

**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

WILL SAY STATEMENT OF HAMISH JOHN FITZGERALD

Date: 29 October 2021

Judicial Officer: Judge Borthwick

MAY IT PLEASE THE COURT

INTRODUCTION

- 1 My name is Hamish John Fitzgerald.
- 2 My current role at Rayonier Matariki Forests (**Rayonier**) is Regional Manager. I am based in the Rayonier office at Invercargill which manages forests in Southland and South Otago.
- 3 I hold the qualifications of Bachelor of Forestry Science and Bachelor of Science (Geography) from Canterbury University.
- 4 I have worked for 18 years in various positions in the forest industry in various locations in New Zealand. My evidence is based on my experience operating in Rayonier.
- 5 I have read the Environment Court's Code of Conduct and agree to comply with it. My qualifications as an expert are set out above. I confirm that the issues addressed in this statement of evidence are within my area of expertise.

SCOPE OF EVIDENCE

- 6 In my evidence I address the following matters:
 - (a) an overview of the plantation forestry life-cycle;
 - (b) the National Environmental Standards for Plantation Forestry (the **NES-PF**);
 - (c) windrowing activities; and
 - (d) spraying activities.

CONTEXT

- 7 Rayonier manages approximately 116,000 ha (net stocked area) of plantation forests in New Zealand for Matariki Forests and has had a significant presence in New Zealand since 1988. Rayonier have owned and/or managed forests in Southland and South Otago since 1991.

- 8 Rayonier manages 24,000 ha of plantation forest in Southland Region, spread across 26 separate blocks of land. This equates to approximately 25% of the forest estate in Southland.

OVERVIEW OF PLANTATION FORESTRY LIFE-CYCLE

- 1 The stages of a plantation forestry life-cycle are:
- (a) Land preparation and windrowing;
 - (b) Agrichemical application (including spraying);
 - (c) Planting;
 - (d) Releasing;
 - (e) Pruning;
 - (f) Thinning;
 - (g) Harvesting; and
 - (h) Construction of infrastructure.
- 2 Typical rotation lengths by forestry species in Southland are *P.radiata* (25-28 years), *P.radiata* x *P.attenuata* hybrids (28-30 years) and Douglas fir (38-50 years). Note that Douglas fir is not currently deployed by Rayonier in New Zealand.

NATIONAL ENVIRONMENTAL STANDARDS FOR PLANTATION FORESTRY

- 3 The National Environmental Standards for Plantation Forestry (the **NES-PF**) were gazetted on 1 May 2018 introducing a range of new regulations that plantation forestry owners, managers and contractors need to comply with.
- 4 A major foundation of the NES-PF is the mandatory obligation to produce forestry earthworks management plans and harvest plans. The Ministry of Primary Industries (**MPI**) has developed various guidance documents on the implementation of the NES-PF including the regulations concerning the management of earthworks and harvest areas. As well as the MPI guidance, national forestry bodies such as the New Zealand Forest Owners Association

have developed their own standards for environmental management during forestry operations.

- 5 Rayonier also has its own environmental standards to guide environmental management during its operations.
- 6 Rayonier has regard to all of the available guidance when planning forest operations and in particular earthworks, river crossings and harvesting, activities which are often considered of highest risk to the environment.
- 7 A key tool in the NES-PF is the Erosion Susceptibility Classification (**ESC**) zoning. All of the land in New Zealand has been zoned according to one of the following classifications: green (low), yellow (moderate), orange (high risk), red (very high risk) or other (e.g. urban areas or glaciated areas). Land is zoned under one of these classifications based on topography, the dominant erosion process and the rock type.
- 8 The NES-PF is more or less permissive for forestry activities depending on the ESC zoning of the land involved in the forestry activities. For instance forestry activity in a red zoned area may require consent whereas the same forestry activity in a green zoned area may not. Generally put, plantation forestry activities in green and yellow areas are less likely to generate noticeable environmental effects and are therefore subject to less regulation under the NES-PF.
- 9 Rayonier does not own any forests with potential plantable area that is within an orange (high risk) or red (very high risk) ESC zone in the Southland Regional Council jurisdiction. The vast majority of Rayonier's potential plantable area is zoned green (74.5%), with the rest being zoned yellow (25.4%).
- 10 Despite the low risk nature of its forests, Rayonier is still required under the NES-PF to draft and implement environmental management plans, such as harvest and earthworks management plans. Formal notice of forestry operations must be provided to the relevant councils. The requisite management plans must also be provided to councils on request.

- 11 Under the NES-PF, Rayonier's forestry operations may also be monitored by the Regional Council, even if the operations are a permitted activity under the NES-PF.
- 12 In addition, Rayonier conducts its own audits voluntarily, such as a formal audit of its contractors at least once per annum, in addition to a pre-mobilisation meeting and a post-harvest audit being undertaken at each logging site.

WINDROWING ACTIVITY

- 13 Windrowing is undertaken differently for afforestation (first rotation) versus replanting (second or subsequent rotations). I will only discuss windrowing in the context of replanting as Rayonier's Southland operations do not include afforestation.
- 14 Windrowing occurs soon after a site has been harvested. Windrowing is the redistribution of logging slash, generally into parallel rows around 12-15m apart. The operation is generally completed using an excavator with a slash rake attachment. Windrowing is completed to:
 - (a) clear enough slash for the site to be replanted;
 - (b) to facilitate strong survival levels during the establishment phase of the forestry cycle; and
 - (c) enhance the growth and quality of the replanted trees over the long term.
- 15 Good forestry practice dictates that soil disturbance is kept to a minimum and a fine duff layer of slash and organic material should be left on the soil surface to protect the soil from erosion and promote early tree growth. The stumps and roots of the harvested trees are also left in the ground. Windrows, where safe and practical to do so, should be across the contour of the land and if downhill other mitigation measures should be installed.
- 16 As noted above at paragraph 3, the national forestry bodies have developed their own industry best environmental practices (**BEPs**). These include BEPs specific to mechanical land preparation and encompassing windrowing.

- 17 The photos attached as **Appendix A** demonstrate:
- (a) what a harvested forestry site looks like before windrowing has occurred (**Figure 1**);
 - (b) what a harvested forestry site looks like after windrowing has occurred (**Figure 1** and **2**);
 - (c) what a forestry site looks like two years' after windrowing has occurred (**Figure 3**).

Windrowing activities by Rayonier in the Southland Region

- 18 Rayonier typically windrows around 60% of the area harvested, averaging 500-600 treated hectares per annum over the last 5-years in Southland. Windrowing activity comes at a cost of \$500+ per hectare so the operation is only completed at sites where Rayonier determines it is necessary to ensure the successful establishment of the next crop.
- 19 Rayonier works closely with its contractors to ensure that windrowing and other forestry activities are carried out to minimise environmental impact. Rayonier provides its contractors with a prescription and maps for each windrowing operation and then reviews this documentation with the contractor in a formal pre-mobilisation meeting prior to commencement of windrowing. Rayonier instructs its contractors to minimise sedimentation/disturbance. For example the Rayonier prescription stipulates "Rootrakes must not drag topsoil into windrows. Small material should remain unmoved".
- 20 Rayonier has a number of mitigation measures within its "toolbox" to minimise the risk of sedimentation from windrowing which are deployed in Southland:
- (a) windrowing parallel to the contour of the slope, unless it is unsafe to do so. On the gentler slopes contour windrowing parallel to the contour has been safe to achieve. However, on the steeper faces, windrowing parallel to the contour is too unsafe and windrows running up and down the hillside must be used instead;
 - (b) berms/bunds of slash material at the top and/or bottom of the face, forming a single line parallel to the contour that will intercept runoff and sediment;

- (c) cut-outs – drains installed using the excavator rake parallel to the contour to control stormwater run-off; and
- (d) slash and other debris used to cover any bare soil on the face of the slope, ensuring water does not channel directly down the hill.

Windrowing and the NES-PF

- 21 Under the NES-PF there are new considerations that provide further emphasis on sediment control. Relevant to this case are provisions regarding mechanical land preparation, which includes windrowing, at subpart 7 of the NES-PF. The relevant provisions (e.g. Regulation 74) must be complied with in the green and yellow ESC zones in order for windrowing activities to be permitted under the NES-PF.
- 22 My understanding is that if the thresholds set out in the above NES-PF regulations cannot be met then Rayonier is required to obtain a resource consent for windrowing activity from the Regional Council.

Windrowing and proposed Rule 25

- 23 In Southland Rayonier replants an average of 815 hectares per annum over the last 5 years. Some of the replanted area will include land with a slope of over 20 degrees.
- 24 Therefore if the proposed definition for cultivation and the proposed Rule 25 were to be adopted as operative, both Rayonier and the Southland Regional Council would require significant resources (financial and time) to ensure compliance to the proposed rules. Rayonier would likely have to secure a resource consent for windrowing for each of the forest blocks it is replanting.
- 25 My main concerns regarding Rule 25 and the definition of cultivation, in the context of windrowing, are:
 - (a) uncertainty – firstly, would Rayonier be granted consent? Secondly uncertainty about the nature of the conditions imposed on the granted consents, and what impact the conditions would have on Rayonier’s crop, associated costs, and workload pressures on staff due to compliance requirements;

- (b) additional cost to Rayonier arising from Rule 25 when the same activity is already regulated under the NES-PF; and
- (c) delay in securing consent which could impact on Rayonier's ability to complete windrowing in a timely way so that replanting can occur during the winter planting season.

SPRAYING ACTIVITY

Spraying in the Southland Region

- 26 There are two discrete spraying operations completed during a forestry rotation, regardless of the species planted, as follows:
- (a) Pre-plant Spraying – the objective is to prepare the sites for planting to provide a site free of vegetative competition leading to successful crop establishment; and
 - (b) Release Spraying – the objective is to keep the growth of weeds in check for several months while seedlings are becoming established. Also ensuring that weeds don't compromise either crop survival or growth while maintaining conditions to produce a uniform crop with strong root development.
- 27 Aerial spraying (as opposed to manual, ground-based spot releasing) is the primary application method used by Rayonier, nationwide and in Southland, as it has several advantages over spot releasing. The application of agrichemicals for the control of weeds is part of the land preparation cycle and is used for the control of invasive competitive weeds such as broom and gorse.
- 28 Modern GPS technology and droplet applicator booms make the targeted application of the chemical via helicopter boom spray very accurate and efficient.
- 29 Agrichemical application is not covered by NES-PF however good forestry practice dictates that all chemicals are applied in general accordance with NZS 8409:2004 Management of Agrichemicals and applicators must hold Growsafe® certification or similar.

- 30 In addition Rayonier has internal protocols and 3rd party certification (FSC and PEFC) which promotes the responsible use of herbicides.
- 31 Spraying occurs in the first 2 – 3 years of plantation growth and then is not needed over the balance of the plantation forest cycle, until the start of the next crop rotation.

Spraying and proposed Rule 25

- 32 Rayonier has pre-plant sprayed approximately 910 ha per annum and released approximately 630ha per annum, on average, during the 5-year period of 2017-2021. This equates to around 6% of the net stocked Rayonier Southland estate being aerially sprayed each year.
- 33 All of the forests located in the Southland Region have patches of potential plantable area on slopes greater than 20 degrees.
- 34 Therefore if Rule 25 were made operative in its current form, Rayonier would be required to obtain a significant number of individual resource consents each year for spraying to ensure successful crop establishment.
- 35 This would give rise to the same or similar concerns I have expressed at paragraph 25 above in relation to windrowing and Rule 25.

EPHEMERAL STREAMS

- 36 The status quo, as per the Decisions version of the pSWLP, is that ephemeral streams are not protected by the Cultivation Rule 25.
- 37 Some appellants, such as Forest and Bird, have sought that ephemeral streams should be included in the ambit of the Cultivation Rule, so that they are protected in much the same way as intermittent and perennial streams.
- 38 My view is that ephemeral streams should not be included in the ambit of the Cultivation Rule.
- 39 Including ephemeral streams would substantially increase the geographical area that is affected by Rule 25. This could include a significant amount of Rayonier's forest estate that is currently not affected by Rule 25 or the NES-PF.

- 40 This would result in a large cost to Rayonier's operations, as Rayonier would have to obtain a resource consent for undertaking activities like spraying and windrowing within 5 metres of any ephemeral stream.
- 41 Alternatively Rayonier would need to comply with the riparian setbacks in Rule 25. This would have a major impact on replanting activity within these setbacks because without windrowing or aerial spraying operations the viability of new seedlings will be comprised.
- 42 In addition, it would be difficult for Rayonier to accurately identify the location of ephemeral streams within its plantation forest estate because the definition of what constitutes an ephemeral stream is fairly open-ended and will be difficult to apply at a practical level within the forest and manage operationally.

APPENDIX A – Images of windrowing



Figure 1 - An annotated photo of a harvested site at the Rowallan Forest in Southland, before windrowing has occurred (left hand side) and after windrowing has occurred (right hand side)



Figure 2 – a windrowed site at the Castledowns Forest in Southland shortly after replanting (windrows are typically 12 – 15 m apart)



Figure 3 –The same area as shown in Figure 2, two years later