Environment planning for sheep and beef farmers

There are approximately 12,500 sheep and beef farms in New Zealand, covering a total area of 9.3 million hectares (1/3 of New Zealand’s land area). Beef + Lamb New Zealand (B+LNZ) is the farmer-owned, industry organisation representing New Zealand’s sheep and beef farmers. It invests farmer levies in programmes that grow the sheep and beef industry and provide sustainable returns now and for future generations.
Summary

A major priority for B+LNZ over the last couple of years has been supporting farmers to develop a land environment plan.

The following paper provides an overview of the work that has been done, the progress that has been made, and plans for building on this.

In 2018, B+LNZ set the objective of every farmer having a farm environment plan by the end of 2021. This is a stretch goal that recognised how important the process of farm planning is to the ongoing environmental and economic sustainability of the sheep and beef sector.

The nature and coverage of farm environment plans is not kept or recorded by a single agency.

A recent survey by UMR, however, indicates approximately 49 per cent of sheep and beef farmers currently have a plan.

Over the last eight years, B+LNZ has run 277 events with approximately 3750 farmers aimed at developing environment plans to a variety of levels, under our Land and Environment Plan programme.

The Land and Environment programme has been successful in introducing farmers to the concepts and value of farm environment planning. There is significant value in farmers attending a workshop to support the development of their plan, connect strongly to why, and build knowledge to match their farming system to the landscape and use of natural resources. It provides for peer to peer learning and matching of farm based goals to wider catchment outcomes.

B+LNZ has undertaken a lot of thinking in 2018 to understand how we can accelerate the uptake of farm environment planning.

There are many different environment plans already out there. Rather than creating another option on top of that, B+LNZ is developing a “process standard” focused on supporting farmers to get started on the environment journey and to continue to develop and improve.

This new process will be aligned with B+LNZ’s work with catchments around the country, as this as a major and growing channel for farmer engagement on the environment.
There are a number of critical elements of B+LNZ’s organisational and environment strategies that relate directly to the wider goals of farm environment planning. Enhancing our environmental position is one of four organisation priorities and our vision and goals contained within the environment strategy strongly emphasise profitable farming, thriving sustainable communities and directly reference farmers contributions to healthy freshwater, biodiversity, climate and soils. There are two critical goals in the environment strategy that support our vision:

1. All sheep and beef farmers to have and be actively implementing a farm environment plan by the end of 2021;
2. Farmers are actively working together in catchment communities and farm environment plans and actions are aligned to catchment priorities.

B+LNZ’s Land and Environment Plan programme has been central to improving awareness of farmers of the benefits of farm environment planning and providing a structure and support on how to go about it. The programme was devised in 2008 and rolled out in 2011. Uptake by farmers improved in 2013, when workshops were developed. It is a voluntary programme, with the decision to participate entirely at the discretion of farmers. More recently workshops have increased in frequency, particularly in regions where farm plans are required by regional councils.

Environment Strategy 2018-22

**OUR VISION:**

*To be world-leading stewards of the natural environment and sustainable communities*

*He kaitiakitanga mo te tato*

**WE WILL HAVE SUCCEEDED WHEN:**

NZ farmers optimise the natural resources of their farms to produce high quality food and fibre. Every farmer has a plan for managing the environmental risks and opportunities on their farm. The sector is open about our challenges and talks about how we are addressing them. Farming landscapes are biologically diverse, freshwater quality is protected, our soils are healthy, and the sector has a carbon footprint that is sustainable in the long term. NZ farmers’ commitment to the environment is unquestioned.

**HOW WE WILL WORK:**

- **CLEANER WATER**
  - **Goal:** Sheep and beef farmers actively manage their properties to improve freshwater. New Zealanders can gather food from and swim in freshwater surrounding our farms.

- **TOWARDS CARBON NEUTRAL**
  - **Goal:** Sheep and beef farmers continue to reduce carbon emissions to achieve, at a minimum, a 30% reduction in net emissions below 1990 levels by 2050.

- **THRIVING BIODIVERSITY**
  - **Goal:** Sheep and beef farms provide pest-controlled habitats that support biodiversity and protect our native species.

- **HEALTHY PRODUCTIVE SOILS**
  - **Goal:** Land use is closely matched to soil potential. Soil health, carbon content and productivity will improve in tandem. Soil erosion and loss to water is minimised.

- **Catchment programmes are a critical tool for scaling up impact**—farmers working together with a wider community of stakeholders and with expert support is a proven method to make change at greater scale.

- **All of us are stakeholders**—we will involving the wider NZ community and our customers in our programmes to share the problems, identify opportunities, work together to implement solutions, and take pride in our success.
What is a Land and Environment Plan (LEP)?

An LEP is a tool that guides farmers through a recorded assessment of a farm’s natural capital assets such as geology, soil, water, and climate, and assists farmers to understand the vulnerabilities and opportunities provided by these natural assets. An LEP helps farmers to develop a written plan outlining how these natural capital assets will be sustainably managed. It involves a stock-take of land, soil and water resources, an assessment of production opportunities and environmental risks, and development of a written plan showing what actions are going to be undertaken, where they are being targeted, and when they will be implemented. A strong focus of the LEP is to assist farmers to make the knowledge connections between their underlying natural assets, and how their farming systems and enterprise can be optimised to fit the capability of the land.

The key environmental issues actively identified and managed through LEPs include those contaminants which can flow overland to be discharged to surface waterbodies such as phosphorus, sediment, and pathogens, as well as identifying areas of the farm which may be susceptible to erosion and nitrogen losses. The LEP can also help identify areas of the farm which have high biodiversity values such as native vegetation, or other values such as cultural values.

A well prepared LEP captures stewardship and sustainability in relation to the farming enterprise. It provides an understanding of the natural resources on a farm and allows all those involved with the farm business to understand the plan to manage them for the long term.

The benefits of a LEP include:

- Provides a stock take of a farms natural capital assets such as soil, geology, climate, biodiversity, and freshwater resources along with on farm Land Use Capability Mapping (1:5,000 to 1:10,000);
- Identify land management units and their strengths and limitations;
- Can help identify areas where resources are not being fully utilised and production opportunities are being lost;
- Identify sensitive habitats and critical source areas;
- Can identify improvements in farming practice that will enhance production, future-proof the business and foster access to environmentally discerning markets;
- Can provide evidence for on-farm sustainable practices to consumers, regulators and others;
- If actions and timeframes for their achievement are written down, they are more likely to be done;
- Can add value to a farm;
- Can be integrated with farm business plans;
- Can help meet regional council requirements to manage threats to water quality.

How are LEP Produced?

A foundation of the LEP programme is that a farmer can produce an LEP Level 1 or 2 for their own property. Professional one-on-one support from a farm advisor or consultant is required to prepare a LEP Level 3.

B+LNZ has produced workbooks, and hosts facilitated workshops, to support farmers to do this. The process is well described in a B+LNZ video:


The workbook and workshop guide farmers through the process of identifying on-farm environmental risks, with industry Good Management Practice (GMP) guides used to assist farmers to determine the most appropriate responses to address those risks.

There are three levels of LEP (in increasing order of sophistication):

**LEP—LEVEL 1**

An introduction to farm environmental planning that sets out how to manage a farm’s natural resources. LEP Level 1 guides the farmer through an assessment of their farm’s environmental risks and land management opportunities. It involves a stocktake of land, soil and water resources, and results in the development of a personalised, written plan—identifying actions to be undertaken, where they might be targeted, and when they will be implemented.

**LEP—LEVEL 2**

The key difference between a LEP Level 1 and Level 2 is the identification of Land Management Units (LMU) on a farm map, which are used to tailor land and farm systems management on a property, and the inclusion of a basic nutrient budget. The key steps involved are:

1. Stocktake of a farm’s land and soil resources;
2. Develop Land Management Units (LMU);
3. Use LMUs as a basis for nutrient budgeting, strength and weakness analysis, and productive potential assessment;
4. Identification of critical source areas and mitigation actions;
5. Summarise opportunities for optimising sustainable farming as a three-year response plan.

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1 Critical Source Area is defined as “A landscape feature like a gully, swale or a depression that accumulates runoff from an adjacent immediate area, and delivers it to surface waterways such as rivers and lakes, artificial waterways and field tiles; and areas which arise through land use activities and management approaches such as tracks, yards, offal pits, cultivation and winter grazing which result in contaminants being discharged from the area or activity and being delivered to surface waterways.”
LEP—LEVEL 3

A LEP Level 3 builds on a LEP Level 2. The steps involved are similar to those for a LEP Level 2, but with a greater emphasis on specifications and methods used by professional farm planners, including:

- An accurate and up-to-date paddock-scale map showing features relevant to land and environmental management;
- A paddock-scale inventory describing the land resource according to published standards for either soil mapping or Land Use Capability (LUC);
- Overseer® farm nutrient budget prepared by a qualified operator;
- A “Works Programme” prepared with input from a resource management specialist.

Achievements are recorded and changes in freshwater quality, soil condition and natural biodiversity are monitored at least 3-yearly.

LEP III—and equivalent

LEP III represents the current gold standard in tailored farm environment planning, and have largely been up taken by the sector’s farmer leaders and earlier adopters. While B+LNZ does not keep formal records of the coverage of LEP III, we estimate that their are around 840 LEP III or equivalent plans nationally.

The level 3 plans have been used to support extension through demonstrating how the use of farm environment planning can enhance environmental outcomes, optimize the farm system and increase profitability. There are a number of cases where individual farmers have championed this approach that have supported farmers around them to attend farm plan workshops.

B+LNZ ran a project in the southern lakes region where three farmers around Lake Wanaka were supported to develop a level 3 farm plan and extension events were run to outline how those plans had enhanced each individual farm business. As a result of that project 18 other farmers around the Lake are working with a consultant to develop their own plans and sharing challenges and opportunities presented through that process with their peers.

In addition to these projects there are a number of other farm environment plans that are equivalent to the LEP level 3. In the Horizons region over 700 sustainable land use whole farm plans covering over 525,000 ha, were developed and are being implemented and around 30 Whanganui catchment Strategy Plans covering around 18,000 ha (upper Whanganui, Ohura catchment).

Landcorp/Pamu Farms have developed 64 LEP level III equivalent plans across their sheep and beef farms.
**Beef + Lamb New Zealand Farm Environment events**

Since 2011, there have been 277 Farm Environment events run by B+LNZ. This includes LEP’s (all levels), FEP’s and FEMPs. Most events have been post 2014, following development of B+LNZ facilitated and expert supported farmer LEP/ FEP/ FEMP workshops.

Events have been attended by 3,753 people. This is the head count at each event, and does not resolve duplication in relation if an individual has attended more than one event. This list is not exhaustive.

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1 Farm Environment Plan
Farm Environment Management Plan

### TOTAL EVENTS BY REGION

<table>
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<th>Region</th>
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<th>TOTAL HEAD COUNT NATION-WIDE</th>
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<td><strong>Total</strong></td>
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Type of Environment Plan Events

Since 2011, there have been 157 Land and Environment Plan events held across New Zealand, 107 FEP events and 19 FEMP events. Farm Environment Plan events have largely been centred around those regions where regulatory requirements for farm environment plans exist or are emerging.

An estimated 49% of sheep and beef farmers reported they had some form of Farm Environment Plan.

UMR survey of 658 farmers, March 2018
Total numbers of farmers with farm plans
In addition to B+LNZ, Horizons SLUI plans and Landcorp farms there are a number of other providers now supporting farmers to develop farm environment plans. These include the two major fertiliser companies and large agricultural consultancy firms. Groups of farmers working together are also developing and supporting their own farm plans such as those around catchment groups and irrigation companies. Regional councils such as Environment Southland, Taranaki Regional Council and Greater Wellington Regional Council all have varying degrees of interaction with farmers and support farm planning. When combined this would suggest that a significant percentage of sheep and farmers have some kind of active farm environment plan. This aligns strongly with results from a B+LNZ survey of farmers conducted by UMR research that reported that 49 per cent of sheep and beef farmers reported that they had some form of farm environment plan.

Taking our farmers to 100 per cent coverage of FEPs—An Environment Management System for the sheep and beef sector
Following the launch of the Environment Strategy in 2018, B+LNZ has been undertaking a significant re-design of how it supports farm planning. Based on research and feedback from farmers, B+LNZ is developing an Environment Management System (EMS).

The EMS will break down the steps farmers need to take to develop an environment plan and will support them with implementation and with continuous improvement. The focus will be on getting farmers started on the environment journey and helping them to continue to develop and improve. Rather than create a new FEP template, under the EMS we will identify existing farm plan templates across the agricultural sector that meet the standard.

To drive uptake by farmers, we will be looking to work with catchments and with the Red Meat Profit Partnership Action Network.

A major driver for the environment strategy is to support the red meat sector’s Taste Pure Nature Origin brand. Farm Environment Planning can play an important role in ensuring the sector is able to verify, provide transparency and underpin the brand.

The TPN brand is underpinned by the National Farm Assurance Programme. B+LNZ’s farm environment plan refresh intends to ensure alignment between farm environment planning and the national farm assurance programme.