

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

of appeals lodged against proposed Plan Change 2
to the Manawatu-Whanganui One Plan

**JOINT WITNESS STATEMENT OF COMMERCIAL VEGETABLE GROWING
AND PLANNING EXPERTS**

14 March 2023

INTRODUCTION

1. This joint expert witness statement relates to the appeals lodged against proposed Plan Change 2 (**PC2**) of the Manawatu-Whanganui One Plan which focuses on existing intensive farming land use activities within targeted water catchments in the region.
2. At mediation held on 12 December 2022 it was agreed that a risk framework approach should be initially explored further between the experts, with a view to reporting back to parties at a further mediation in early 2023. The matters agreed to, along with agreed next steps, are within a Mediation Agreement dated 12 December 2022.
3. Further expert conferencing was undertaken in February 2023 with a session held for each sub-group of experts: commercial vegetable growing experts, pastoral experts and planning experts. At the planning conferencing on 24 February 2023, it was recommended that a joint conference occur between the planning and farm system experts in order to progress the matrix and proposed risk scorecard approach within the context of the rule and planning framework.
4. Farm system and planning experts attending the conference were:
 - (a) Dr Anne-Maree Jolly (**AJ**) for Manawatū-Whanganui Regional Council (**Horizons**);
 - (b) Stuart Ford (**SF**) for Horticulture New Zealand (via AVL);
 - (c) Andrew Barber (**AB**) for Potatoes NZ & Horticulture New Zealand (via AVL);
 - (d) Christine Foster (**CF**) for Horizons; and
 - (e) Sue Ruston (**SR**) for Horticulture New Zealand (via AVL).
5. Dr Liz Parlato (**LP**) for Wellington Fish and Game and Ngāti Turanga attended the conferencing session as an observer only.

AGREED QUESTIONS

6. The scope of issues to be covered at expert conferencing were set out in an agreed agenda and are set out below at [11].

CODE OF CONDUCT

7. This joint witness statement is prepared in accordance with section 9.5 of the Environment Court Practice Note 2023.
8. We confirm that we have read and complied with the Code of Conduct for Expert Witnesses.

PURPOSE AND SCOPE OF CONFERENCING

9. Refer to paragraph [3] above.
10. This conferencing session builds on earlier discussions between the experts as part of a suite of workshops, with expert conferencing statements dated 28 June 2022, 25 August 2022, and 7 October 2022 having previously been agreed to by the participating experts.
11. The scope of the issues covered at the conference included:
 - (a) Recap on the adapted risk scorecard;
 - (b) Outstanding matters with the adapted risk scorecard;
 - (c) Draft rule framework;
 - (d) Definitions;
 - (e) Potential policy amendments necessary to support the rule framework;
and
 - (f) Further work required.

AGREED ISSUES

12. Refer to Annexure A.

DISAGREEMENT AND REASONS

13. Refer to Annexure A.

Date: 14 March 2023


Dr Anne-Maree Jolly

204.2408
Andrew Barber

Andrew Barber

S. Ford

Stuart Ford

Christine Foster

Christine Foster

Sue Ruston

Sue Ruston

ANNEXURE A

In the matter of Proposed Plan Change 2

Expert conferencing – Intensive Farming Risk Scorecard Continuation (Commercial Vegetable and Planning Experts)

Issue	Statements	Agreed Position	Disagreements, with reasons
Topic 1 – Recap on adapted risk scorecard			
AB took the scorecard and trialled it on 4 PC2 growers including a wide range of intensive and less intensive commercial vegetable growing systems.	1 grower passed and 3 growers needed to make practice changes. Key practice changes of a nutrient budget and soil testing needed to be implemented.		
Definitions and explanations needed	AB raised that there would need to be some clarification of definitions and explanations of what processes will be used to measure or assess some factors. Discussed how the matrix would be applied to split practices e.g. where a grower, under (c) Crop establishment fertiliser, does “incorporated, banded” most of the time but may sometimes need to use “surface broadcast”. In his testing, AB took a percentage of the area where that practice was occurring. See Topic 2 below. Would need to define/explain: - Area - Catch crop - Cover crop - Fallow	All experts agree that definitions and explanations will be easily agreed and not contentious.	

Issue	Statements	Agreed Position	Disagreements, with reasons
	- Nitrogen soil testing - Nitrogen balance/budget - All under crop establishment fertiliser: - Incorporated - Banded - Surface - Surface broadcast - Controlled application Action Point: Definitions/explanations need to be drafted. The experts have offered their expertise to do this in whatever timeframe is agreed at resumed mediation.		
Topic 2 – Outstanding matters with the adapted risk scorecard			
AJ discussed changes made to CVG scorecard.	See Attachment 1 .	All farm system experts agree to the 2 categories, subcategories and points allocated in the adapted CVG risk scorecard as in Attachment 1 for the purposes for PC2. All farm system experts agree to the nitrogen leaching risk limit for CVG being set at low for both categories: nitrogen fertiliser practices and soil health.	
Split practices		All farm system experts agree that the points should be assigned based on the productive area (to be defined). Where practices are split, points should be assigned to the relevant practices based on the	

Issue	Statements	Agreed Position	Disagreements, with reasons
		proportion of area used for that practice. All are confident that they can agree on a definition/explanation of how to apply that.	
Definitions		All farm system experts agree that there needs to be consistency of these definitions between the pastoral and CVG scorecards: - Hectare - Effective area/Productive area (Fonterra uses effective area)	
Topic 3 – Draft rule framework, definitions and potential policy amendments			
CF went through draft rule framework.		All agreed to use of “nitrogen leaching risk” and “nitrogen leaching risk limit”. SR and CF agree that under rule 14-1, condition (d)(iv), the application must be lodged within 12 months of the operative date of PC2, and the mitigations intended to achieve the reductions in nitrogen leaching risk must be implemented within 2 years of the date of the grant of consent. SR and CF agree to the deletion of rule 14-1, controlled matter (b) and renumber subsequent reserved matters. The reason is that it is already addressed in (a) in combination with the definition of a	

Issue	Statements	Agreed Position	Disagreements, with reasons
		nutrient management plan which is required, by definition, to address sediment and pathogens.	
Potential policy amendments.	As suggested by CF and GW on 13 March 2023.	SR supports the amendments suggested by CF and GW of 13 March 2023. See Attachment 2 .	
Topic 4 – Any other matters			
Further work	See action point under Topic 1.		

Attachment 1

Nitrogen Risk Scorecard: Commercial Vegetable Growing

A. Land Management Drivers of Nitrogen Leaching: Commercial Vegetable Growing

1. Nitrogen Fertiliser Practices

- (a) Nitrogen fertiliser annual application rate
- (b) Nitrogen fertiliser application rate per application (individual)
- (c) Nitrogen balance/budget
- (d) Nitrogen soil testing
- (e) Crop establishment fertiliser application method
- (f) Side fertiliser application method

2. Soil Health

- (a) Practices between crops
- (b) Catch crops (cut-and-carry)

1. Nitrogen Fertiliser Practices

(a) Nitrogen fertiliser annual application rate	Points	Proportion of area
N fertiliser: <100 kgN /ha	0	
N fertiliser: 101-150 kgN /ha	30	
N fertiliser: 151-200 kgN /ha	60	
N fertiliser: 201-250 kgN /ha	90	
N fertiliser: 251-300 kgN /ha	150	
N fertiliser: 301-400 kgN /ha	200	
N fertiliser: >400 kgN /ha	250	

(b) Nitrogen fertiliser application rate per application (individual)	Points	Proportion of area
N fertiliser: <25 kg /ha	-30	
N fertiliser: 25-50 kg /ha	0	
N fertiliser: 51-75 kg /ha	30	
N fertiliser: 76-100 kg /ha	60	
N fertiliser: >100 kg /ha	90	

(c) Nitrogen balance/budget	Points	Proportion of area
Nitrogen budget: Yes	-50	
Nitrogen budget: No	0	

(d) Nitrogen soil testing	Points	Proportion of area
Before every nitrogen fertiliser application	-50	
At the beginning of each crop cycle	-30	
One a year	0	
Never	50	

(e) Crop establishment fertiliser application method	Points	Proportion of area
Incorporated, GPS banded, controlled application	-20	
Surface, GPS banded, controlled application	-15	
Incorporated, banded	-10	
Surface, banded	-5	
Surface broadcast, incorporated	10	
Surface broadcast	20	

(f) Side fertiliser application method	Points	Proportion of area
GPS banded, controlled application	-15	
Banded	-5	
Broadcast	20	

2. Soil Health

(a) Practices between crops	Points	Proportion of area
Cover crop	-30	
Fallow < 4 weeks	0	
Fallow 4 – 12 weeks	25	
Fallow > 12 weeks	50	

(b) Catch crops (cut-and-carry)	Points	Proportion of area
Yes	-20	
No	0	

Table 2 Nitrogen Leaching Risk Limits for Commercial Vegetable Growing (for Variations in Soil and Drainage) as determined by the combined risk rating classification for each management practice - Table 3

	Profile Available Water		
	151 - 350 mm	61 - 150 mm	0 - 60 mm
Rainfall 1 <1000 mm/year	n/a	n/a	n/a
Rainfall 2 1000 – 1300 mm/year	n/a	Low Low	n/a
Rainfall 3 1300 – 1600 mm/year	n/a	n/a	n/a
Rainfall 4 >1600 mm/year	n/a	n/a	n/a

Table 3 Risk rating classification

Farm Management Practices	Risk Ratings				
1. Nitrogen fertiliser practices 2. Soil health	Very Low	Low	Medium	High	Very High
	<20	21-40	41-60	61-80	>81

Attachment 2

GW and CF agreed the following amendments to the PC2 policy framework:

1. Throughout the policy framework, the terminology will need to be updated to refer to 'nitrogen leaching risk' agreed to at joint expert conferencing 13.03.23;
2. Policy 14-5 (d) (ii): delete cumulative nitrogen leaching maximum and replace with the expression 'nitrogen leaching risk' (to be a defined term) as follows:
 - ii. The *nitrogen leaching risk** ~~cumulative nitrogen leaching risk maximum~~* values calculated in accordance with Schedule [Y];
3. Policy 14-5 (d) (iii): clarify that the application for consent must be lodged within twelve months of the operative date of PC2 and that the mitigations proposed in the application to reduce risk will be implemented within two years of the date of the grant of consent as follows:
 - iii. provided that, in (i) and (ii) above, the application for consent is lodged no later than **31 December 2022** [a date twelve months from the operative date of PC2] and the mitigations proposed in the application to reduce nitrogen leaching risk are implemented within two years of the date of the grant of consent.
4. Policy 14-6 (e) (iv): insert an additional matter to be given particular regard:
 - (iv) For any application to exceed the limits described in Policy 14-5 (d) (i), any rainfall record for the property (and the reliability of that record) and any farm scale assessment of the water holding capacity of the soils on the property.
5. Policy 14-6 (g) (i): There is a spelling error: delete the 'do' as follows: '.....loss from the land^ ~~do~~ does not increase....'

