BEFORE THE ENVIRONMENT COURT

I MUA I TE KOOTI TAIAO O AOTEAROA

IN THE MATTER	of the Resource Management Act 1991 ('the Act')
AND	
IN THE MATTER	of an appeal under Clause 14(1) of First Schedule to the Act
BETWEEN	**RAYONIER NEW ZEALAND LIMITED** Appellants in ENV-2018-CHC-49, and section 274 party to appeals: ENV-2018-CHC-40 Federated Farmers of New Zealand, ENV-2018-CHC-46 Southwood Export Limited & Others, ENV-2018-CHC-50 Royal Forest and Bird Protection Society of New Zealand Incorporated
AND	**SOUTHLAND REGIONAL COUNCIL** Respondent

EVIDENCE IN CHIEF OF CHRISTOPHER JOHN PHILLIPS

Date: 20 December 2021

Judicial Officer: Judge Borthwick

Adderley Head
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MAY IT PLEASE THE COURT

INTRODUCTION

1 My full name is Christopher John Phillips.

2 Manaaki Whenua Landcare Research was commissioned by Matariki Rayonier Forests in October 2021 to provide written evidence pursuant to submissions/appeals under the RMA relating to the Proposed Southland Water and Land Plan (the **PSWLP**).

3 My evidence is given on behalf of Rayonier New Zealand Limited in relation to Decisions Version (4 April 2018): Cultivation Definition and Rule 25 Cultivation on sloping ground of the PSWLP.

QUALIFICATIONS AND EXPERIENCE

4 I am a Senior Researcher – Erosion Processes at Manaaki Whenua Landcare Research.

5 My qualifications include a Bachelor of Science in Geology and Physical Geography from Otago University, a Master of Science with Honours in Earth Sciences from the University of Waikato and a PhD in Agricultural Engineering from the University of Canterbury.

6 My specialist areas are the assessment of erosion processes and slope stability, forest harvesting effects on erosion and sediment delivery to streams, the role of vegetation in mitigating erosion and integrated catchment management.

7 I am a past member of the New Zealand Geological Society, a member of the New Zealand Hydrological Society, an honorary (life) member of the New Zealand Association of Resource Management, a past Director of the Australasian Chapter of the International Erosion Control Association (IECA), and Secretary and board member of ecorisQ (an international association of global professionals working on sustainable solutions for natural hazard risk management).

8 I have over 40 years' experience in research and consulting activities as part of the former New Zealand Forest Service, the Ministry of Forestry, and currently Manaaki Whenua - Landcare Research. I have provided consultancy services for most of New Zealand's forestry companies advising them on aspects of erosion, slope stability, and environmental impacts relating to plantation forestry. Similarly, I have provided advice to district and regional councils on matters relating to erosion and its management.

9 I developed and currently co-lead a 5-year MBIE research programme "Smarter targeting of erosion control" and have led previous research programmes involving erosion and catchment science.

10 I have authored and co-authored many peer-reviewed publications in relation to geomorphology, erosion and forest management in New Zealand's erodible steeplands, mitigation of hillslope instability and post-harvest erosion risk in steepland plantations in New Zealand, soil reinforcement by tree roots, and in integrated catchment management.

11 I have appeared as an expert witness for forestry companies on district and regional council plan change hearings and in the Environment Court, providing evidence on erosion processes and sediment implications of forestry operations.

12 I have read the Code of Conduct for Expert Witnesses at Schedule 4 of the High Court Rules.

13 I confirm that I agree to comply with Schedule 4 of the High Court Rules and give my evidence in accordance with those provisions.

14 I have not omitted to consider material facts known to me that might alter or detract from the opinions I have expressed.

15 My qualifications and experience as an expert are set out above and I confirm that the issues addressed in my evidence are within the scope of my expertise.

WILL SAY STATEMENT AND EXPERT CONFERENCING

16 I prepared a Will Say Statement dated 29 October 2021 regarding this matter which has been filed with the Court. This is attached as **Appendix A**.

17 I also participated in an expert conference regarding Topic B5 – Farming, as it relates to forestry and cultivation (the **Forestry topic**), on 29 November 2021 (the **Forestry conference**).

18 I am a signatory to the Joint Witnesses Statement that was signed by all participants at the Forestry conference (the **Forestry JWS**). The text of the Forestry JWS is attached as **Appendix B.**

19 The Forestry JWS records the forestry experts' answers to various technical questions identified during the first Planning conference. I support the Forestry JWS and have nothing further to add.

7 I am aware that a second Planning conference occurred on 9-10 December 2021 and which resulted in planning experts signing a joint witness statement regarding the Forestry topic (the **Planning (Forestry) JWS**).

8 The Planning (Forestry) JWS records that the cultivation definition in the PSWLP should be amended, and another definition added to the PSWLP on stick raking and slash raking. My understanding is that the purpose of these changes is to specifically exclude herbicide spraying and low-risk stick raking or slash raking activities associated with replanting a plantation forest from the cultivation definition.

20 The text of the agreed amendments is detailed in the Planning (Forestry) JWS attached as **Appendix C** I have reviewed the agreed amendments and can support them. From my perspective, there are no outstanding issues arising.

CONCLUSION

21 I am comfortable with the amendments to the definition of cultivation and the new definition of stick racking or slash raking agreed at the Planning (Forestry) JWS.

22 In my view the amendments respond appropriately to the points agreed in the Forestry topic JWS.

23 I am willing to answer any questions that the Court or other parties may have arising from the above matters.

Chris Phillips

Dated 20th December 2021

BEFORE THE ENVIRONMENT COURT
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IN THE MATTER	of the Resource Management Act 1991 ('the Act')
AND	
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BETWEEN	**RAYONIER NEW ZEALAND LIMITED**
	Appellants in ENV-2018-CHC-49, and section 274 party to appeals: ENV-2018-CHC-40 Federated Farmers of New Zealand, ENV-2018-CHC-46 Southwood Export Limited & Others, ENV-2018-CHC-50 Royal Forest and Bird Protection Society of New Zealand Incorporated
AND	**SOUTHLAND REGIONAL COUNCIL**
	Respondent

WILL SAY STATEMENT OF CHRISTOPHER JOHN PHILLIPS

Date: 29 October 2021

Judicial Officer: Judge Borthwick

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MAY IT PLEASE THE COURT

INTRODUCTION

1 Manaaki Whenua Landcare Research was commissioned by Rayonier New Zealand Ltd (Rayonier) in October 2021 to provide written evidence pursuant to submissions/appeals under the RMA relating to the Proposed Southland Regional Council Water and Land Plan.

2 My evidence is given on behalf of Rayonier in relation to Decisions Version (4 April 2018): Cultivation Definition and Rule 25 Cultivation on sloping ground.

QUALIFICATIONS AND EXPERIENCE

3 I am a Senior Researcher – Erosion Processes at Manaaki Whenua – Landcare Research.

4 My qualifications include a Bachelor of Science in Geology and Physical Geography from Otago University, a Master of Science with Honours in Earth Sciences from the University of Waikato and a PhD in Agricultural Engineering from the University of Canterbury.

5 My specialist areas are the assessment of erosion processes and slope stability, forest harvesting effects on erosion and sediment delivery to streams, the role of vegetation in mitigating erosion and integrated catchment management.

6 My qualifications and experience as an expert are set out above and I confirm that the issues addressed in my evidence are within the scope of my expertise.

SCOPE OF EVIDENCE

7 My statement of evidence will cover the following:

(a) What erosion is, what causes it, how it is mitigated.

(b) The susceptibility of Southland landscapes to erosion generally and regional sediment yields.

(c) How forestry activities/operations affect erosion processes and sediment yield.

(d) The specific forestry activity of windrowing and its influence on erosion and sediment yield.

(e) The specific forestry activity of herbicide spraying and its influence on erosion and sediment yield

(f) The suitability of Rule 25 (Cultivation on sloping ground) to act as a "control" to reduce the impacts of erosion and deliver the water quality outcomes it seeks.

SUMMARY OF FINDINGS

Context

8 Compared to other parts of New Zealand, Southland is regarded as not being highly erosion prone. It ranks at the bottom of regions in terms of inherent susceptibility of land to erosion (erosion risk) under the National Environmental Standard for Plantation Forestry (NES-PF) erosion susceptibility classification system.

9 Excluding Fiordland National Park, only 11% of land in Southland is zoned either high or very high erosion risk under the NES-PF. Most land (75.9%) is zoned low erosion risk.

10 Modelled suspended sediment for Southland indicates 8% is derived from bank erosion, with 92% from surficial erosion. Surficial erosion is thus the key erosion process in much of Southland.

11 In the context of plantation forestry, harvesting (including mechanical land preparation for the next rotation) is often associated with a period where erosion and sediment yields will increase. In part this is because the physical removal of the tree canopy exposes the soil's surface to the direct impacts of rainfall.

12 Research indicates that if areas of deep disturbance can be minimised this will have a positive effect on post-harvest sediment generation from rain splash and surface erosion (slope wash). Deep disturbance occurs in areas where

mineral soil is exposed by soil scraping (i.e. logs being dragged to landings, or by earthworks).

13 To put this into perspective, research indicates that slope wash is the least important sediment generating process and slope wash from deep disturbance sites contributes only a very small proportion (2%) of total sediment to waterways. By comparison, soil scraping and land sliding contribute 26% and 72% respectively.

14 Research also indicates that most generated (eroded) sediment from bare areas, including landslide debris (not a common process in Southland), does not travel far from its source, getting trapped by micro-topographic features on the slope or by harvesting residue. Where sources are close and connected to the stream network, sediment may enter the stream.

15 Sediment generation and any potential increases in sediment yield that might occur during and following site preparation will be affected by geology, soil type, slope steepness, initial vegetation cover, litter and residue cover, climate (rainfall), amount of bare area immediately following harvesting and the amount and degree of soil disturbance following any mechanical site preparation.

Rule 25 and cultivation definition

16 The primary purpose of Rule 25 is assumed to be on reducing sediment entering waterways from a range of management practices in the preparation of land for productive use. As worded, it appears to be primarily focused on agricultural practices rather than forestry practices.

17 In the context of plantation forestry, it seems odd that spraying has been included in a rule that is focused (titled Cultivation) on practices that physically disturb the soil. Spraying doesn't have a physical impact on the soil – it is what comes next that does.

Windrowing

18 Windrowing is a common site preparation practice in New Zealand forests and can occur on both flat or sloping land.

19 Topsoil can be disturbed, displaced and removed during raking (the process of creating the wind row) and it is often the skill of the machine operator that determines how much soil disturbance occurs.

20 In flat areas this rarely matters but if the site is sloped and can connect with a water way there is a risk sediment can be lost from the site and water quality affected. It's difficult to quantify this risk as I'm not aware of any research on this.

21 Good management practices and sediment control measures can reduce the risk of sediment loss from the site and potential effects on water quality.

22 For example, contoured windrows are preferred as they tend to act as barriers to any downslope movement of soil particles under gravity or as "brush filters" filtering any runoff.

23 I don't consider windrowing to be deep disturbance in the sense I have commented on above.

NPS-PF and windrowing

24 The NES-PF Regulation 74 covers aspects of mechanical land preparation which would include the practice of windrowing, though windrowing is not explicitly mentioned in Regulation 74.

25 Regulation 74 requires that operations should be carried out where possible parallel to the contour. Where this cannot occur due to safety reasons then sediment control measures must be used to minimise sediment discharges to water bodies.

26 Such measures can include locating a parallel windrow at the base of a section of non-parallel windrows and sediment drains across the contour to pick up any sediment washing down the slope between non-parallel windrows.

27 These measures are likely to be effective in reducing sediment discharges to water bodies however I am not aware of any research on this.

28 Regulation 74 also requires that exposed areas to be stabilised as soon as practicable after completion of the activity.

29 This would normally be done by oversowing, but other sediment control measures might also be required. Unless there is a long delay between windrowing and planting it would seem pointless to oversow then spray with herbicide.

30 In my opinion, there are no special circumstances of the Southland region which would justify greater regulation for windrowing activities than those contained in Regulation 74.

Herbicide spraying

31 Herbicides are used to kill plants such as weeds, grass and unwanted vegetation. It takes time for plants to die. The dead plant material will form a natural ‘mulch’ on the soil surface depending on its initial density and ‘canopy thickness’. With time, this may be moved by the wind, or it may bind with the soil surface.

32 Also, with time, new weeds and plants will emerge from seed within the soil or dispersed by wind or birds. Thus, the amount of bare ground that is exposed to rainfall following successful herbicide spraying may vary considerably. It is the exposure of bare ground that has the potential to contribute to sediment generation, but not all bare ground will do so.

33 Herbicide spraying in a forestry context is used to reduce competition from unwanted vegetation such as woody weeds and seedlings from the previous rotation which may be genetically inferior, i.e., to give the new seedlings the best chance to get established and thrive.

34 Spraying of herbicide has a low to negligible impact on erosion and sediment yield compared to other practices that disturb the soil. For this reason, I cannot think of any useful or cost-effective mitigation other than not spraying that could be used to minimise its effect.

Riparian setbacks based on slope

35 In my opinion, for the specific activities of windrowing and herbicide spraying I see no benefit in having different setbacks based on slope.

Maximum land slope requirements

36 Erosion and especially surface erosion will increase as slope increases. Increasing the maximum slope from 20 to 30 degrees will increase the potential for erosion but how much will be due to many factors.

37 While modern forestry and agricultural equipment is now able to be operated on slopes steeper than 20 degrees, the potential for increased erosion and sediment loss to streams will directly relate to how much soil disturbance occurs, how deep that disturbance is, whether the operations were carried out parallel to the contour or not, and the connectivity between bare disturbed soil areas and the stream.

Ephemeral waterways

38 Amending Rule 25 to include ephemeral waterways would entail practical difficulties relating to definition of these waterways on the ground. For example, how would these waterways be defined when the cutover is covered with slash and harvesting residue following harvest of the forest?

39 Amending Rule 25 to include ephemeral waterways won't make much difference from an erosion perspective with respect to windrowing and aerial spraying.

40 Amending Rule 25 to include ephemeral streams might result in a perverse outcome. It would likely require more tracking of machinery across the landscape to undertake windrowing that would result in potentially more soil disturbance.

Expert Conference – Forestry

Topic: Proposed Southland Water and Land Plan – Southland Regional Council

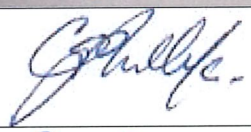
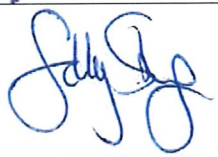
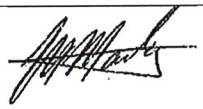
Date of conference: 29 November 2021

Venue: Remote AVL

Facilitator: Anne Leijnen

Recorder: Isabelle Harding

Attendees

Name	Employed or engaged by	Signature
Dr Greg Burrell	Southland Regional Council	
Hamish Fitzgerald	Rayonier NZ	
Dr Chris Phillips	Rayonier NZ	
Sally Strang	SWEL	
Graeme Manley	SWEL	

For ease of reference throughout this JWS, all experts had some relevant expertise in Forestry except the following:

1 Dr Burrell is an expert in freshwater ecology and water quality, including landuse impacts on freshwater ecosystems. He is not an expert in forest management or practice.

Environment Court Practice Note

2 All participants confirm that they have read the Environment Court Consolidated Practice Note 2014 and in particular Section 7 (Code of Conduct, Duty to the Court and Evidence of an expert witness) and Appendix 3 – Protocol for Expert Witness Conferences and agree to abide by it.

Experts' qualifications and experience

3 These are set out in each experts' statement of evidence.

Purpose of expert conference

4 The purpose of the conference is to assist the Court by responding to a series of questions, agreed by the experts as the conference progressed, relating to Forestry, and associated issues that the court may wish to consider when determining the appeals. For each question, the experts state matters on which they agree and on which they do not agree, with reasons.

Participants

5 This JWS is limited to those Forestry experts that have an interest and took part in the discussion.

Attachments to this JWS

6 List of questions for the Forestry experts

Conference outcomes

7 The Planning conference identified a number of technical questions to for the basis of the agenda for the Forestry experts. An outcome of this Forestry conference is the answering of these questions. These are attached.

Attachment: Questions to Forestry Experts:

Cultivation definition

1. ***What are the practical and operational implications associated with having to undertake windrowing parallel to contour when the slope is greater than 10 degrees[1]? In what situations may this be unsafe?***

   The key limitation is safety. To windrow across the slope requires a machine to drive across the slope which is more hazardous and unstable on steeper slopes.

   The slope, ground conditions, soil makeup and weather conditions all influence the maximum slope that a machine can operate on. Depending on variables, the slope a machine can operate on is generally between 10 and 15 degrees. On steeper slopes, the safe operating practice is to drive up and down the slope, which means the windrows form in that direction. In addition for some crops, the windrows must follow the direction of the stumps of the previous crop to allow planting to take place in the old crop lines.

Stick raking/windrowing

2. ***Is stick raking/windrowing any different in terms of risk of sediment loss to other cultivation or slopes above 20 degrees?***

   As a general principle, as slope increases, the potential for erosion increases. However, there are many factors that will contribute to how much erosion occurs and whether the eroded sediment reaches waterways. The risk of sediment run-off from stick racking is at the lower end of land preparation techniques. In comparison to agricultural cultivation and other forestry land management activities, stick raking is very low with regards to erosion risk. This reflects the low level of soil disturbance. In addition, stick raking occurs in a forestry cutover and the stabilising effects of the old stumps, roots and slash further reduce the potential for erosion and sediment loss.

   Cultivation is essentially disturbing and breaking up the soil profile, stick racking does not do this. Stick racking is not cultivation.

3. ***What are the risks from sediment runoff from stick raking? How significant are these risks compared to other forestry and cultivation activities?***
   Stick raking is a low-risk activity in terms of sediment run-off. In comparison to other plantation forestry activities (i.e earthworks, road construction, landing construction) it is low risk (See Question 8 below). In comparison to agricultural cultivation, stick raking is significantly lower risk.

4. ***What are the most effective measures to mitigate the risk of sediment runoff from stick raking?***

   The most effective mitigation measure is to not disturb the soil. Good practice ensures that not not all the branches are moved leaving a layer of fine material on the surface that helps to protect the soil from rain. This also acts as surface roughness elements to capture soil and material that may be moved by rain which forms barriers at the micro level. The preference where the slope permits is to put a windrow across the slope. If the slope is too steep to place windrows across the slope, you need to have a sediment barrier at the base of the slope, usually a windrow.

   Reference for compliance with NES-PF, subpart 7, mechanical land preparation, Regulation 74, subclause 2.

[1] As per paragraph c. in the definition of cultivation in Enviroment Southland's tracked change relief.

5. ***Are the NES-PF controls for mechanical land preparation (including stick raking) considered to be effective in reducing the risks from sediment runoff?***

Yes.

6. ***Are there circumstances in the Southland region that justify a more stringent approach than the NES-PF in relation to stick raking?***

No. Southland has some of the lowest risk geology in NZ. Based on MPI's analysis of the landcover database, 96% of Southland's forests are on land with an erosion susceptibility classification under the NES-PF of low or moderate erosion risk.

7. ***Will application of the control in the NES-PF result in a reduction in sediment loss during stick raking/windrowing relative to what would occur under controls in Rule 25?***

Expected to get the same result. The only difference would be the need to get a resource consent and the time and money involved in obtaining this. Following the NES-PF will produce the same result more efficiently.

Reference for compliance with NES-PF, subpart 7, mechanical land preparation, Regulation 74.

As a general comment it is desirable for the industry to maintain a consistent set of regulations via the NES-PF.

Critical source areas and setbacks[2]

8. ***What are the likely practical implications and costs associated with identifying 'critical source areas'***[3] ***within a plantation forest ()?***

The concept of critical source areas is associated with farming activities. It is not to date a concept that has been used in forestry.

In forestry we can define where the most important areas for sediment generation are, which are not landscape features, as indicated by the Southland Plan definition of critical source areas.

In plantation forestry, potential sediment generating areas are often unrelated to landscape features and are generally in the following order of risk:

- Construction of earthworks,
- Roads and landings,
- harvest tracks,
- haul paths,
- other areas of bare exposed soil,
- covered material/stick raked areas
- sprayed areas

These risks in plantation forestry are managed through the harvest and earthworks plan and the erosion and sediment control plan. Stick raking is managed through a work prescription which falls outside the NES.

9. ***How effective are the following measures likely to be in terms of mitigating the risks from erosion and sediment runoff:***

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[2] Questions 6 to 8 relevant if Rule 25 applies to stick raking.

[3] As per definition of critical source areas in Environmental Southland's tracked change relief.

a. ***Establishing sediment detention when stick raking is undertaken in identified critical source areas[4]?***

The definition of critical source areas from the Plan appears to have been developed for farming. Stick raking will not be undertaken in the most significant sediment generating areas for forestry, as these are defined above (earthworks). Undertaking sediment controls in critical source areas as defined in the definition in the Plan will be ineffective because the most important areas to control in a plantation forestry setting are the roads, landings and earthworks.

b. ***Graduated setbacks for all water bodies based on slope[5]?***

The NES-PF has graduated setbacks based on the type and size of the waterway (Regulation 74 (8)). The distances are the same in the NES and the Plan but the Southland Plan setbacks are based on slope. With sediment capture by a buffer it is the outer part of the buffer that is the most crucial because that is where most of the trapping happens. There is little need for a graduated buffer in terms of slope for stick raking due to the low risk it poses with respect to sediment generation.

10. ***What are the likely practical and operational implications associated with:***

a. ***Establishing sediment detention when stick raking is undertaken in identified critical source areas?***

Refer above.

b. ***Graduated setbacks for all water bodies based on slope?***

Refer above.

<u>Herbicide spraying</u>

11. ***What are the risks from sediment runoff associated with herbicide spraying within a plantation forest? How significant are these risks compared to other cultivation activities that physically disturb the soil?***

Very low. The activity of herbicide spraying is physically not disturbing the soil at all, hence has a low risk of generating sediment. Following spraying, plant material remains intact and forms a mulch and continues to capture sediment alongside the remaining debris on the cutover.

12. ***What, if any, mitigation measures can be used to manage the risks of sediment runoff from herbicide spraying within a plantation forest?***

None.

<u>Critical source areas and setbacks[6]</u>

13. ***How effective are the following measures likely to be in terms of reducing the risks from erosion and sediment runoff:***

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[4] As per Environmental Southland's tracked change relief for Rule 25.

[5] As per Environmental Southland's tracked change relief for Rule 25.

[6] Questions 11 and 12 relevant if amendments to the definition of cultivation not accepted.

a. ***Establishing sediment detention when herbicide spraying is undertaken in identified critical source areas within a plantation forest[7]?***

As noted in the answers to question 11 above, herbicide spraying presents a very low risk in terms of erosion, less so than stick raking. Therefore, the same answers as those given in response to question 9 and 10 apply.

b. ***Graduated setbacks for herbicide spraying within a plantation forest to all water bodies based on slope[8]?***

From a sediment discharge point of view, the level of risk from sediment discharge does not warrant additional setbacks based on slope. We understand there are rules in the Regional Plan governing aerial chemical application from point of view of protecting waterbodies.

14. What are the practical and operational implications associated with:

a. ***Establishing sediment detention when herbicide spraying is undertaken in critical source areas (as per Environmental Southland's tracked change relief for Rule 25)?***

As per question 8, the most significant source areas for sediment generation in forestry are earthworks, forestry roads and landings which is managed through erosion and sediment control plans (as required by the NES-PF).
By its nature, herbicide application makes no difference to the potential sediment delivery from earthworks. A requirement to establish sediment detention in critical source areas for herbicide spraying is unnecessary.

b. ***Graduated setbacks for herbicide spraying all water bodies based on slope (as per Environmental Southland's tracked change relief for Rule 25)?***

Answered in question 13 (b) above.

Supplementary question:

The question was raised, "what are the processes for documenting and checking compliance with the NES-PF rules for land prep?" It was confirmed that harvesting and earthwork plans, and associated erosion and sediment control plans are required under the NES-PF, must be available to the Council and can be monitored for compliance. These requirements do not apply to mechanical land prep due to the low-risk nature of that activity however there are regulations (Regulation 74) that cover these activities and the Council can monitor compliance.

[7] As per Environmental Southland's tracked change relief for Rule 25.
[8] As per Environmental Southland's tracked change relief for Rule 25.

Expert Conference – Planning (Forestry)

Topic: Proposed Southland Water and Land Plan – Southland Regional Council

Date of conference: 09-10 December 2021

Venue: Remote AVL

Facilitator: Commissioner Anne Leijnen

Recorder: Isabelle Harding

Attendees

1 Witnesses who participated and agreed to the content of this Joint Witness Statement (JWS) by signing it on 10 December 2021.

Name	Employed or engaged by	Signature
Ben Farrell	Southland Fish and Game Council	
Jerome Wyeth	Rayonier New Zealand	
Linda Kirk	Director General Conservation	
Matthew McCallum-Clark	Southland Regional Council	

2 Nga Rūnanga advised that their issues were now resolved and chose not to participate.

Environment Court Practice Note

3 All participants confirm that they have read the Environment Court Consolidated Practice Note 2014 and in particular Section 7 (Code of Conduct, Duty to the Court and Evidence of an expert witness) and Appendix 3 – Protocol for Expert Witness Conferences and agree to abide by it.

Experts' qualifications and experience

4 These are set out in each experts' Will Say statement.

Purpose of expert conference

5 The purpose of the expert witness conferencing is to enhance the efficiency of the court hearing process by providing for expert witnesses to confer and identify the issues on which they agree, with reasons. They are also to clearly identify the issues on which they do not agree and give reasons for their disagreement. This will enable the court to focus primarily on matters that remain in dispute, while understanding the basis for agreed matters.

6 And specifically, to address:

a) Topic B5 – Farming, as it relates to forestry and cultivation.

Key information sources relied on

7 The experts relied on the following key sources of information:

a) The Will Say statements of each planner and technical expert

b) The Council's preferred "track changes" relief, prepared in response to the tracked changes relief provided by the parties on 29 October 2021.

c) JWS signed by Forestry experts (29th November 2021)

Conference outcomes

8 The planners agreed that the cultivation definition should be amended, and another definition added, to specifically exclude low-risk elements of land preparation for replanting a plantation forest, as follows:

Definition - Cultivation
Preparing land for growing pasture or a crop by mechanical tillage, direct drilling, herbicide spraying, or herbicide spraying followed by over-sowing for pasture or forage crops (colloquially referred to as 'spray and pray'), but excludes: ~~excluding any~~
a. herbicide spraying undertaken solely for the control of pest plant species;
b. herbicide spraying for the establishment or maintenance of plantation forestry; and
c. stick raking or slash raking associated with a plantation forest~~, provided that the resulting windrows follow the contour of the land where the slope of the land is greater than 10 degrees.~~

Definition (new) - Stick racking or slash racking
Means the use of machinery to clear slash from harvested plantation forest to enable the replanting of trees. It does not include breaking up of the soil profile or the disturbance of the stumps of the harvested plantation forest trees.