrying capacity as defined in the Rules for Assessment of Carrying Capacity of Crown Pastoral Land (Rents for Pastoral Leases) published on LINZ's website. Use actual stocking rates, or if a proxy is required use LUC.

Provision	Standard	Position	Relief Sought
			Stocking Rate ⁴⁴ be defined as: <u>Stocking Rate is defined as the number of Stock Units on a whole of property, Enterprise, or scheme area as expressed in hectares as at 30 June on any given year. Stocking Rate shall be expressed as SU/ha.</u>
	Rivers, Wetlands, lakes (Rivers as defined in the RMA but excludes ephemeral rivers) ≥1m wide Lake not defined meaning that farm dams count as lakes Wetlands as defined in the RMA but exclusions provided	Support with amendments	Support stock exclusion from waterbodies ≥1m wide. But seek that the definition of waterbody is narrowed to those which are permanently flowing. Amend definition of wetland to apply to <u>wetlands which have an extent of open water which is 0.1ha or greater and excludes wet pasture, damp gully heads, or where water temporarily ponds after rain, or pasture containing patches of rushes, and damp gully heads</u>
	Dairy cattle excluded by 1 July 2021	Support	Retain Applies to waterbodies which are permanently flowing and greater than 1m wide in lowland areas.
	Beef cattle, and deer excluded by 1 July 2023	Support with amendments	Timeframes will need to be extended to enable the market to meet the demands for fencers, and to provide time for businesses service fencing costs and requirements. Propose 2025. Though this should be considered in light of farmer submissions.
	5m (or up to 20m) setback from waterbodies ≥1m wide	Oppose	Setback distance should not be set in a blanket way in regulation, but should be tailored to natural resources at the site including the sensitivity of receiving environments. Environmental considerations include slope, soil, vulnerability to

⁴⁴ Coop, I.E. 1965. A review of the ewe equivalent system. New Zealand Agricultural Science 1(3): 13–18

Provision	Standard	Position	Relief Sought
			<p>erosion or soil loss, land cover, land use and management, and the values of the waterbody including presence of sensitive fish species.</p> <p>A such appropriate riparian buffer distances should be set by a combination of regional policy instruments tailored to the catchment/ and land uses, and through non regulatory methods such as industry programs and land and environment plans or farm environment plans.</p>
	Existing fences within 5m must be moved back by 2035, or 2025 if they are setback less than 2m on average and are not less than 1m at any point	<p>Oppose.</p> <p>Difficult to apply on the ground. Costs out weigh benefits. A fence irrespective of its setback distance still prevents damage to the bank and bed of a waterbody and direct stock access to that waterbody.</p>	<p>New fences or replaced fences should be setback from the waterbody (riparian setback aligned with the point above)</p> <p>Setback distances should be determined on a case by case basis through tailored LEP taking into account soil, slope, sensitivity of stream.</p> <p>This can sit outside of regulation and be part of industry programs or regional council methods.</p>
	Dairy and beef cattle, and pigs are not permitted to cross a waterbody except by a dedicated culverted or bridged cross point (unless that crossing is no more than twice per month)	Support with amendments	Amend to include an annual allowance eg <u>unless that crossing is not more than twice per month or 12 times during the year</u>
Freshwater Module to the Farm Plan (FM-FP)			
<p>Freshwater Module to Farm Plan (FM-FP)</p> <p>Stock Exclusion</p>	<p>Through tailored FM-FP develop bespoke approaches for excluding stock (includes sheep) from waterbodies, including smaller than 1m wide, and wetlands</p> <p>Clause (3) (f) stock management and exclusion (including assessment of appropriate setbacks), especially near waterbodies, drainage ditches, and riparian margins;</p> <p>Clause (4) the action points in a FW-FP must address the risk identified under subclause (3) and set out the actions that the person implementing the FW-FP is undertaking, or will undertake, to avoid, remedy, or mitigate the loss of contaminants, along with timeframes for those actions.</p>	Oppose	<p>Seek to be deleted.</p> <p>Direct access of stock to waterbodies is not the primary concern in the hill country. Rather the potential impact to waterbodies is from the overland flow of pathogens and other contaminants to waterbodies. Therefore, a more appropriate approach to manage risk is through the identification and management of critical source areas. A fence does not stop an overland flow pathway. A 5m setback is also unlikely to stop overland flow during rainfall events.</p>

Part 3.2: National Environmental Standard: Restricting Further Intensification of Rural Land Use

127. The government is proposing that there are restrictions on the conversion of forestry to pasture, or any land-use change to dairy, or dairy support, or increase in irrigation beyond 10ha. Land use change by 10ha or more is provided through consent for a period of up to 10 years (until 2030) if the land use change can be demonstrated to not increase emissions (nitrogen, phosphorus, sediment, or pathogens) above the historic land use. The effect of these provisions is that the lowest emitting land-uses, those with the smallest environmental footprint are effectively 'grandparented' into their current land uses. While the highest emitting land-uses, those with the greatest environmental footprint are provided with the most options, flexibility, and room to adapt, including changing land use.
128. When the suite of Essential Freshwater proposals are considered holistically, the combination of the grandparenting provisions (restrictions on land use change, coupled with the FM-FP requirement to reduce all emissions, and restrictions on hill country cropping to historic levels) have the effect of penalising and paralysing New Zealand's lowest emitting farming systems and those which have been early adopters of environmental mitigation and management. The suite of provisions removes flexibility and choice from these farmers, resulting in a loss of resilience for these businesses, and their ability to optimize their land uses and farming systems in response to changes in climate, markets, or personal lifestyle choices or other situations. Conversely the highest emitting farming systems, are provided with the ability to tie up natural resources for a period of another 10 years or more irrespective of the allocation status of the catchment they are farming in, and the impact this has on other land uses within the catchment,
129. These suite of provisions are agnostic to the state of aquatic ecosystem health in the receiving environment to these farming systems, the values of these waterbodies, the allocation status of the waterbody in its catchment or FMU context, or the relative cause or contribution of different lands to the state and trends of aquatic ecosystem health and water quality. Furthermore, while the RMA establishes a duty to avoid, remedy, or mitigate an individual's or business' impacts on natural resources, this suite of provisions places the highest costs on those with the lightest environmental footprint and as such those which have taken the greatest steps already to avoid, remedy, or mitigate their impacts on the environment. This approach fails to give effect to the NPSFWM and is contrary to the purpose and principles of the RMA. It is inefficient and likely to be ineffective at achieving environmental outcomes, and will have significant impacts on our most environmentally friendly farming systems and the communities they support. Significantly it will impact on Maori rights and interests in relation to allocation and development of undeveloped land. In this circumstance Iwi and Hapu find themselves in the same situation as other extensive land uses, in that their ability to realise the productive potential of their land, within their natural capital, and within environmental limits has been stolen by those that have intensified potentially beyond the assimilative capacity of their land, soils, and freshwater.
130. Case studies show that the combination of this loss of flexibility for extensive farming systems coupled with the significant requirements to address other environmental issues will result in these farming systems becoming unviable. Overall B+LNZ is

concerned that this will drive land-use change from sheep and beef farms to plantation forestry (supported by subsidies from the government to plant pines) in rolling land and hill country while retaining intensive land uses on the flats, which has been supported by modelling undertaken by LGNZ. An economic assessment by Bay of Plenty Regional Council puts the change in operating profit for sheep and beef farms in the region as -32.1% under the Essential Freshwater FM-FP and stock exclusion requirements, while Dairy is showing as -5.4% in baseline operating profit⁴⁵.

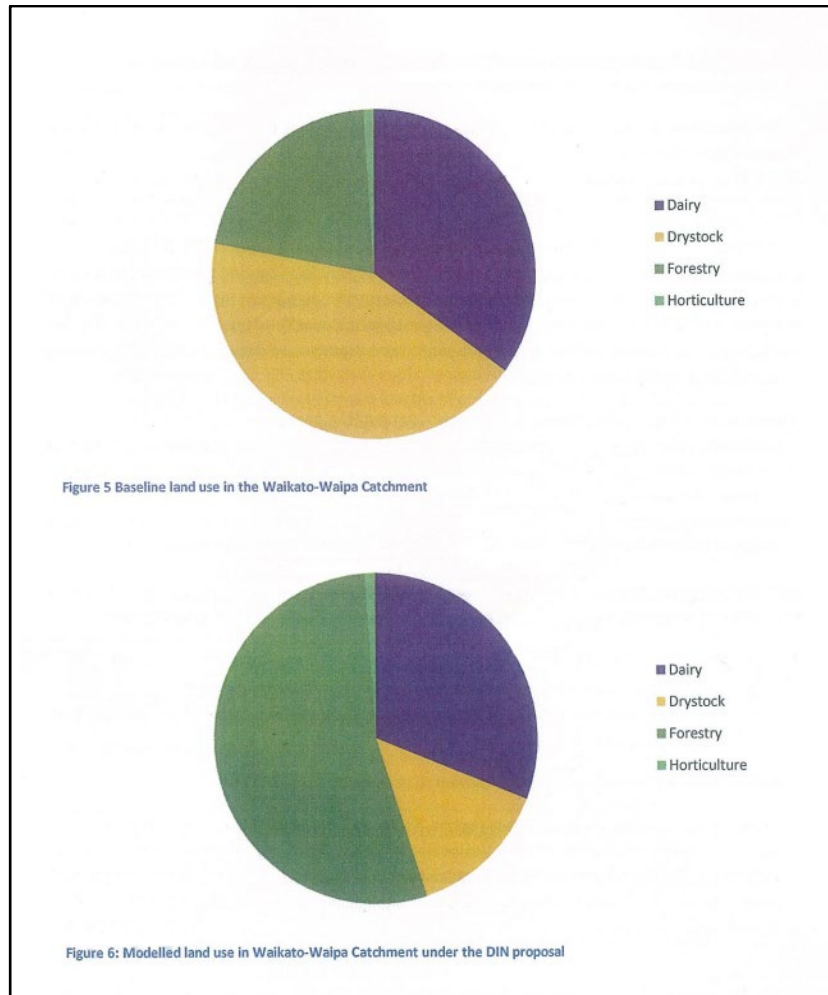


Figure 4: Modelling by LGNZ in the Waikato Waipā catchment showing reduction in area under sheep and beef farming by 68% and conversion to forestry while Dairy and Horticulture stay the same.

131. While the government says these controls are interim until Councils have new plans in place there are no timeframes and based on previous experience the Council process takes many years. This then coupled with the provision of consenting pathways through Essential Freshwater have the effect of tying up natural resources for up to 10 years, and potentially longer, and would cement the grandparenting approach to allocation and land uses and the management of natural resources in policy. The suite of grandparenting provisions put forward in the Essential Freshwater proposals, is contrary

⁴⁵ Bermeo et al (2019) Economic Impact Assessment of selected Essential Freshwater proposals for the Bay of Plenty region. Table 9, page 41

to the promises made by this government, to not allocate natural resources by grandparenting and rather base allocation on the natural capital of our natural resources.

132. Over the last decade, the allocation and management of emissions from agricultural land uses has been the subject of regional council processes and has been considered by higher authorities. The Environment Court⁴⁶ has considered allocation of N and several management options, including grandparenting, LUC based allocation and direction of 'reasonably practicable farm management practices'. The Court in that case came to the conclusion that an allocation based on the natural capital of land was the most appropriate allocation mechanism. In particular, the Environment Court roundly rejected a grandparenting approach as "*...an unattractive option. Quite apart from its inherent disadvantages of failing to provide an incentive to reduce leaching, such a process would be administratively inefficient*".
133. The grandparenting approach to allocating emissions is costly, inflexible and is likely to have a range of unintended consequences. These issues were considered extensively through both the Horizons One Plan, and Hawke's Bay Regional Council Tuketuki Plan Change 6 statutory processes. In relation to a grandparenting regime the following issues were accepted:
- (a) Rewards those that have been high N emitters;
 - (b) Disadvantages low emitting users or land uses, including those that have already adopted advanced environmental management systems;
 - (c) Is inflexible;
 - (d) Fails to incentivise innovation and adaption;
 - (e) Fails to respond the changing markets and climate conditions; and
 - (f) Affects land values.
134. In both cases the decisions favoured allocation based on the natural capital of the land, and concluded that allocation based on the natural capital of land has the most benefits, least costs, and greatest efficiency of all the allocation mechanisms considered.
135. The final design of an allocation mechanism depends on a good and integrated understanding of what is achievable on farms, the time period, and the outcomes for the river. Ideally all possible options would be modelled using the same techniques, this would enable a robust comparative analysis.
136. Under a grandparenting allocation framework, high intensity uses are generally protected. Those uses have flexibility, their land values retained and equity is retained. However, extensive farming systems have reduced viability – reduced flexibility to operate and adjust to changes in markets, climate and environmental conditions, land value is depreciated, and equity is lost. These are economic impacts that do not reflect

⁴⁶ *Day v Manawatu-Wanganui Regional Council* (Proposed One Plan Appeals) [2012] NZEnvC 182, paragraph [5-177].

the productive potential of the land. The result is the creation of a landscape dominated by a few high emitting land uses offset by large tracts of extensive or unproductive land. This is a cost to the community and contrary to the purpose and principles of the RMA which envisages and promotes the sustainable management of natural resources including safeguarding its life supporting capacity while providing for the use and development of that resource to meet the needs of current and future generations.

137. Dr Chrystal's technical report Appendix 6, presents evidence on the Overseer model which is used to calculate a property's nitrogen leaching, and potentially phosphorus losses through both the land use restriction rules and the FM-FP. Dr Chrystal, while acknowledging Overseer as a useful on farm management tool, also outlines some of its limitations. Dr Chrystal concludes that use of the tool in policy needs careful consideration to enable the appropriate use of the model to reduce risk and assist with informing on-farm management approaches⁴⁷. She concludes that there are significant risks associated with utilisation of the model to grandparent farming practices to a particular number at a particular point in time. Alternative approaches including consideration of thresholds should be considered in relation to establishing outcome or output based risk management frameworks⁴⁸.
138. B+LNZ has had a longstanding approach with respect to concerns about grandparenting, one that is based on sound principles of fairness, equity, ownership of own issues and responsibility. Underlying all of this, is the principle that we should not offset impacts either between farming systems, catchments, or communities.
139. B+LNZ is acutely aware that the sector requires flexibility in land use and farming systems, and in relation to potential emissions in particular nitrogen allowances, in order for it to be able to address other more relevant sector environmental concerns such as phosphorus, sediment, and faecal losses, along with other imperatives such as biodiversity, and climate change and adaptation, and in ensuring business viability and resilience moving forward. The sheep and beef sector is also fundamental to the health and wellbeing of our rural communities, therefore the survival of these businesses is inextricably linked to these communities. Research⁴⁹ shows that conversion of sheep and beef farms to forestry impacted on the wellbeing of the rural community, and its ongoing viability. This was due to a loss of local jobs, associated reduction in local population, and reduced local expenditure. Reducing local employment on farm flowed on to impacts on other sectors such as education, health, retail, and entertainment. Research concludes that long term planning should consider the full range of well-beings including environmental, economic, cultural, and societal, when establishing national policy instruments and provisions. Importantly planning frameworks should consider longer term implications of policy settings including issues around wealth transfer across societies and communities".
140. B+LNZ is therefore deeply concerned that the sheep and beef sector will be disproportionately affected by the land use change restriction rules, and grandparenting

⁴⁷ Evidence in Chief Dr Chrystal, paragraph 99 – 100, pages 30 – 31.

⁴⁸ Evidence in Chief Dr Chrystal Paragraph 100, page 31.

⁴⁹ BakerAg (2019), Socio-economic Impacts of Large-scale Afforestation on Rural Communities in the Wairoa District, commissioned by Beef+Lamb NZ available here https://beeflambnz.com/sites/default/files/Wairoa%20Afforestation_FINAL.pdf

provisions within the Essential Freshwater proposals, in a manner which is not commensurate with the effects of these land uses on the environment. In order to essentially offset the impacts of other land uses. The rules are not effects-based and are not adapted to the environmental issues the sector faces.

141. B+LNZ seek that the land use change rules, and the FM-FP requirements be amended such that any regulatory requirements are commensurate with the impact of the particular activity, farming system, or land use, that the provisions apply to, that the rules and standards are effects-based, that they are equitable across land uses and farming systems, and that individuals or enterprises are held accountable for their own contaminants. Flexibility must be provided for farmers to adapt and innovate to meet the multiple demands on their businesses both environmentally and from markets, and that policy frameworks empower and incentivise the behaviour changes required to deliver on an environmentally and economically sustainable future for New Zealand.
142. B+LNZ seeks that the land use change restriction rules are amended to provide for land use change and farm system optimisation within a flexibility cap of up to 20kgN/ha/yr or alternatively flexibility up to a LUC based flexibility cap as set out under Table 3. Alternatively B+LNZ seeks that the land use change restriction rules are deleted in their entirety.

Table 4: Land Use Capability Natural Capital Based: Nitrogen Leaching Flexibility Cap

Nitrogen Leaching Flexibility Cap	LUC Class							
	1	2	3	4	5	6	7	8
kgN/ha/yr	30	27	25	20	18	16	10	4

Table 5: Feedback on the Proposed Strategy Framework on Restricting Further Intensification of Rural Land Use

Provision	Standard	Position	Relief Sought
Restricting Further Intensification of Rural Land Use			
High risk land use change	<ul style="list-style-type: none"> More than 10ha change from forestry to pasture, or into dairy or dairy support, or irrigation; Must have a FW-FP Must show emissions (nitrogen, phosphorus, sediment, pathogens) from the new land use does not exceed the average discharges of contaminants from the old land use (farm) during the farm year 2017/18 	<p>Oppose</p> <p>Grandparenting extensive farming systems while providing the greatest flexibility and opportunity to high emitting land uses.</p>	<p>Delete restrictions on conversions of forestry to other land uses with the exception of dairy or irrigated intensive farming.</p> <p>Provide flexibility in land use for extensive farming systems through Nitrogen leaching flexibility cap of 20kgN/ha/yr, or alternatively a LUC based flexibility cap which matches the natural capital of the land as set out under Table 3</p>

Part 3.3: Improving Farm Practices through Farm Planning

143. The Essential Freshwater proposals require that all farms have a Freshwater Module to a Farm Plan (FM-FP) with the next 5 years (by 31 December 2025) or sooner if the land use is within a target catchment or being managed through other consenting requirements such as hill country winter forage cropping.
144. The FM-FP requires among other standards (a) information about the farm such as ownership, location, and whether other consents are held; (b) mapping including the identification of at risk areas such as erosion risk areas, soil loss associated with land disturbance, waterbodies, riparian vegetation, fences, land management units, and critical source areas; (c) risk assessment of the land use and farming systems in relation to contaminant losses and erosion; and (d) actions and timeframes to avoid, remedy, or mitigate the loss of contaminants.
145. While some aspects of this proposal are consistent with B+LNZ's approach to Land Environment Plans (LEP), there are significant and meaningful differences which result in an approach to farm environment planning through the FM-FP which is unsuited to sheep and beef farming systems, is unlikely to deliver the intended environmental outcomes, and is contrary to decades of research around effective farm environment planning including approaches which drive farm learning and practice change on the ground. This is set out below under paragraphs 116 to 139. As such B+LNZ oppose the mandatory FM-FP and its content and seeks that it be deleted.
146. At best all the FM-FP will do is provide a platform by which the government can collect information around individual farming businesses and create an industry and bureaucracy around a prescriptive tick box approach to compliance which goes beyond what is actually required to internalize farm specific environmental externalities. The FM-FP and its support structures will be expensive and draconian to manage, lacks the appropriate technical expertise currently within New Zealand to effectively implement⁵⁰, and takes the eye off the ball in relation to actually supporting on the ground environmental activities, and the establishment of clear regulatory frameworks which establish the environmental end point.
147. The specific requirements in the FM-FP that are materially incompatible with driving effective environmental management at the farm scale for sheep and beef farming systems include:
 - (a) Stock management and exclusion (including assessment of appropriate riparian setbacks), especially near waterbodies, drainage ditches, and riparian margins⁵¹;

⁵⁰ Expertise for supporting Land and Environment Planning or Farm Environment Planning specific to the sheep and beef sector is based around understanding the natural capital which underpins the farming business such as geology, soils, climate, pasture, slope, and altitude. The relationship between the farming systems and management to these natural capital assets including mechanisms to maximise productive performance or optimise land use and farming systems while managing vulnerabilities in the natural capital base. Expertise is based on soil conservation, farm system optimisation including integrating mixed farming systems, animal production and genetics, biodiversity, ecology, and pasture and forage production systems.

⁵¹ FM-FP section 38 clause (3)(f), and (4), and section 40 clause (3)(a), (b), and section 41 clause (6)(c), (d), and (e) .

- (b) The identification and management of all potential contaminant losses [own emphasis] from the farm (nitrogen, phosphorus, sediment, pathogens)⁵²;
 - (c) Actions to reduce all potential contaminant losses overtime [own emphasis]⁵³; and
 - (d) Consistency with the Good Farming Principles as set out in the Good Farming Practice Action plan for Water Quality 2018⁵⁴.
148. The FM-FP is very prescriptive and includes needing to provide information around all potential emissions from the farming system, which is likely to rely on provision of an OVERSEER (nutrient) budget and potentially other farm decision support tools such as LUCI or MitAgator, along with having to demonstrate how all emissions are going to be reduced overtime. The requirement to provide information on potential emissions and then put in place actions and timeframes to reduce all emissions is insensitive to aquatic ecosystem health in the receiving waterbody, state and trends in its water quality, its allocation status, or the relative cause or contribution of the farm to the health of the waterbody. The FM-FP requirements are also agnostic of farm systems including intensity or magnitude of emissions, and work that may have already been undertaken to internalise any environmental externalities, including simply the choice of the landowner to run an extensive farming system in the first place. A more effective and efficient approach would be to enable the farm to concentrate farm system optimization and environmental work on issues relevant to that farm in its catchment context. For example, for an extensive farming operation in a catchment where sediment is an issue, it would be more effective and efficient to focus action on erosion control and mitigation rather than diluting efforts across all four potential contaminants e.g. phosphorus, nitrogen, and pathogens.
149. The requirement of the FW-FP essentially starts by grandparenting farming emissions, regardless of impact, which is of significant concern to B+LNZ and the sector. As evident from the case studies and implementation of Horizons SLUI program, in order to address environmental issues specific to the sheep and beef sector, flexibility in farm systems and land uses is required. Of particular concern is grandparenting low nitrogen leaching farms to a low baseline with ongoing requirements to reduce even further. As illustrated in the Evidence in Chief of Mr Bailey on Waikato Regional Council Plan Change 1, flexibility in N leaching within a narrow range was required in order to optimise the farming systems to deliver improved environmental outcomes across sediment losses (80% reduction), phosphorus losses (20% reduction), and increasing biodiversity values (10ha). For farms in the Horizons region operating under their voluntary SLUI program flexibility in nitrogen leaching is provided for to enable these farms to optimise in order to reduce sediment, phosphorus losses and improve biodiversity and build environmental and business resilience.
150. Requiring reductions in all emissions irrespective of environmental effect on aquatic ecosystem health and values of the waterbody including cultural and community values, is inefficient, inequitable, and likely to be ineffective at addressing the wider range of

⁵² FM-FP section 38 clause (3), (4), and (5), and section 40, and section 41.

⁵³ FM-FP section 38 clause (4), (5), and section 41 clause (6)(b), and (6)(d)

⁵⁴ FM-FP section 40 clause (3)(c).

environmental concerns which include freshwater but also soil health, climate change, and biodiversity. The grandparenting approach, coupled with increasing compliance costs around fencing, and requirements to reduce all emissions from the farm will put significant pressure on the viability of primary productive land uses and in particular those which have a lower environmental footprint. As evident from research around the ability for sectors to reduce emissions, those which have the highest emission to start with generally have more tools available within their toolbox to reduce from a higher starting point before farm system change needs to be considered. In relation to farm system change these land uses also have more options. For low emissions farming systems few land use change options are available other than trees.

151. As set out in the technical report of Dr Chrystal (appendix 6), the risks from agricultural land uses occur where they are intensified, without sound mitigations, and on vulnerable landscapes. The evidence is that the environmental risk associated with the red meat sector has been declining overtime⁵⁵. The reductions to stocking rate, use of fertiliser, and area farmed, and changes to other land uses have been addressed through the expert evidence of Mr Burt, Dr Chrystal, Mr Beetham, and Mr Parkes.
152. Nitrogen leaching is driven by a range of factors – mainly rainfall, soils, stocking rate and management styles (N use per hectare, cropping, and irrigation).⁵⁶ High stocking rates, combined with high rates of N use and winter cropping to supplement in the winter, with or without irrigation, can lead to high rates of spill over of pathogens, sediment, nitrogen and phosphorus.⁵⁷
153. Dr Chrystal's report (appendix 6) is that N losses below the root zone from farms increase as stocking rate increases. The evidence is that the average stocking rate for sheep and beef farms has declined since the 1990s⁵⁸ and N loss to the current average of 17kg N/ha/yr. Extensive sheep and beef farms, with an average of 15 SU/effective ha/yr, already have low inputs including low fertiliser use, lower stocking rates as they are farming to their grass curve or below it, and generally are net exporters of feed.⁵⁹ The effect of this reduction in stocking rate and low fertiliser use, and systems which match stock type and rate to the pasture growth curve, is a decrease of the sheep and beef sector's contribution to nutrient loads of 40%.
154. The outstanding feature of the drystock sector, in comparison with other agricultural land uses, is the high degree of spatial and temporal variation in both landscape structure and in system processes. Studies consistently show that, far from being characterised by "diffuse source" pollution, the majority of contaminant losses occur over short time

⁵⁵ Andrew Burt Appendix 3

⁵⁶ Dr Alison Dewes, Evidence in Chief on behalf of B+LNZ on Waikato Regional Council PC1 Hearing 2, paragraph 51.

⁵⁷ Dr Alison Dewes, Evidence in Chief on behalf of B+LNZ on Waikato Regional Council PC1 Hearing 2, paragraph 52.

⁵⁸ Mr Andrew Burt, Evidence in Chief Hearing 1 on behalf of B+LNZ on Waikato Regional Council PC1, paragraph 12.

⁵⁹ Dr Jane Chrystal, Evidence in Chief Hearing 1 on behalf of B+LNZ on Waikato Regional Council PC1, paragraph 144, and 207.

scales and/or from small areas of the farm where areas of high contaminant sources and rapid transport processes coincide⁶⁰.

155. These areas are called critical source areas (CSAs)⁶¹ and examples include tracks, troughs, gateways, headwater seeps and gullies and can generally be identified from farm mapping resources⁶². These types of discharge pathways lend themselves well to being managed through tailored farm specific management plans such as B+LNZ Land Environment Plans (LEP) which focus on a stock take of natural capital assets of the farm such as through paddock scale Land Use Capability Mapping (LUC), and the identification of critical source pathways and which then put in place management plans and actions to address these discharges. A detailed analysis of LUC is set out in the Evidence in Chief of Mr Simon Stokes on behalf of B+LNZ on Waikato Regional Council Plan Change 1, Appendix 7 to this submission.
156. Dodd⁶³ suggests that the best outcomes are achieved in relation to freshwater outcomes and *“reducing contaminant discharges from drystock operations in the long-term when they are: 1) chosen on the basis of suitability to the farm; 2) implemented on the basis of cost-effectiveness; and 3) implemented in critical source areas.* The result is that 25-50% of some contaminant losses can be mitigated without impairing farm earnings.
157. 80% of the phosphorus and sediment loss occurs from 20% of a catchment therefore supporting more cost effective, targeted mitigations / management strategies to these “hot-spots”, rather than applying blanket rules generically and blindly across the majority of the landscape, for little further gain but at a far greater cost.
158. “The value of CSAs as a technique for mitigating contaminant losses has been considered as much more cost effective than blanket approaches that restrict farming practise across entire fields or catchments” (Buczko and Kuchenbuch, 2007). “If CSAs can be identified through farm planning, the hope is that they can be targeted with mitigation strategies to prevent P loss. If CSAs are small enough, this targeted approach may be more cost effective at decreasing P loss than using a blanket mitigation strategy across the entire catchment” (McDowell & Srinivasan, 2009).
159. B+LNZ supports every farmer having a tailored LEP/FEP and through their Environment Strategy have the aspiration of every farm having an operative Farm Plan by the end of 2021. B+LNZ does not support however, the mandatory FM-FP as proposed in the Essential Freshwater proposals, as set out above.
160. Historically in New Zealand farm plans only dealt with soil erosion but since 1987, where they remain, they have become more holistic, encompassing a broader range of topics including biosecurity, biodiversity, nutrient management, riparian management, or

⁶⁰ McDowell & Srinivasan 2009.

⁶¹ A critical source area is: a landscape feature like a gully, swale or a depression, an ephemeral waterbody, or field tiles, that accumulates runoff from adjacent flats and slopes, and delivers it to surface waterways such as artificial waterways, wetlands, rivers and lakes, estuaries, or the coastal marine area.

⁶² Betteridge *et al.* 2013.

⁶³ Dodd, M.B., McDowell, R.W., Quinn, J.M. 2016. A review of contaminant losses to water from pastoral hill lands and mitigation options. Hill Country – Grassland Research and Practice Series 16, 137-148.

conservation management, flood protection, heritage values, and economic matters. For example, the Horizons Regional Council's Sustainable Land Use Initiative (SLUI) plans include a farm business component to identify the initial economic viability of the property and the subsequent effect of the programme of works on the resultant economic viability of the property.

161. From an industry perspective, LEPs and FEPs are also an education tool which enables farmers to understand the natural resources (land, water and soil) on their farm, and optimise their farming systems within the natural capital of these resources. FEPs provide value to the farming business and are intended to be a living document which informs and underpins day to day management decisions as well as wider choices around land uses and farming systems. A well prepared FEP or LEP captures stewardship and sustainability as a record showing that measurable actions are being taken to address environmental concerns and to demonstrate good practice, as well as underpinning brand assurances to discerning international markets and customers.
162. Tailored Land Environment Plans (LEPs) enable farmers to understand their natural resources and the farms natural capital and to identify risk and prioritise actions across their property for the purpose of maintaining and enhancing their natural resources including soil, water quality, and biodiversity. This approach allows for the complexity and dynamic nature of the farming landscape by supporting active management of livestock and water at the farm and paddock scale.
163. LEPs provide a risk matrix for activities and enable farmers to better manage these in the long-term. These plans guide farmers through a recorded assessment of their farm's environmental risks as well as land management opportunities, and can underpin farm optimisation decisions.
 - (a) Stock take of land, soil, & water resources, & improved understanding;
 - (b) Captures stewardship and sustainability as measures of success
 - (c) Enables longer term strategic farm and business planning;
 - (d) Identify where resources are not being fully utilized and production opportunities lost;
 - (e) Foster access to environmentally discerning markets
164. The identification of environmental and production risks and agreed actions is undertaken in a whole farm systems approach to managing the effect of the operation on the environment and optimal resource use, by matching appropriate land use to different areas of the farm while achieving production and development goals for the property. Inherent to this is the requirement to understand the natural capital of the farm, which includes a stock take of the farm's natural resources, including paddock scale LUC mapping.
165. Most properties are a mosaic of soils, and land types each with different capabilities and limitations. These limitations affect productivity, the number and complexity of corrective practices needed, environmental risks, and the intensity and manner of land use.

Limitations include susceptibility to erosion, steepness of slope, depth of soil, soil texture, structure and nutrient supply and climate.

166. Experience has shown that the classification of land according to its capability for long term production, based on its physical limitations and site-specific management needs, provides the most reliable basis on which to promote sustainable land management. Understanding the farm's soil, geology, altitude, and aspect, and its capabilities and limitations enables farmers to optimize the use of their land to enhance productivity of their farms while managing environmental risks and reducing costs.
167. Simply put the LEP takes the farmer through a process which enables them to understand their land and water resources, and to put in place management approaches which maximise the productive potential of their land while addressing critical source areas and sustainably managing their freshwater and soils. Tailored catchment and farm specific industry owned LEP / FEP are an important tool in the toolkit, and B+LNZ submits they should be retained as an industry tool, rather than within national regulation where their value is significantly compromised. B+LNZ Land and Environment Plan II guidelines and workbook⁶⁴ is attached as Appendix 8, and B+LNZ LEP factsheet is attached as Appendix 9.
168. B+LNZ opposes reference to the Good Farming Practice Action Plan and seek that this be deleted from the requirements of the FM-FP.
169. The Action Plan's purpose is to accelerate the uptake of good farming practices for improving water quality, to measure and demonstrate this uptake, to assess the impact and benefit of those farming practices, and to communicate progress to the wider public. The Action plan was developed by a Governance Group composed of senior representatives of primary sectors, regional councils and the Water Directorate (Ministry for the Environment and Primary Industries).
170. The Good Farming Practice (GFP) Action plan is a voluntary commitment and like the 21 GFPs it contains, it was not developed for the purpose of becoming regulation. Good Farming Practice (GFP) are intended to be an evolving suit of practical measures, and as such B+LNZ does not support their inclusion through regulation in a way that is prescriptive and reduces the role of innovation and on farm adaptation. 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.
171. How farmers, and communities achieve environmental outcomes and community aspirations should maintain as much flexibility as possible to enable innovation and adaptation, business and community as well as wider environmental resilience and the health and wellbeing of people.
172. B+LNZ sees that farm planning is a powerful tool that can link farms to consumers, while providing assurance to customers and regulators. B+LNZ and the wider red meat industry have come together to support New Zealand's first NZ-wide quality assurance programme, the New Zealand Farm Assurance Programme (NZFAP). NZFAP and

⁶⁴ <https://beeflambnz.com/sites/default/files/factsheets/pdfs/RB2-LEP-level-2-guidelines.pdf>

NZFAP + take an integrated approach to farm planning linking the farm, to the processor, and onto markets. The industry quality assurance programme provides transparency and credibility throughout the value chain and underpins B+LNZ's New Zealand origin brand 'Taste Pure Nature'⁶⁵.

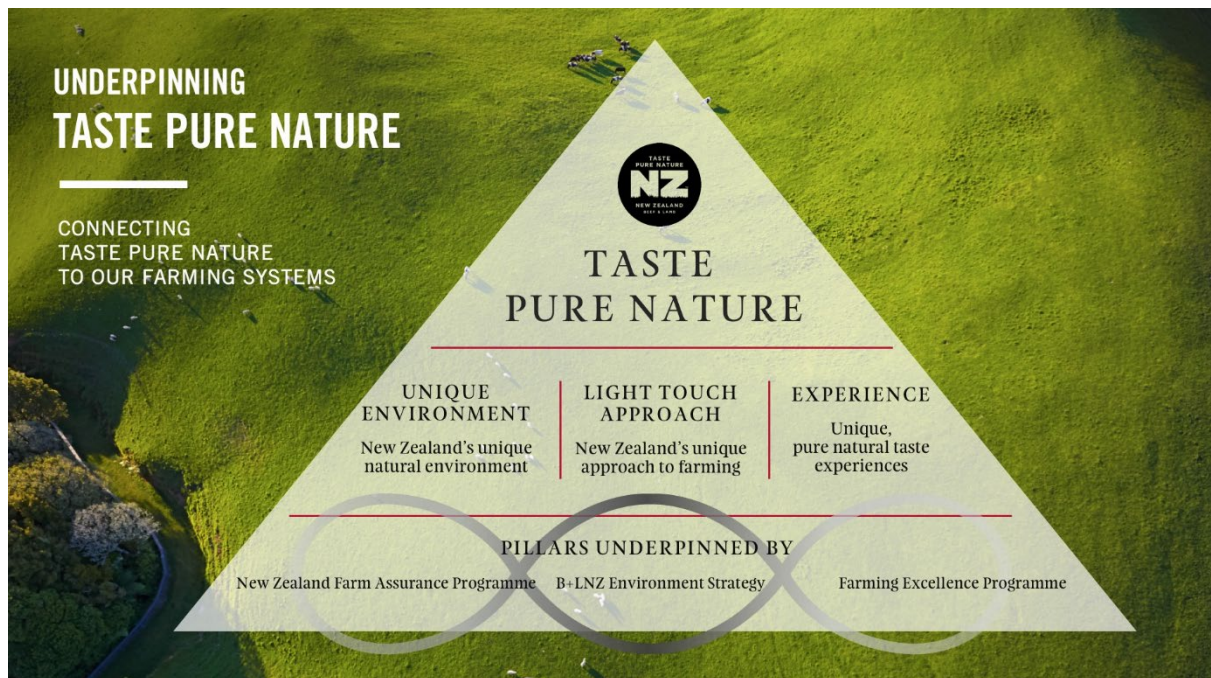


Figure 5: Underpinning B+LNZ country of origin brand Taste Pure Nature from farm to consumer

173. The role of Taste Pure Nature is to enhance the global positioning of beef and lamb from New Zealand, to provide a marketing platform to underpin New Zealand meat company market development activities, to provide integrity to products sold, and to form part of a long-term strategy to grow value for New Zealand beef and lamb supply chains by differentiating the product from competitors. Our research shows country of origin is a primary navigation tool for consumers and retailers in the pathway to purchase and is a shortcut to understanding and trust. Taste Pure Nature is our country of origin brand which has been designed to raise the awareness, and create a customer and consumer preference, and demand for, New Zealand beef and lamb. It has been developed in collaboration across the entire industry and after considerable in-market consumer research.
174. Taste Pure Nature our story *"Nature is the best producer of food, no question. And in our remote, unspoilt corner of the world we enjoy some of nature's best growing conditions. Our climate is gentle, with clear blue skies and plentiful fresh rains that nourish young, fertile soils. Our wide open spaces are brimming with lush, green grasses that animals roam through and graze on, freely and happily. As farmers we work with*

⁶⁵ <http://tastepurenaturenz.co.nz/>

these natural gifts to produce the one thing you can only get from New Zealand beef and lamb. That's the taste of pure nature."

175. The promise of Taste Pure Nature is underpinned by a healthy natural environment, healthy animals, and sustainability. As such it fits hand in glove with the aspirations of New Zealand and those values underpinning the Essential Freshwater proposals. B+LNZ and its partners are committed to this vision, and its delivery and as such is ensuring that our activities, including farmer support and outreach, provide pathways under our farming excellence strategy to ensure our farmers are meeting their commitments under NZFAP and NZFAP + which underpin Taste Pure Nature.
176. B+LNZ are seeking changes to the Essential Freshwater proposals to ensure that domestic regulation is fit for purpose and consistent with the higher-level statutory documents. B+LNZ submits that the FM-FP as proposed is fundamentally flawed, would result in perverse environmental outcomes, as well as significantly impact on the sheep and beef sector. If implemented the FM-FP would cut across industry programmes which have been developed to deliver on the aspirations of New Zealanders in relation to sustainability across the full range of natural resources, as well as meeting changing consumer requirements around red meat products.
177. B+LNZ seeks that the FM-FP is deleted in its entirety. If mandatory Farm Environment Plans are to be retained then B+LNZ seeks that industry quality assurance programmes such as NZFAP and NZFAP +, or B+LNZ Land and Environment Plans (LEP) are adopted.

Table 6: Feedback on the Proposed Strategy Framework on Freshwater Module to the Farm Plan

Provision	Standard	Position	Relief Sought
Freshwater Module to the Farm Plan (FM-FP)			
FM-FP	FM-FP	Oppose	<p>Delete in its entirety</p> <p>While B+LNZ supports tailored Farm or Land Environment Planning, these plans need to add value to the farming business and enable farmers to optimise their farming systems and land uses within the natural capital of their land.</p> <p>Whole farm plans connect the farm and its management to markets and consumers, in underpinning custodianship of the land, welfare of people and animals, food safety, biodiversity, climate change commitments, business planning, and biosecurity.</p> <p>The process of planning should empower farmers to form the knowledge connections between their natural capital assets and their business, such that this informs day to day management decisions and longer term strategic business planning.</p> <p>Plans should not simple be a tick box exercise for compliance.</p>

Provision	Standard	Position	Relief Sought
			Replace FW-FP with Industry quality assurance program or B+LNZ LEP program
	Timeframes for farmers having to have a FM-FP	Oppose	Support the timeframes in the RIS (p278): <ul style="list-style-type: none"> • 2022 industry LEP in place for those in 12 highest priority catchments; • 2025 – priority catchments with water quality risk and vulnerability; • 2030 for all other farms
	Section 38 clause 2	Oppose	<p>The FEP/LEP must include a stock take of the farm's natural resources (natural capital assets) with an analysis of strengths and primary vulnerabilities.</p> <p>For the sheep and beef sector the main natural capital assets relate to soil, geology, slope, climate, waterbodies, and indigenous biodiversity. The identification of critical source areas is also fundamental to robust FEP/LEP.</p> <p>Include paddock scale (1:10,000) LUC mapping and description of vulnerabilities in relation to the Land Management Unit.</p> <p>Amend (2)(h) the location of any critical source areas for nutrient loss, soil loss, or both <u>or pathogen loss.</u></p>
	Section 38 clause 3	Oppose	<p>Delete Clause 3 and replace with <u>“evaluate the strengths and weaknesses of each Land Management Unit or Land Use Capability Unit. With particular consideration of the following environmental risks:</u></p> <ul style="list-style-type: none"> • <u>Risk of contaminant losses to waterbodies;</u> • <u>Risk of impacts on the health of receiving freshwater bodies;</u> • <u>Risk of erosion and soil loss;</u> • <u>Susceptibility to pugging or compaction;</u> • <u>Poorly drained;</u> • <u>Shallow topsoil;</u> • <u>High water table;</u> • <u>High nutrient leaching;</u> • <u>High runoff risk;</u> • <u>Stoniness;</u> • <u>Proximity to waterbody;</u> • <u>Flooding risk;</u> • <u>Risk of impacts on indigenous habitats”</u> <p>Clause 3 should relate to the strength and weaknesses assessment, rather than dictating land management activities. The solutions such as management should be informed by the strength and weaknesses assessment and driven by the farmer not prescribed.</p> <p>Delete clause (f). For extensive land uses or those on more diverse landscape, stock access to waterbodies is not the primary environmental issue, but rather the overland flow of pathogens to surface waterbodies, is.</p> <p>A fence does little to address overland flow pathways on more diverse landscapes. These pathways are best managed through the identification and management of</p>

Provision	Standard	Position	Relief Sought
			critical source areas which may include the establishment of riparian buffers or stock exclusion areas, but which are not limited to these options. Alternative management options to fencing, include gully retirement, provision of shade and shelter away from a waterbody, stock water reticulation, or changes in stocking rate and how stock are managed including the timing and location of stock movements and paddock selection.
	Section 38 clause 4	Oppose	<p>Amend as follows “The action points in an FW-FP must address the weaknesses and risks identified under subclause (3) and set out the actions that the person implementing the FW-FP is undertaking, or will undertake, to avoid remedy, or mitigate <u>impacts on the health of freshwater ecosystems</u>, along with the timeframes for those actions”.</p> <p>Actions should be enabled which are tailored to the farm, and the receiving freshwater bodies, and ideally which deliver on multiple outcomes. That is healthy freshwater ecosystems, healthy biodiversity, healthy productive soils, and addressing GHG emissions. Along with sustainable profitable businesses and thriving communities.</p> <p>Costs of environmental mitigation should be commensurate with the level of impact, and as such FEP/LEP should enable prioritisation of action for the greatest bang for buck.</p>
	Section 38 clause 5	Oppose	<p>Delete</p> <p>Where regional rules apply then they should be implemented in accordance with the rule, and not subsumed into the FW-FP. The allocation of nutrient discharge allowances should be established either through regional plans, or through a national allocation framework.</p> <p>As currently proposed the FW-FP allocated nitrogen emissions through grandparenting, then seeks reductions irrespective of the relative impact of the land use, whether or not it is farming to its natural capital, and irrespective of whether or not nitrogen is overallocated in the receiving fresh waterbody.</p>
	Section 40	Support in part	<p>Currently the expertise is not available within New Zealand to support the proposed requirements for FEP/LEP.</p> <p>Funding, training, and support structures will need to be established to ensure that New Zealand is building the capability required to support farmers in building robust whole farm plans that deliver value across the farming business, and environmental outcomes. In particular New Zealand needs to re-establish expertise across soil conservation, integrated catchment management, and farm systems.</p> <p>Existing and emerging industry programmes should be enabled and supported. This includes B+LNZ’s LEP</p>

Provision	Standard	Position	Relief Sought
			workshop programme which is designed to enable farmers to learn from both experts and their peers in developing FEPs/LEPs. In this way the FEP/ LEP is a living document owned by the farmer, and implemented through day to day management decisions and longer term business planning. In this way the tailored FEP/LEP delivers tangible environmental and business outcomes.
	Section 41	Support in part	Issues raised in the sections above apply. Delete 41 clause (6)(b) and replace with <u>“whether the proposed actions are likely to be effective at avoiding, remedying, or mitigating impacts on the health of freshwater ecosystems”</u>

Part 2.4: Immediate Action to Reduce Nitrogen Loss

178. In addition to introducing new instream nutrient outcomes, that will take time for Regional Councils to implement, the Essential Freshwater Proposals put forward three options for addressing catchments considered to be at risk in relation to high instream nitrogen concentrations. These options include (a) a cap on fertilizer use, (b) reductions in nitrogen leaching through FM-FP, or (c) the application of a nitrogen leaching threshold.
179. B+LNZ opposes the application of a fertilizer cap based on crop type and land use, and a sinking lid approach through FM-FP. The FM-FP approach would have at its heart a grandparenting approach to initial nitrogen emissions, and would fail to ensure that standards are effects based where the relative costs of compliance are commensurate with the relative contribution of that land use to the environmental issue including overallocation.
180. The regulatory impact analysis also considers the use of a Nitrogen Surplus approach, which is also supported by some submitters. B+LNZ opposes the use of a nitrogen surplus approach in regulation as it is not linked to environmental outcomes nor does it take into account the underlying natural capital of the farm such as soils, geology, or climate. The nitrogen surplus approach essentially rewards efficiency without any consideration of impact, and could in fact promote intensification of land uses and farming systems.
181. B+LNZ supports with amendments the application of a nitrogen cap and the requirement for this to reduce over time. However, B+LNZ is concerned that the nitrogen cap would be applied in a number of ways that could disproportionately impact on sheep and beef farms.
182. One of the ways that the cap could be applied is to require each sector to reduce its N losses by a certain amount. This would be inequitable and unduly penalize land uses with have a low nitrogen leaching rate. The red meat profile is between 9-45kg of N with an average of 17kgN/ha/yr; while more intensive land uses have a range of between 25-120 and much higher averages of around 50. As set out in the introductory section to this submission under paragraphs 35 – 36.

183. What is clear from the evidence is that generally the higher the losses the more ability that operation has to reduce their emissions while maintaining profitability. Seeking reductions from the red meat sector who has already made most of those emissions gains will not address the nitrogen issue and will have a significant impact on the profitability of those businesses.
184. B+LNZ seek that that nitrogen threshold approach is amended such that:
- Flexibility in N leaching for extensive or non-lowland farming systems is retained;
 - The threshold is based not only on the dairy emissions profile but the whole suite of emissions profiles across all land uses in the catchment;
 - The threshold is set based on either achievement of the environmental outcome, or a percentage improvement in ecological health overtime;
 - That consenting pathways for non-compliance with the threshold are deleted such as the best practicable option pathway currently proposed.

Table 7: Immediate Action to Reduce Nitrogen Loss

Provision	Standard	Position	Relief Sought
Immediate Action to Reduce Nitrogen Loss			
Option 1 Nitrogen loss cap in high nitrate nitrogen catchments	<ul style="list-style-type: none"> Low slope pastoral and all dairy land users provide OVERSEER budget to the council; Council pulls out dairy profiles and sets the catchment threshold at either 70th, 80th, or 90th percentile; Low slope pastoral farming and all dairy farming land uses above the threshold are controlled activity if they can show they can meet the threshold within 5 years; or Default to a discretionary activity if they cannot meet the threshold but meet best practicable option (consent granted for 5 years); Must have a FW-FP 	<p>Support with amendments</p> <p>Support exemption for hill country pastoral farms</p> <p>Oppose application of best practicable option which essentially enables high emitting farms to continue to exceed thresholds</p>	<p>Support N cap and required reductions to this cap by high emitting land uses in overallocated catchments.</p> <p>Amend the nitrogen threshold so that it is based on all profiles not just dairy, and so that the threshold is proportionate to the level of overallocation of nitrogen.</p> <p>Provide flexibility for low nitrogen emitting farms (eg exempt farmers outside of low slope areas, or set a minimum cap based off 20kgN/ha/yr or LUC) while high emitting farms reduce emissions.</p> <p>Delete "<i>best practicable option</i>" from the rules.</p>
Option 2 National nitrogen fertiliser cap	Caps or thresholds for total nitrogen applied in fertiliser per hectare per year would be set, based on research findings and good management practice. The caps would be applied nationally, with a higher threshold set for higher demanding nitrogen crops and land uses. Application above the cap would require consent	Oppose Essentially proposes to set caps based on crop type and land uses. Unlikely to achieve improvements or reductions in N losses.	Seek this option be deleted

Provision	Standard	Position	Relief Sought
Option 3 Farm plan based reductions	Essentially proposes to grandparent all land uses and then seek reductions in N leaching through FW-FP. But does not set specified reductions.	Oppose	Seek this option be deleted

Part 3.5: Livestock Control

185. The Essential Freshwater proposals identify high risk land use activities and put forward definitions, rules, and standards to ensure that these activities are managed sustainably. High risk activities include *'Feedlots'*, *'Other stock holding areas'*, *'Sacrifice Paddocks'*, and *'Intensive winter grazing'*. The proposals also seek feedback on whether submitters prefer nationally set standards of industry set standards.
186. B+LNZ supports the intention of these proposals but has concerns with some of the definitions and standards. In particular B+LNZ supports the definition of *'Feedlot'* which aligns with international definitions, and the inclusion of industry good management practices, and seeks that they be retained. Use of terminology which defines systems or practices, and which is consistent with international definitions is important in relation to country of origin brands such as Taste Pure Nature, supporting industry quality assurance programmes, and consumer expectations.
187. B+LNZ opposes the inequitable approach to intensive winter grazing which provides a permitted activity for lowland farming, but which requires land uses outside of lowland areas (slope equal to or greater than 10 [15] degrees) to apply for a resource consent. The resource consent includes as a standard the grandparenting (2013/14 and 2018/19) of the extent of crop to a historic extent, and the requirement to have a FW-FP. These requirements essentially penalise land uses outside of lowland areas irrespective of their actual or potential impacts on freshwater ecosystems. The rules are agnostic to even whether the cropping area is adjacent to a waterbody, and in relation to the grandparenting standards, would preclude farms that do not currently crop or which have low areas under crop from expanding.
188. Forage cropping to support animal health and wellbeing can be undertaken sustainably (nitrogen risk profiles can be managed to low levels ~20kgN/ha/yr or less) and is part of resilient, and profitable farming systems. When undertaken correctly the strategic use of forage crops can enable farms to adapt to changes in climate and markets, and can underpin changes in stock policy such as reducing overall stocking numbers. Some of the benefits of forage cropping include driving eco efficiency gains through:
- (a) Providing forages during adverse weather events such as snow when pasture is covered and difficult for animals to access;

- (b) Lifting reproductive performance in production animals, which can facilitate reducing overall stocking numbers⁶⁶;
- (c) Improve pre and post weaning production animal health and wellbeing including growth rates of young animals⁶⁷
- (d) Improve production animal health and wellbeing post lambing or calving and lactation;
- (e) Improve reproductive performance of production animals including earlier mating⁶⁸
- (f) Improve animal health and wellbeing in relation to production animals which are, or have been under stress, and to maintain or improve overall pasture quality and feed availability on the farm⁶⁹
- (g) Can be undertaken while avoiding, remedying, and mitigating environmental risks, and is part of a low environment footprint farming systems e.g. nitrogen leaching as modelled by OVERSEER can be maintained at low levels such as below 20kgN/ha/yr.

189. Research by Lincoln University has shown that grazing animals in situ on forage crops can be sustainably managed, including in the hill country. Orchiston *et al* (2013)⁷⁰ hypothesised that losses of sediment, phosphorus and E.coli could be considerably reduced through the protection of the critical source areas⁷¹ which accounted for less than 2.5% of total paddock area. As illustrated in Figure 4 in the control catchment cows were strip grazed from the bottom of the paddock and moved up slope with unrestricted access to the critical source area. In the treatment the cows were strip-grazed from the top of the paddock and moved downslope, with restricted access to the critical source area. This trial demonstrated that by simply changing grazing management 80-90% reductions in sediment, phosphorus, and pathogen loss were achieved in the paddock receiving the strategic grazing treatment⁷².

190. Slope is also not the only determinant of environmental risk, or even the main contributor. Other factors similarly play an equal if not greater part in the environmental risk of profile of winter forage cropping and the grazing of animals in situ. These factors include soil, geology, proximity to waterbody, type of forage crops and methods of establishment and management, climate, presence of critical source areas, and

⁶⁶ Case studies have shown reduction in stocking rate from a peak of 9.9 stock units/hectare to 7.6 stock units/hectare

⁶⁷ Chicory and clover are used to drive pre and post-weaning lamb growth rates

⁶⁸ Rape crops can be used to grow out ewe lambs to get them up to mating weights

⁶⁹ Kale can be used to tup early and light ewes, and then again pre lamb to maintain ewe condition while improving pasture covers for lambing

⁷⁰ Orchiston *et al* (2013)

⁷¹ A critical source area is: a landscape feature like a gully, swale or a depression, an ephemeral waterbody, or field tiles, that accumulates runoff from adjacent flats and slopes, and delivers it to surface waterways such as artificial waterways, wetlands, rivers and lakes, estuaries, or the coastal marine area.

⁷² Orchiston *et al* (2013)

preferential flow pathways such as on gravels or on mole and tile drains, and the types of animals grazed including species, weights, and stocking rates. In relation to environmental risk intensive grazing on gravels adjacent to waterbodies poses a greater environmental risk in relation to subsurface flow of pathogens, and nutrients, than hill country cropping.

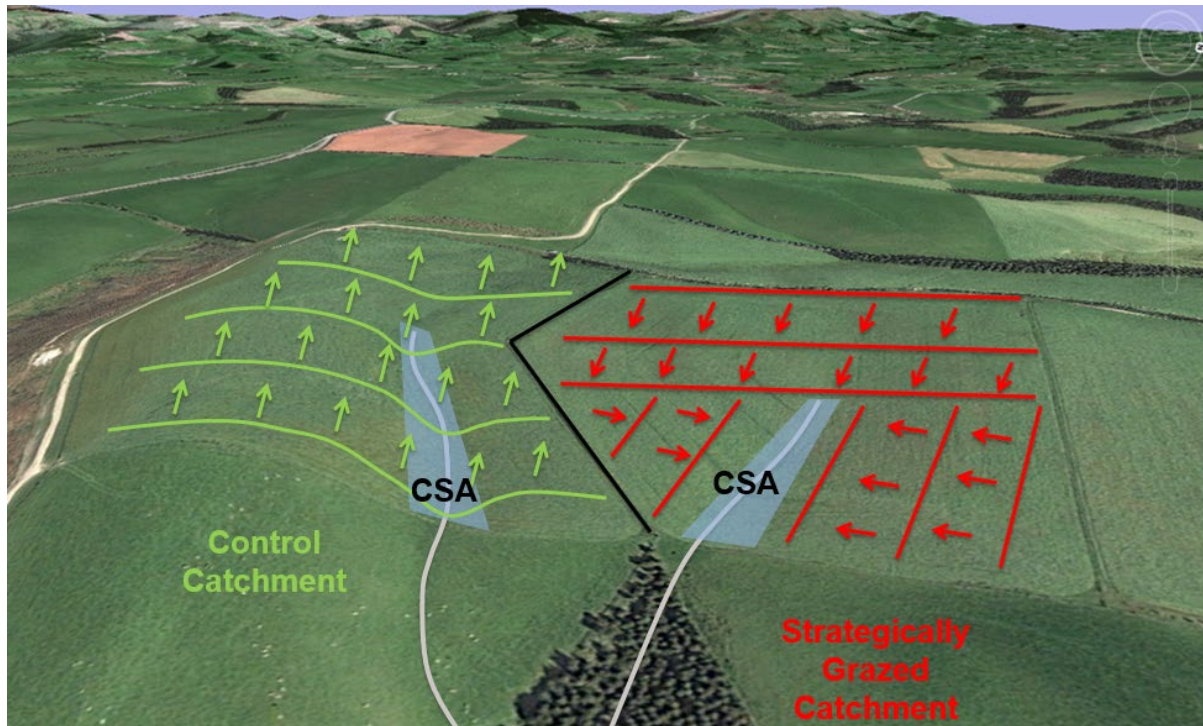


Figure 6: Strategic Grazing of Forage Crops can significantly reduce losses of sediment, pathogens, and phosphorus by up to 80 – 90% to waterbodies.

191. B+LNZ submits that the slope standard is deleted in its entirety from the Permitted Activity Rule for Intensive Winter Grazing. If a proxy for environmental risk is to be used then B+LNZ recommends utilisation of the LUC units in relation to the classes and units of land where erosion, wetness, or preferential flow, are the predominate environmental vulnerabilities. The consultation documents have not set out how slope is to be determined by farmers. As evident in regions which currently rely on slope thresholds for consenting regimes, the determination of slope on the ground can be problematic. There are essentially two main methods, with the exception of paddock scale LUC mapping, which could be employed:
- (a) Similar approach to the s360 Regulations for stock exclusion where land that is at, or above 10 [15] degrees slope is mapped at the national scale, or
 - (b) At the paddock scale.
192. Both approaches have issues e.g. national scale mapping is more clear and certain in relation to farmers knowing if they are in or outside the rules, but it would not pick up farm or paddock level contour meaning that it would have the perverse outcome of (a) not allowing farmers to farm under the Permitted Activity rule for parts of their farm which are under 10 or 15 degrees slope at the paddock scale, or (b) conversely would allow farmers to crop land above 10 to 15 degrees slope under the Permitted Activity rule if

their farm was mapped at the national scale as under 10 – 15 degrees slope. Paddock scale mapping, while at the appropriate management scale, presents difficulties in relation to where slope is measured from and in picking up variations in slope across a paddock.

193. B+LNZ submits that the grandparenting standards in the consented activity for Intensive Winter Grazing (2)(b), are deleted in their entirety. The extent of cropping should be determined on a case by case basis through consent and in relation to a tailored assessment of the environmental risk that a particular activity, in its catchment and farm context, poses to the freshwater receiving environment.
194. B+LNZ seeks that the pugging standard in the permitted activity for intensive winter grazing be deleted in its entirety.
195. B+LNZ in considering national versus industry set standards submits that industry programmes should be empowered and endorsed. Over the later part of 2018 and the early part of 2019, B+LNZ ran a series of cross sector Industry workshops on Intensive Grazing Management, with the intent of bringing together Agricultural experts and Industry Leaders. This group is called the Primary Industries Pan Sector Intensive Grazing Systems Group (Pan Sector Group). The aim of this group was to explore synergies and differences in positions relating to those activities associated with the intensive grazing of animals, either on crop, as break fed on pasture, or associated with the majority of feed being bought in. As well as to develop collaborative policy solutions, and to build ongoing farmer extension support services and guidance. The Pan Sector Intensive Grazing Systems Report is attached as Appendix 10.
196. In summary the Pan Sector Group reached the following key conclusions based around understanding and managing whole farm systems, which were then elaborated and expanded on through subsequent workshops and reflected in policy recommendations. These include:
 - (a) Ensuring that land use and farming systems fit within the Natural Capital of the land, and the suitability of the land to support production levels including investment in infrastructure;
 - (b) The utilisation of an effects based matrix to guide decisions around the management of intensive grazing activities;
 - (c) Development of minimum practice standards including the identification and management of critical source areas and the application of strategic winter grazing practices;
 - (d) Development of industry frameworks and farmer extension to support continual improvement within the sector;
 - (e) Supporting the role of expert on farm advisors working one on one with farmers to effectively manage environmental risks; and

- (f) Identification and support for pathways which empower a whole farm systems approach to sustainably managing land and water resources such as through tailored farm specific whole farm plans.

197. The policy positions and recommendations are set out on pages 8 to 11 of the Pan Sector report Appendix 10.

Table 8: Livestock Control

Provision	Standard	Position	Relief Sought
Controlling Intensive Winter Grazing			
Stockholding area	Stockholding area means a permanent or semi- permanent area, covered or uncovered, that is constructed to hold livestock at a stocking density that precludes the maintenance of pasture or vegetative groundcover. It is stated to include feedpads, winter pads, standoff pads, loafing pads; but excludes areas used for animal husbandry purposes, such as stockyards, milking sheds, or woolsheds.	Support with amendments	Amend as follows b) does not include areas used for animal husbandry purposes, such as stockyards, milking sheds, <u>calf sheds</u> , or woolsheds (<u>or their yards</u>).
Feedlots	<p>Defined as a stockholding area in which livestock are confined for more than 80 days in a 6 month period and are completely hand – fed or mechanically fed</p> <p>Stock holding area defined as a permanent or semi-permanent area, covered or uncovered, that is constructed to hold livestock at a stocking density that precludes the maintenance of pasture or vegetative groundcover, and includes (a) feedpads, winterpads, standoff pads, loafing pads; but (b) does not include areas used for animal husbandry purposes, such as stockyards, milking sheds, or woolsheds</p> <ul style="list-style-type: none"> • Base of the feedlot must be sealed to a minimum permeability standard of 10-9m/s • Area must be at least 50m away from waterbodies, water abstraction bores, drainage ditches, and coastal marine area; • All animal effluent or water or bedding must be collected, stored, treated, and disposed of in accordance with regional rules and/or discharge consent; • Must have FM-FP 	Support	Retain

Provision	Standard	Position	Relief Sought
Other stock holding area	<p>Defined as holding stock in a stock holding area for more than 30 days in a 12 month period, or for more than 10 consecutive days</p> <p>Stock holding area defined as a permanent or semi-permanent area, covered or uncovered, that is constructed to hold livestock at a stocking density that precludes the maintenance of pasture or vegetative groundcover, and includes (a) feedpads, wintering pads, standoff pads, loafing pads; but (b) does not include areas used for animal husbandry purposes, such as stockyards, milking sheds, or woolsheds</p> <ul style="list-style-type: none"> • Base of the feedlot must be sealed to a minimum permeability standard of 10-9m/s • Area must be at least 50m away from waterbodies, water abstraction bores, drainage ditches, and coastal marine area; • All animal effluent or water or bedding must be collected, stored, treated, and disposed of in accordance with regional rules and/or discharge consent; • Must have FM-FP 	Oppose	<p>Further work is required to define the activities intended to be captured and put in place the appropriate standards.</p> <p>See Pan Sector Report Appendix 10.</p>
Sacrifice Paddocks	<p>Defined as a paddock used to temporarily hold stock in such a way that the pasture is likely to be severely damaged and will require pasture renovation</p> <ul style="list-style-type: none"> • Area must be at least 50m away from waterbodies, water abstraction bores, drainage ditches, and coastal marine area; • Area must not contain a critical source area 	Oppose	<p>Delete in its entirety.</p> <p>Further work is required to define the activities intended to be captured and put in place the appropriate standards.</p> <p>See Pan Sector Report Appendix 10.</p>
Winter Grazing on Forage Crops	<ul style="list-style-type: none"> • Forage crop defined as a crop grazed in situ, including brassicas, and beet and root crops; but not including perennial pasture, short rotation grass species, and cereal crops; • Grazing does not occur on land with a slope equal to or greater than 10[15 degrees] • Grazing does not take place on more than 30ha {50ha} or 5% [10%] whichever is greater cumulatively or in one contiguous area of the farm; 	<p>Oppose</p> <p>Oppose exempting hill country from PA rule i.e oppose reference to 10 or 15 degrees slope</p> <p>Oppose pugging metric</p> <p>Support industry good management practices</p>	<p>Delete clause 30(1)(a).</p> <p>Delete clause 30(1)(e) 5m or 20m and replace with 3m.</p> <p>Delete clause 30(1)(g)</p> <p>Delete clause 30(2)(b)</p> <p>Delete clause 30(3)(f)</p>

Provision	Standard	Position	Relief Sought
	<ul style="list-style-type: none"> • Graze from the top of the slope towards the waterbody or critical source area; • Do not graze any critical source area; • Retain vegetated riparian strip of 5m [20m] from waterbodies, ditches; • Re sown within 1 month; • No pugging to a depth of more than an average of 20cm [10cm] for more than 50% of the paddock 	<p>such as strategic grazing principles</p> <p>Support industry set standards</p>	

Part 3.6: Catchment Community Management Frameworks

198. B+LNZ submits that the Essential Freshwater proposals have failed to identify key management frameworks which would be more effective and efficient at recognising and providing across multiple community values, including safeguarding ecological health and processes, and in promoting the integrated and sustainable management of natural resources. These frameworks include supporting Industry independently audited assurance schemes such as the Red Meat Sector New Zealand Farm Assurance Scheme + discussed under the FW-FP section, and community catchment collectives.
199. Sub-catchment planning provides a platform for councils and communities, including Tangata Whenua to get together to discuss the values of the freshwater bodies in their catchment or watershed, impacts on those values, and empowers and supports tailored intervention. It provides the opportunity to both consider and recognise Te Mana o te Wai, as well as climate change, protection and restoration of biodiversity, enhancing community wellbeing, and cultural connection, recreational, and economic values.
200. As detailed earlier in the submission the majority (e.g. 80%) of sediment, phosphorus, and pathogen discharges occur in surface runoff losses from areas that occupy a minority (e.g. 20%) of the catchment⁷³. Sub-catchment planning enables the identification of these areas of risk and supports the efficient and effective targeting of resources. Targeting risk closer to source is far more cost-efficient and environmentally effective than targeting the bottom of catchments.
201. Catchment planning needs to occur across a broad range of spatial scales including farm, sub-catchment, and Freshwater Management Units to ensure that the integrated nature of natural resources in particular freshwater is understood, and that all those affected by the plan are involved as active participants in the process. It requires a framework that supports and empowers collective community ownership of the issues and the solutions. This provides a more enduring and outcomes-based approach than reliance on prescriptive regulatory frameworks (OECD, 2017).
202. The integrated catchment management (ICM) approach most likely to achieve positive outcomes as presented by Memon et al, (2010) contains the following:

⁷³ Gburek et al 1998

- (a) Inclusiveness
- (b) Rules that promote: fairness, equality, continuous improvement and mutual gains.
- (c) Mutual accountability
- (d) Participant norms
- (e) Collaborative capacity building leadership
- (f) Commitment to collaboration (i.e. participants willingly direct their resources to cooperate in good faith), and
- (g) Integrating and applying a broad knowledge base.

203. This in turn builds community resilience which has a positive impact on ecosystem resilience as shown in Figure 5.

204. The key elements which should be considered in order to support and empower water management groups at a sub catchment scale, can be summarised as:

- (a) Ensuring the water management group structure is at a sub catchment scale and representative of all stakeholders within that sub catchment, and ideally the group has legal status;
- (b) Specifications of more than one outcome, e.g. a range of water quality and habitat standards, for every water management group confluence point;
- (c) Policies and methods which provide clear criteria or conditions for a group, and which establishes what its environmental outcomes are;
- (d) A regional plan must specify that the water management groups environment plan must be approved by the regional council prior to implementation;
- (e) The environment plans need to contain several key elements including goals, mapping or land use and effects of each land use practice, mitigation actions, monitoring and reporting strategies, review and auditing process, an adaptive management approach to account for the complex and non-static ecosystem management dynamics at play and consequences for non-achievement.



Figure 7: Integrated catchment management develops community resilience to build ecosystem resilience⁷⁴.

205. Sub-catchment planning allows for the integration of catchment planning at landscape, whole catchment, sub-catchment and farm scale. Such planning enables individuals to see their actions within the context of the larger picture and to appreciate their contribution to the combined impacts at the catchment scale⁷⁵.
206. Sub-catchment approaches support integrated and holistic approaches, such as ki uta ki tai (from the mountains to the sea). A sub-catchment approach provides for a whole-of-catchment approach, which connects communities with each other and the environmental outcomes of their actions.
207. Catchment planning needs to sit at both the farm and sub-catchment level. At the farm level, farm plans will contain prioritised actions. This approach supports peer review and accountability. Catchment actions may be a collective of farm-based actions or involve collective and coordinated investment in, for example, constructed wetlands, managing drainage networks to reduce contaminant loss, landscape scale species restoration or predator control. Catchment programmes can support the adoption of active farm plans and the delivery of community aspirations for the sustainable management of their natural resources, including freshwater objectives.
208. B+LNZ's position is that participatory approaches such as sub-catchment management are essential to achieving long-term goals. They allow for the identification and implementation of innovative solutions. When individuals have little or no involvement in the change process then there is little ownership of the solutions and the regulatory bottom line becomes the focus⁷⁶.
209. Focusing on the sub-catchment would have real benefits in terms of implementing local solutions and community commitment. Sub-catchment approaches empower communities to understand local and broader spatial-scale issues that relate to environmental health. It enables communities to find solutions that are spatially explicit, and efficient and effective at achieving freshwater objectives.

⁷⁴ Fenemor et al., 2011

⁷⁵ OECD, 2017; Fenemor et al., 2011

⁷⁶ OECD, 2017

210. B+LNZ seeks that the Essential Freshwater proposals are amended to incentivise, enable, and support, sub-catchment approaches to sustainable land and water management, and adoption of edge of field mitigation where required. Regulatory, non-regulatory, and financial instruments are provided to enable and support communities working together in their watershed (sub-catchments) to address both point source and diffuse losses of contaminants to water, and to protect and where degraded restore aquatic ecosystem health and processes, and to implement mitigations that look beyond individual property boundaries to identify the most cost-effective and influential solutions.

Table 9: Supporting Catchment Collective Initiatives through Policy

Provision	Relief Sought
Supporting Catchment Collective Initiatives through Policy	
New Objective	<p><u>People and community resilience and the achievement of the NPSFWM</u></p> <p><u>Communities are enabled to work together to sustainably manage land and water resources within sub catchments, in an adaptive manner which:</u></p> <ul style="list-style-type: none"> a) <u>recognises and provides for the Values for freshwater;</u> b) <u>protects, and where degraded restores, water quality to provide for the values;</u> c) <u>protects and where degraded restores biodiversity; and</u> d) <u>provides for community values, health, and wellbeing.</u>
New Policy	<p>Sub-catchment (including edge of field) mitigation planning, co-ordination and funding</p> <p>Take a prioritised and integrated approach to sub-catchment land and freshwater ecosystem health management by supporting the establishment and operation of Sub Catchment Collectives and undertaking sub-catchment planning to support measures that efficiently and effectively contribute to the integrated management of land and freshwater resources, and provide for healthy ecosystems.</p> <p>This approach includes:</p> <ul style="list-style-type: none"> (a) Engaging early with Tangata Whenua and with landowners, communities and potential funding partners in sub- catchments [could include reference to at risk or overallocated catchments]; and (b) Assessing the reasons for current water quality and sources of contaminant discharge, at various scales in a sub- catchment; and (c) Support the establishment and operation of sub catchment collective initiatives through both non regulatory and regulatory methods; (d) Encouraging cost-effective mitigations where they have the biggest effect on improving water quality; and (e) ensure any relevant information or expertise for making sustainable land management decisions is available to land managers; (f) support local investigation and water monitoring programmes where information gaps exist; (g) support development and use of catchment scale models that assist in identification of Land Use Capability Classes and identification and management of critical source areas; (h) support catchment and farm scale decision making to meet Plan and freshwater objectives and encourage local solutions and innovative and flexible responses to water quality issues; (i) work with and support the establishment of catchment collectives that address both terrestrial and freshwater ecosystem health objectives and stream flow management through environmental management programmes as specified in Schedule X and within the timeframes specified in Schedule X.

Provision	Relief Sought
New Rule and Schedules	<p>Schedule X: Sub Catchment Collective</p> <p>Provides for a Sub Catchment Collective to work collectively on behalf of their members to meet Freshwater Objectives.</p> <p>This schedule sets out the requirements for the establishment of a Sub Catchment Collective and their operation in order for them to be approved by the Minister for the Environment [Regional Council].</p> <p>The Sub Catchment Collective must meet the requirements set out in Section A and B below.</p> <p>Section A: Sub Catchment Collective Programme</p> <p>Each Sub Catchment Collective must prepare a Sub Catchment Collective Programme that meets the requirements set out below and under Section A. This programme must identify the key Land and Freshwater management issues identified in this Plan that are relevant to;</p> <ul style="list-style-type: none"> a) the sub catchment; b) the nature of the land and water use activities carried out within that catchment; c) the scale of the effects on water quality or water quantity from the activities in that catchment land and water use; <p>The Programme will describe an environmental management strategy relevant to the freshwater objectives where the member properties are located.</p> <p>A summary of the Programme objectives and outputs will be publicly available through the [Council] website.</p> <p>Any Sub Catchment Programme prepared in accordance with Schedule X may include or contribute to other initiatives or objectives (such as in relation to farm production, pest control, biodiversity or other land management issue) as desired by the Catchment Collective. These aspects enable integrated land and water management for a wider range of management objectives.</p> <p>SECTION A: Sub Catchment Collectives Programme Requirements</p> <p>As a minimum a Sub Catchment Collective shall meet the following requirements:</p> <ol style="list-style-type: none"> 1. Minimum requirements for establishment; <ul style="list-style-type: none"> a) A sub catchment collective must incorporate more than 25% of the land area in the target sub catchment. 2. Governance and Management <p>Each sub Catchment Collective must undertake to carry out the requirements of Section B and must specify the manner it will carry this out. This must address the following:</p> <ul style="list-style-type: none"> a) Details relating to the governance and management arrangements of the Program including: <ol style="list-style-type: none"> i. How decisions are to be made and how the requirements of Section B will be carried out including obligations by members to carry out the property specific requirements; ii. Conditions of membership of the Programme by individual land managers (the 'Members' who commit to the Program), including the circumstances and terms of membership, sanctions or removal from the Collective or Industry Program including in relation to unreasonable non-performance of actions identified in clauses 3-6 below; iii. The process for assessing performance at an individual property level compared to agreed actions at the catchment scale. <p>Note 1: the Sub Catchment Collective may prepare its own terms of reference as well as manage their own decision making processes and administration. This may include appointing a spokesperson or secretary to ensure recording and reporting work is completed as necessary.</p> <ul style="list-style-type: none"> b) Information and management systems and processes to ensure; <ol style="list-style-type: none"> i. Competent and consistent performance in meeting the requirements of this schedule; ii. Robust data management, including up-to-date registers of Programme Members. iii. Timely provision of suitable quality data and information required under the following clauses to Waikato Regional Council; iv. Conditions of membership of the Programme by individual land managers (the 'Members') who commit to the Programme <ol style="list-style-type: none"> 3. A description of the Program area including:

Provision	Relief Sought
	<ul style="list-style-type: none"> a. locations and maps; b. land uses; c. key environmental issues and risks, including; <ul style="list-style-type: none"> i. Identifying Land Use Capability Classes and Critical Source areas including those are risk of erosion and sediment loss; ii. the location of drains, streams, rivers, wetlands and other water bodies; iii. The location of any Registered Drinking Water Supply that any properties in the program area are located in, plus the contact details of the water supply manager; iv. activities at particular risk of nutrient loss; v. property boundaries and details about ownership and property managers; vi. contact details of individual land managers and landowners within the Program (the 'Members'). <p>Section B: This section sets out the requirements for the environment plan for each Sub Catchment Collective</p> <ul style="list-style-type: none"> 1. Environmental Outcomes: <ul style="list-style-type: none"> a) With reference to Freshwater Objectives in Table 3.11-1 specified in this Plan relevant to the location of Members' properties and activities being undertaken, a statement of the measures or practices needed in relation to minimising and mitigating the cumulative environmental effects of land use that will enable the specified water quality objectives to be met including where appropriate for; <ul style="list-style-type: none"> i. managing contaminant losses to waterways including efficient use of nutrients and, where water quality is degraded, reductions in losses that contribute to meeting the specified Freshwater Objectives in Table 3.11-1; ii. managing riparian margins, maintaining or improving the physical and biological condition of soils in order to avoid, remedy or mitigate problems arising from: <ul style="list-style-type: none"> a. Loss of topsoil by wind or water erosion; b. Movement of soils and contaminants into waterways; c. Damage to soil structure and health; d. Mass movements of soil iii. wetland management; iv. Management of animal effluent to avoid contamination of ground and surface waters; v. Measures required to reduce risk of contamination of the source water for any Registered Drinking Water Supply; vi. Management of stock, including in relation to river or stream crossings and exclusion from waterways in a manner that is consistent with Schedule C; vii. an assessment of the state of riparian margins in the programme area, and the identification of opportunities to provide shading of the adjacent waterway or improvements to riparian margin values; viii. Timeframes for when each of the actions or mitigations at a property or catchment scale are to be implemented and which are consistent with meeting the timeframes specified for relevant Freshwater Objectives and targets. 2. Information Requirements; <ul style="list-style-type: none"> a) The Sub Catchment Collective must prepare a statement of the data and information that will be collected in order to develop the Sub Catchment Collective Program, monitor implementation and report to Council. This will include details about the format and timing of data or information collection and delivery by the member properties and by the Catchment Collective or Industry Program including: <ul style="list-style-type: none"> i. Any information or assessments about the nature and significance of nitrogen discharges from member land uses;

Provision	Relief Sought
	<ul style="list-style-type: none"> ii. Any requirements for record keeping by property managers including information about changes to land ownership; iii. any environmental monitoring to be carried out by the Sub Catchment Collective; iv. A statement of the information and data to be provided for the member properties which will be used to develop the Sub Catchment Collective and which includes where appropriate: <ul style="list-style-type: none"> a. an assessment of the contaminant loss risks (particularly for nutrients, sediment and E.coli) associated with the major farming activities on the member properties or in relation to critical contaminant source areas (including risks associated with direct runoff into waterways and indirect contaminant losses); b. how the identified contaminant loss risks and soil management will be managed by the property manager, including in relation to standards for nitrogen discharges; c. LUC (Land Use Capability); d. Olsen P; e. Stocking rates and densities of different classes of stock; f. Application of fertilisers; g. Application of collected animal effluent; h. Cultivation, soil disturbance or vegetation clearance activities <p>3. Nutrient Management:</p> <ul style="list-style-type: none"> a) an inventory of the nitrogen loss rate (kg/ha/year) for properties likely to exceed the nitrogen loss rates set out under Table X as determined by application of Overseer (or an alternative nutrient budget model approved by the Waikato Regional Council) by a suitably qualified independent practitioner; b) a description of any mitigation measures identified as necessary to meet the Nitrogen instream Freshwater Objectives on those properties or within the relevant catchment; c) annual recording and reporting of nutrient input and export data, including annual nitrogen loss rates. <p>4. Approval:</p> <ul style="list-style-type: none"> a) The Sub Catchment Collective plan will be submitted for approval by the Waikato Regional Council by the end of the relevant year specified for that catchment. In making decisions to approve the Programme the Council will take into account: <ul style="list-style-type: none"> i. whether the requirements of this Schedule are met; ii. whether the programme is consistent with the policies, Plan and Freshwater Objectives and Targets that are relevant for that Sub Catchment; iii. whether the Program was appropriately informed by person(s) with the necessary professional qualifications to make assessments about the contaminant loss risk and mitigation measures; iv. whether the governance and management systems are in place to enable the implementation of the program. <p>5. Reporting;</p> <ul style="list-style-type: none"> a) A summary report on the implementation of the Programme shall be submitted every year to the Regional Council that describes: <ul style="list-style-type: none"> i. The programme area and location and membership; ii. Relevant freshwater objectives including where improvements are required in degraded water bodies; iii. Any amendments to the programmed mitigation measures plus any changes made to them and reasons for them (including any adverse events such as severe weather, earthquakes); iv. The amount, location or nature of mitigation measures implemented; v. Data collected in relation to nutrient loss in clause (3)

Provision	Relief Sought
	<p>6. Program Review;</p> <ul style="list-style-type: none"> a) Each Sub Catchment Collective will review its Program no less than every 3 years and report to the Regional Council on the findings of the review including: <ul style="list-style-type: none"> i. progress towards meeting Freshwater Objectives; ii. Rate of implementation of identified works to reduce contaminant losses, including sediment and nutrients; iii. adoption of any new mitigation including edge of field mitigation measures; iv. identification of opportunities for improvements to the programme including where necessary amending performance standards, and in relation to nutrient management in clause 3; v. any issues arising with meeting objectives or milestone <p>7. Auditing:</p> <ul style="list-style-type: none"> a) The Minister for the Environment [Regional Council] will; <ul style="list-style-type: none"> i. Publicly report on the implementation of Sub Catchment Collective Program; ii. Undertake random annual audits of Sub Catchment Collective Programmes including on member properties in relation to individual and programme implementation of programmed works, including nutrient management budgets where required, and progress towards Plan and Freshwater Objectives.

Part 3.7: Conclusions

211. B+LNZ has significant concerns around the suite of Essential Freshwater proposals and in particular elements of the proposals which the organisation considers to be inequitable in approach between low intensity and high intensity land uses, and between lowland and upland land use activities, and failure to ensure policy and standards are effects based:

- (a) Grazing animals on winter forage crops in the hill country requires resource consent; and through standards is grandparented to the historic area of crop;
- (b) Land use change restrictions - Low intensity land uses are unable to change land use due to requirements to not increase emissions (10ha cap);
- (c) Freshwater module to farm plan again requires all emissions, irrespective of effect, to be reduced;
- (d) Increased costs of compliance for hill country farming to address erosion issues, put in place measures to keep stock out of waterbodies through FW-FP, as well as meeting other regulatory standards;
- (e) Proposals are not effects-based e.g., action and potential costs of implementation are not necessarily aligned to the potential effect of the farm on freshwater health.

212. In considering the evidence, B+LNZ, is of the view that there is a robust planning argument to support amendments to the Essential Freshwater proposals, to implement regimes that manage farming activities in a more holistic and integrated fashion in order to address freshwater ecosystem health, societal and cultural values, and to provide for community wellbeing especially in relation to their relationship with their freshwater resources.

213. B+LNZ submits that approach is based around providing certainty to resource users through the provision of strong linkages between their activities and achievement of freshwater ecological health at the sub catchment freshwater management unit level, which is cognisant of broader spatial management requirements. These linkages are provided through regulation, and policies which achieve the purpose of the Act and start to give effect to the NPSFWM, prior to implementation by the relevant regional council.
214. B+LNZ considers methods that are more likely to achieve freshwater ecological health while sustaining communities, have the following characteristics in common:
- (a) They are tailored to the farm and its natural resources;
 - (b) Enable flexibility, adaptation and innovation by the farmer and the sector;
 - (c) They seek to engage farmers and provide a sense of ownership of the solutions, including understanding the issues and linking practice change to outcomes; and
 - (d) Are spatially appropriate to allow for local solutions (on-farm and sub-catchment) to regional problems.
215. As such B+LNZ seeks that the essential Freshwater proposals are amended to:
- (a) Delete FM-FP;
 - (b) Support Industry Independently Audited Assurance Schemes and Land and Environment Planning;
 - (c) Delete grandparenting provisions and in particular land use change restriction rules, FM-FP, and areas under winter cropping in the consenting rule;
 - (d) Support catchment community initiatives to address environmental concerns and provide for community values and outcomes;
216. B+LNZ thanks the Ministries for the opportunity to submit on the Essential Freshwater proposals, and seeks an opportunity to be heard in relation to this submission.

Yours sincerely,



Sam McIvor
Chief Executive
Beef + Lamb New Zealand