



# Hill Country Farming Group

PPC1 Submission  
Block 2 Hearing Presentation  
June 24



Introduction

The hill country of New Zealand has **inherent beauty and character** but it is people who sustain its biophysical integrity, derive incomes from it and enjoy its non-monetary values. Hence, individuals, communities, scientists and **government institutions seeking to enhance hill country environments** and productivity **must work with the people who live and work in the hill country** and those engaged with hill country farmers and communities. Successful hill country farmers are highly motivated, respond to constraints and incentives and their commitment **sustains greater population densities in the hill country than other land uses such as forestry.**

*Journal of New Zealand Grasslands 78:73-82 (2016) 79*  
*Pathways ahead for New Zealand Hill Country farming*  
*F.G Scrimageour*

## BakerAg Report: financial implications for hill country farmers

Family	Compliance cost	NRP opp. cost pa	LUC erosion of land value
Farm A	-\$299K	nil	nil
Farm B	-\$627K	nil	nil
Farm C	-\$399K	-\$256K	-\$1,845K
Farm D	-\$188K	-\$167K	nil
Farm E	-\$26K	nil	-\$619K

“stock crossing provisions have been included in both Schedule C and Schedule 1. Having considered all of the submissions on adopting the draft regulations, and requests to increase the crossing frequency up to three times per week, the **Officers have concluded that the stock crossing provisions in the draft national regulations may be helpful**, and have included amendments to Schedule C as an option, if the Hearing Panel is satisfied that it will not cause a significant enforcement ‘loophole’.”

Section 42a V2 Para 929

## Flood Debris



Stock Crossings

# Stock Crossings



## Culvert flood damage



Stock Crossings



## Controlled & infrequent stock crossing



Stock Crossings

## Farm B



Stock Exclusion



“The removal of cattle from riparian areas had an immediate and positive effect on stream water clarity....

where riparian areas were planted (or naturally regenerated) with trees and shrubs and livestock were excluded, the stream water clarity decreased....

a reduction in ground cover vegetation (caused by shading by weeds, trees and shrubs) that armor stream banks against preparatory erosion processes....

The response of different forms of N and P to the catchment management changes has been complex with concentrations increasing at some sites.”

Quinn & Hughes (2014)

Stream banks with good  
pasture cover



Stock Exclusion

“...the effectiveness of FEPs will be curtailed by these same rules, which also require mandatory stock exclusion provisions by fencing in relation to slope for certain lands regardless alternative methods developed through the FEP process. In effect, the fencing regulations could override a mix of potentially more effective or efficient on-farm management or edge-of-field mitigation alternatives identified during the development of individual FEPs, especially for those farming systems on more diverse geologies and slopes above 15 °s. The reason being is that farmers will have to prioritise resources towards erecting and maintaining fences for stock exclusion of waterways on slopes greater than 15 °s (and less than 25 °s), thereby reducing opportunities and resources to use other management and mitigation options available to achieve similar or more effective outcomes.”

Gerry Kessels B&LNZ HS1

“Fencing stock from waterways has a number of direct and positive effects on reducing pollution runoff and enhancing biodiversity values (for example, Belsky et al. (1999)<sup>23</sup> and McDowell et al. (2017)<sup>24</sup>). However, McDowell et al (2013)<sup>25</sup> concludes, the effectiveness of fencing off stock as a strategy to mitigate contaminant loads is highly site and contaminant specific, ranging from highly effective in flat areas and where contaminants are particulate associated, to very ineffective in steeper areas and where contaminants are mobile.”

Gerry Kessels B&LNZ HS1

“A review of published studies indicate that direct deposition is a minor percentage of total annual catchment E.coli loads to waterways in the Waikato Region, and that surface runoff is the major source of faecal pollution from agriculture in the Waikato Region. It is logical that if the streambank fencing is erected for reducing animal access and delivery of E. coli to waterways, there could still be elevated E. coli levels in PC1 streams that run through agricultural catchments. **Rather than a ‘blanket fencing approach’ currently proposed in the WRPC1, a more effective response to reduce the risk of pathogens from agricultural land uses entering waterbodies is the identification and management of critical source areas.”**

Dr Chris Dada B&LNZ HS1



## Misplaced allocation of Resources



Stock Exclusion

# Farm C: Critical Sources Areas



Stock Exclusion

## Unintended consequences



Stock Exclusion

## Unintended consequences



Stock Exclusion



# Stock Tracking



# Stock Exclusion

## Perverse incentives



Stock Exclusion

## Perverse incentives



Stock Exclusion



Impractical and indeterminate



# Intermittent waterways



Stock Exclusion

“Officers consider that the draft regulations would not meet the requirements of reducing contaminant losses from farm land in accordance with the 80-year timeframe to achieve the water quality objectives of the Vision and Strategy.”

Section 42a V2 Para 890

“The Officers acknowledge that while fencing of waterbodies and the associated works around water reticulation...may involve a significant financial cost, but those costs are an **unavoidable consequence** of achieving the outcomes sought by the Vision and Strategy and PC1.”

Section 42a V2 Para 904

Extract from Table 5 Land-use effects on average water quality at two native forest streams (N1 and N2), a predominantly pine stream (Pine), and two pasture streams (P1 and P2) at Whatawhata, Waikato

Parameter	Native	Pine	Pasture
Suspended solids (g m <sup>-3</sup> )	4.5	20.9	11.6
Turbidity (NTU)	8.7	24.7	11.3
Black disk (m)	0.75	0.37	0.48
Volatile suspended solids (g m <sup>-3</sup> )	0.7	2.0	1.84
Nitrate N (mg m <sup>-3</sup> )	111	237	446
Ammoniacal N (mg m <sup>-3</sup> )	4.2	9.4	13.6
pH	7.3	7.0	7.4
Temperature	12.4	13.6	15.0

“A great many submitters have opposed this framework, with a large number criticising the “grandparenting” approach whereby low emitters are locked into a low emitting future. There is also considerable support for the rule framework and its reliance on a NRP, notably from the dairy sector.”

Section 42a V2 Para 287

“Another significant matter is in relation to those submitters, and there are many, who seek more flexibility for intensification or generally fewer controls on their kind of farming. If the effects of the contaminants of concern are generally considered to be cumulative for the whole catchment, and there is a need for short and long-term reductions in all contaminants, then the question arises as to where the capacity or ‘head-room’ for intensification is to come from. **The nub of the issue** would seem to be that in order to allow one farmer to discharge more contaminants, then another farmer must reduce even more. Colloquially, this might be referred to as “robbing Peter to pay Paul”.

**Trend in total nitrogen losses over the entire Healthy Rivers catchment, 1972-2012.**

Year	Nitrogen loss by land use type (kt/y)					
	Total	Dairy	Intensive Sheep and Beef	Hill Sheep and Beef	Pasture Total	Non-Pasture
1972	9.24	3.95	1.64	1.90	7.49	1.75
1982	10.65	4.83	1.93	1.88	8.64	2.01
1992	12.00	5.64	2.24	1.86	9.74	2.27
1996	12.53	5.95	2.37	1.84	10.16	2.37
2002	13.51	7.74	2.27	1.52	11.52	1.99
2008	14.87	8.28	2.39	1.78	12.44	2.43
2012	15.35	9.62	2.93	1.09	13.64	1.71

Potential N increase from hill country:

7% Hill S&B current N loss

10% S&B farmers who may intensify

20% amount of intensification

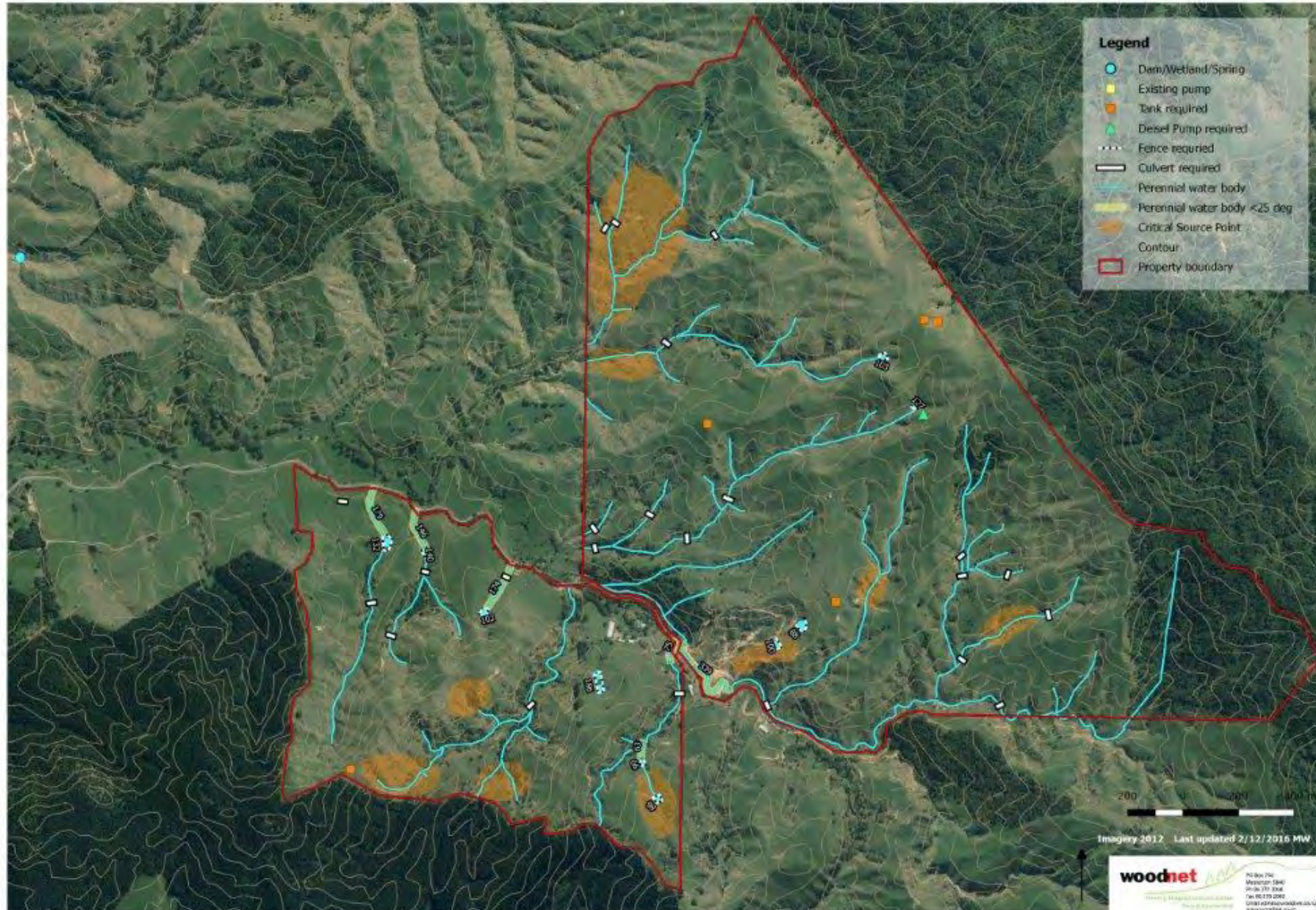
$$7\% \times 10\% \times 20\% = 0.14\%$$



“Capping extensive or very low (i.e. under 20 kg N per ha per year) leaching farming systems at their historic N discharge levels, provides business uncertainty, reduces the resilience and viability of the business, impacts on land values and therefore bankability of the farm. It also **reduces the ability for the farm to internalise other externalities** which may result in greater environmental benefits, such as reducing erosion and phosphorus, protecting and enhancing biodiversity, and further reducing the risk of pathogen losses from the farm.”

Dr Allison Dewes p28 HS2 Evidence

# Farm A: Mitigations beyond 25 degrees



Sediment exports are not necessarily slope dependent

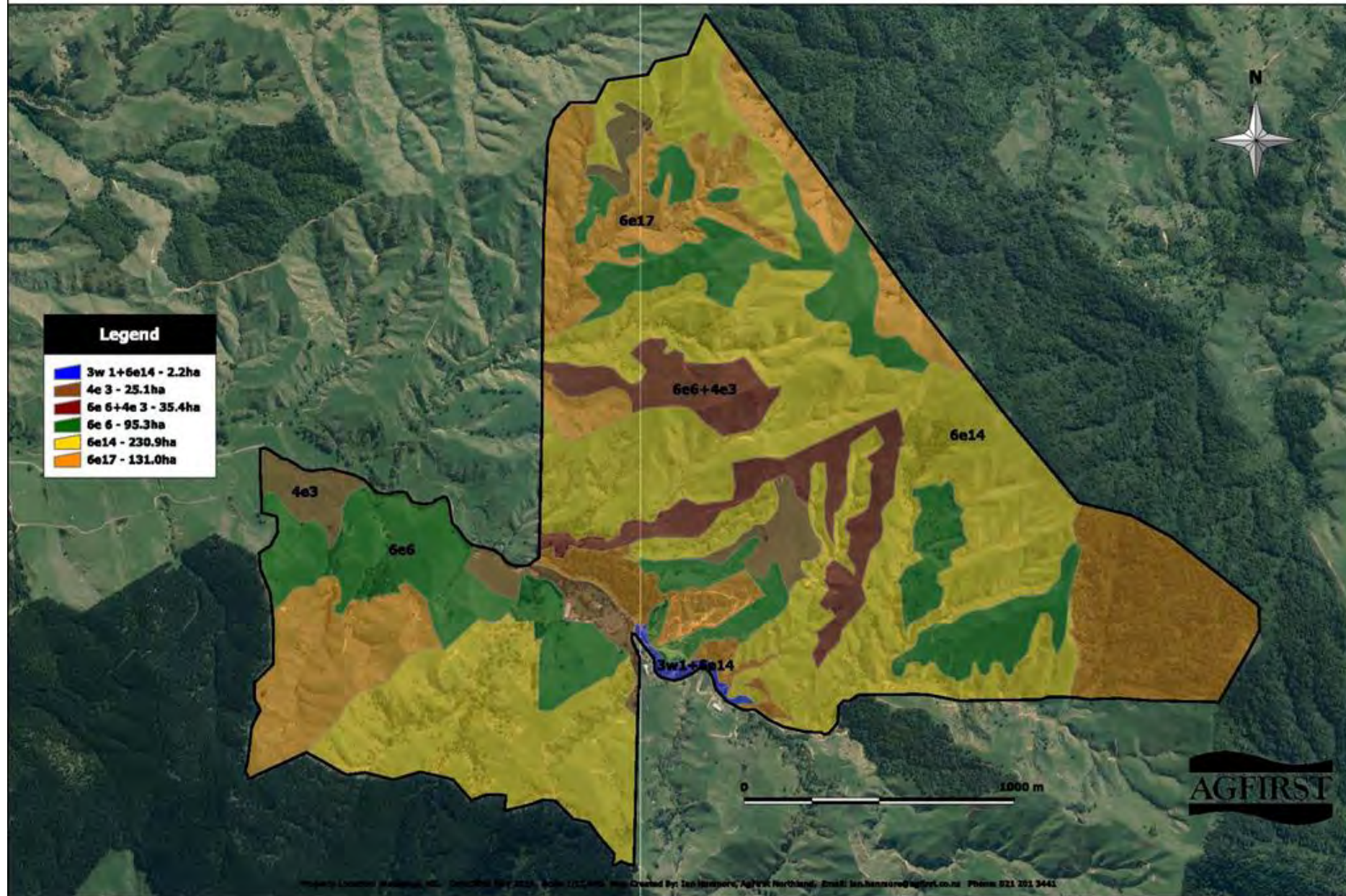


Slope

739. Officers doubt there is sufficient evidence to support the current restrictions on grazing on hill country slopes, and welcome input from submitters on this matter.
740. Accordingly, Officers recommend splitting Rule 3.11.5.2(4)(c) into two parts. The first would deal with cultivation and would retain the slope limit of 15 degrees. The second part would deal with grazing and include a higher slope limit. At this stage, pending the hearing of submitter evidence, Officers have not recommended a precise upper slope limit for grazing. This will be revisited in the end of hearing Reply Report.
741. At this stage, noting that some adverse effects from grazing would also be mitigated by provisions in PC1 requiring stock exclusion from water bodies, Officers suggest the slope threshold could be either:
- a. maintained at 15 degrees for cattle and increased to 25 degrees for other stock; or
  - b. increased to 25 degrees for all stock.

## Section 42a V2

# Farm A - Waerenga Sheep & Beef Farm Land Use Capability Classifications



Not permitted to graze?



Slope

## Unmitigated creek



Slope

## Retired Steep Land



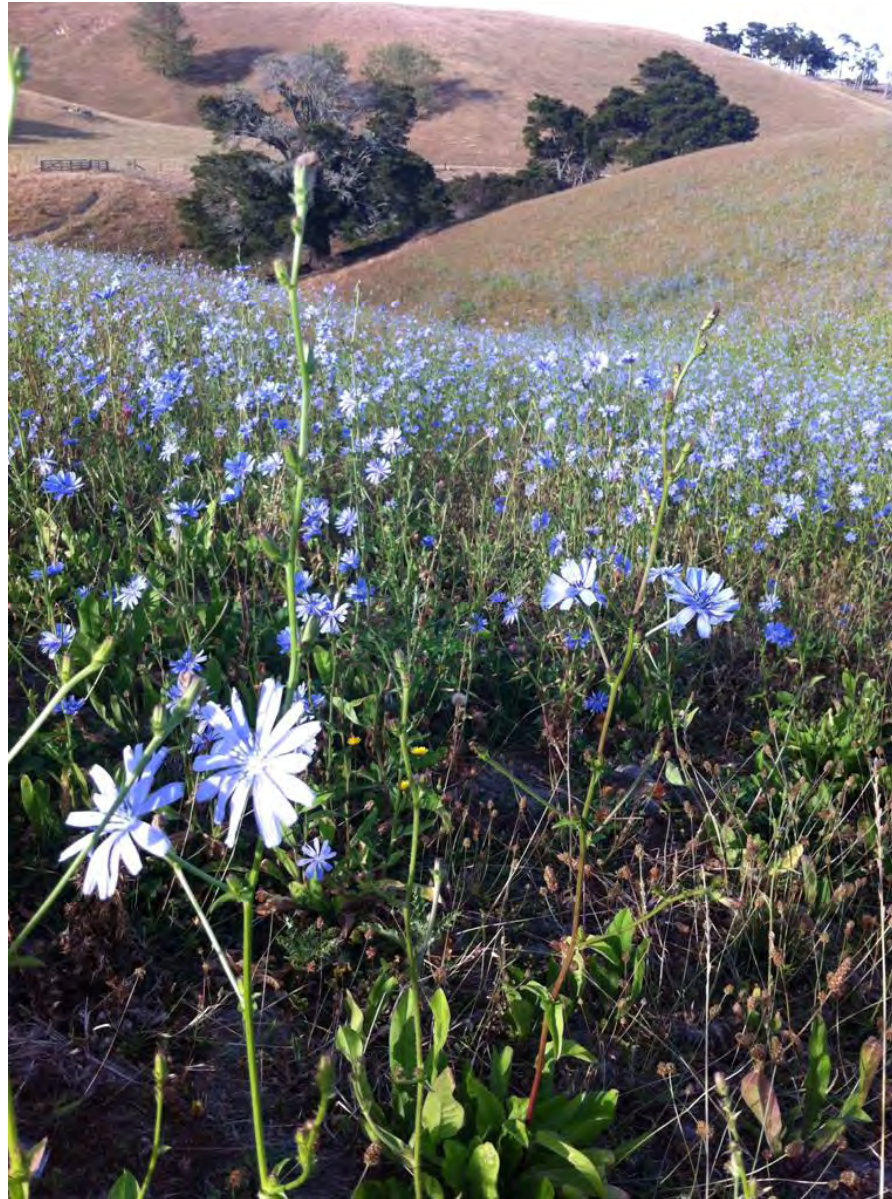
Slope



‘Most low-intensity farming is carried out in hill country. The net result of the permitted activity conditions is likely to mean that (very) few properties would qualify as a permitted activity.’

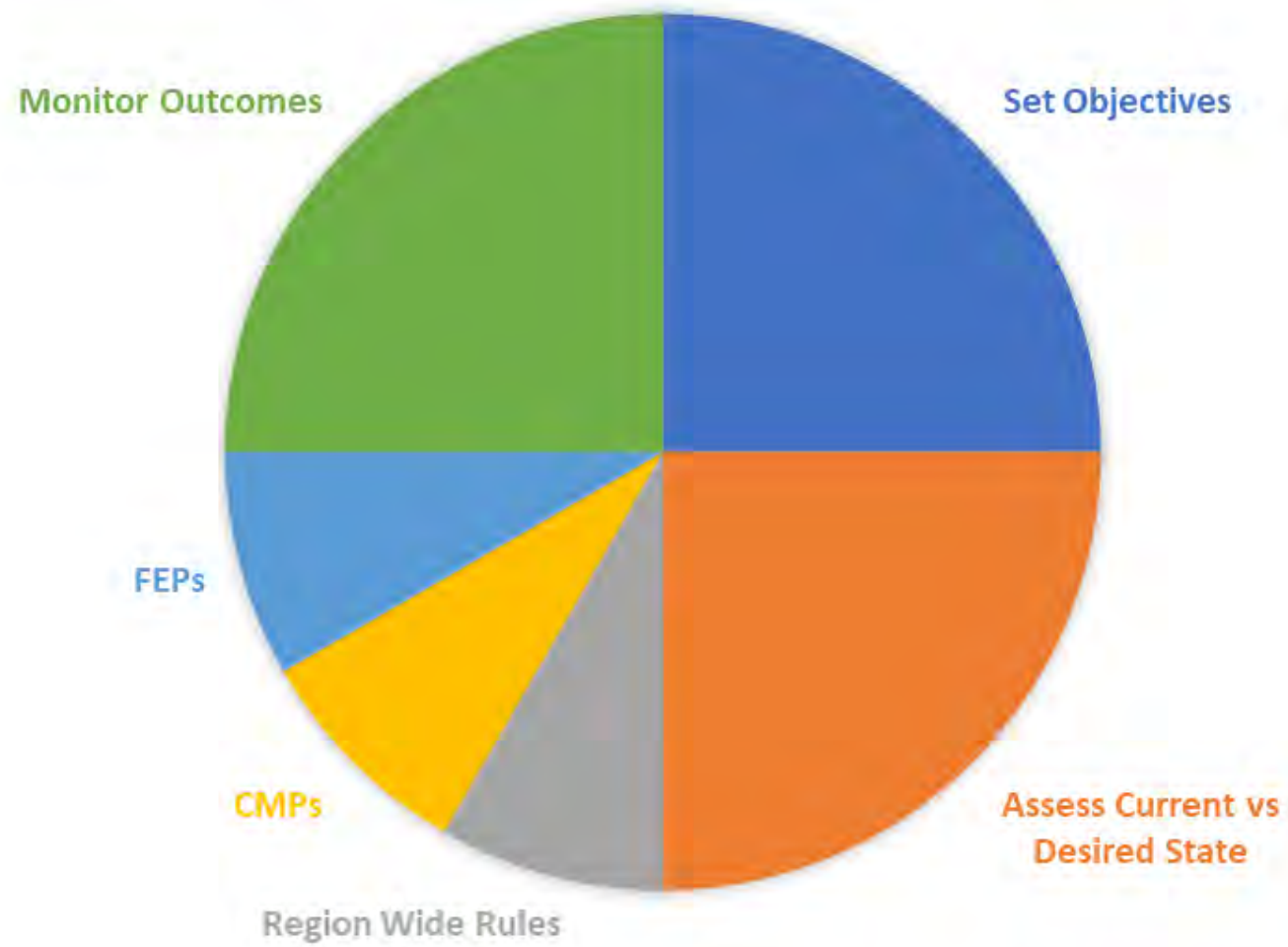
Section 42a V2 Para 709

no-till & multi-graze chicory crop



Cultivation

# PC1



We can expect FEPs to:

- Describe a pathway to PC1 compliance
- Identify risks of diffuse contaminant and critical source areas
- Plan for actions to avoid, remedy or mitigate environmental risks
- Specify associated budget of costs & timeframes

## Critical Source Areas



Critical Source Areas



“Officers are concerned that given what could be more realistic operative dates for PC1, the staging process may become somewhat irrelevant, and resourcing the FEP development and resource consent process with appropriately qualified and skilled people will be challenging, to say the least.”


Section 42a V2 Para 311

“Officers understand that the development of a FEP will be a difficult and challenging exercise for some farmers, while being relatively simple for others. In addition, the FEP development and implementation costs and effort will likely be substantial for many farmers. That said, with the education and information programs run by many farming sector organisations, regional councils and central government, many of the actions that may be included in FEPs would be familiar to farmers. Indeed, anecdotal evidence would suggest that many farmers already have a range of such initiatives in place.”

Section 42a V2 Para 357



Health & Safety resources & support



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Resource Book 23

# FEP resources & support

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WAIKATO

# FARM ENVIRONMENT PLAN WORKBOOK

By farmers. For farmers.

## Section 2.0 FEP Guidelines

### FARM ENVIRONMENT PLAN RISKS AND ACTIONS

These tables identify all the risks on farm and what will be done to manage them. For help with good management practices/ideas for mitigations, please refer to the Farm Environment Plan Guide.

**NOTE!** some risks may have no actions, single actions or multiple actions (and vice-versa). Where multiple actions are needed, please complete a new table. Where no action is required, an explanation should be provided in the notes/commentary section.

<p><b>Risk type</b> Stock pressure on steep land</p> <p><b>L</b> <b>M</b> <b>H</b></p> <p>Nitrogen Phosphorus Sediment Bacteria</p> <p>Risk location ID from map Steep country</p> <p>Mitigation action type Stock management</p> <p>Mitigation location ID from map Steep country</p> <p>Action detail Between 1 Jun and 30 Aug of each year, any cattle grazed must be less than 12 months in age or under 200kg live-weight (whichever is less restrictive).</p> <p>Time frame for completion or ongoing Ongoing from 1 Jun 2020</p> <p>Notes/commentary Stocking pressure increasing risk of soil loss and mass movement. Stocking rate not specified, but management is expected to not increase the risk of soil</p> <p>Note: area may be used for grazing sheep at any time.</p>	<p><b>Risk type</b> Effluent accumulation area hotspot</p> <p><b>L</b> <b>M</b> <b>H</b></p> <p>Nitrogen Phosphorus Sediment Bacteria</p> <p>Risk location ID from map 1</p> <p>Mitigation action type Race cut-off shape/contour tracks &amp; races</p> <p>Mitigation location ID from map 1a and 1b</p> <p>Action detail Main race cambered towards the left hand side and construct a minimum of 3 cut-off diversions at no less than 15m spacing and no closer than 15m from culvert.</p> <p>Time frame for completion or ongoing By 1 Jan 2021</p> <p>Notes/commentary Left hand side of race is the same side as effluent pond and the existing culvert represents the low point along the race. Photo reference (Effluent accumulation area) Farmer Considerations: a) Using any appropriate management options to minimise effluent build-up from stationary cows; b) Retirement of swale. Fencing and planting.</p>	<p><b>Risk type</b> intermittent waterway or food prone area</p> <p><b>L</b> <b>M</b> <b>H</b></p> <p>Nitrogen Phosphorus Sediment Bacteria</p> <p>Risk location ID from map 2</p> <p>Mitigation action type Construct wetland/detainment</p> <p>Mitigation location ID from map CWT</p> <p>Action detail Retire area of no less than 300m<sup>2</sup> and permanently exclude stock with a minimum setback of 1m.</p> <p>Time frame for completion or ongoing By 1 Mar 2024</p> <p>Notes/commentary intermittent waterways may also be considered Ephemeral waterways. These areas will be identified in the FEP map. Farmer Considerations: a) Consult with WRC or an appropriately qualified professional regarding the sourcing and types of plants to be used and wetland design to maximise effectiveness. Photo reference (Wetland opportunity 2)</p>
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**New Rule 3.11.5.XX Permitted Activity Rule:  
Farming activities with stocking rate less than 18 stock units/hectare**

The use of land for farming activities (excluding commercial vegetable production) and the associated diffuse discharges of nitrogen, phosphorous, sediment and microbial pathogens, onto or into land in circumstances which may result in those contaminants entering water is a **permitted activity** subject to the following conditions:

1. The property is registered with the Waikato Regional Council in conformance with Schedule A; and
2. For grazed land, the winter stocking rate of the effective grazing area of the property is <18 stock units per hectare; and
3. No arable cropping occurs; and
4. A Farm Environment Plan has been prepared for the property in accordance with the requirements of Schedule 1 and submitted to Waikato Regional Council as follows:
  - a. By XX for priority 1 sub-catchments listed in Table 3.11-2
  - b. By XX for priority 2 sub-catchments listed in Table 3.11-2
  - c. By XX for priority 3 sub-catchments listed in Table 3.11-2; and

Optional addition of stock exclusion specification:

5. Cattle, horses, deer and pigs are excluded from water bodies where  $\geq 75\%$  of the adjacent land on both sides of the water body is <15 degrees slope. Where break feeding occurs, cattle are excluded from water bodies irrespective of slope.

<b>Benefit</b>	<b>Mechanism</b>
Intensive farming focused on key issue Nitrogen	NRP
Extensive farming focused on key issue Sediment	Critical source areas as part of FEP
CFNAs focused on higher N risk	2577 less NRP to model
Reduction in Council workload	2577 less consents to be processed
Reduction in collateral damage to hill country creeks	Fencing not required <18 SU/ha and/or >15 degrees
Cultivation risks mitigated	FEP & stock exclusion for break feeding
Certainty to Iwi & community	FEP available for WRC audit

“A more onerous activity status, and potentially more significant investigation of losses of all four contaminants in order to confirm that losses are not increasing (and preferably are reducing) will lead to increased complexity, cost and time commitments for both applicants and Council. This is both for making and processing applications and the ongoing monitoring of any resource consent granted. **This is by no means an insignificant issue, and goes to the heart of questions over PC1 with respect to compliance costs, industry capacity and Council’s capacity to complete the presently staged FEP and consenting process by 2026.** Officers are aware that there is some discomfort within Council’s implementation team about the realities of this exercise...”

Section 42a V2 Para 294

“Many submissions identify farming situations where the effects are considered to be at the low end of the scale, ... Many submissions seek a permissive framework for these kinds of farms – so that they are not ‘penalised for having done the right thing’. The Officers are very supportive of this, but are finding it difficult to clearly articulate in the rule framework exactly how this could be done. There are some changes to the permitted activity rule that may increase the scope to permit some of these kinds of farming operations.”

Section 42a V2 Para 305



Conclusion





Conclusion

# Persuasive arguments for us to support the CSG proposal?

1. “This is what’s coming and some of you possibly won’t make it through”
1. “If you don’t accept this - it will go to the environment court and you’ll probably end up with something worse”
1. “We need to start having a conversation about ‘honourable exits’ for hard hill country farmers”



Conclusion

“Wisdom doesn’t consist of knowing specific facts or possessing knowledge of a field. It consists of knowing how to treat that knowledge. It is a willingness to confront counter-evidence and to have a feel for the vast spaces beyond what is known.”

David Brookes - The Social Animal



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