BEFORE THE INDEPENDENT HEARINGS PANELS APPOINTED TO HEAR AND MAKE RECOMMENDATIONS ON SUBMISSIONS AND FURTHER SUBMISSIONS ON PROPOSED PLAN CHANGE 1 TO THE NATURAL RESOURCES PLAN FOR THE WELLINGTON REGION

UNDER	the Resource Management Act 1991 (the Act)
AND	
IN THE MATTER	of Hearing of Submissions and Further Submissions on Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region under Schedule 1 of the Act

---

STATEMENT OF EVIDENCE OF KEVIN HENRY REARDON

ON BEHALF OF GREATER WELLINGTON REGIONAL COUNCIL

TECHNICAL (FORESTRY) EVIDENCE

HEARING STREAM 3 – VEGETATION CLEARANCE AND FORESTRY

15 APRIL 2025

TABLE OF CONTENTS

INTRODUCTION....3
QUALIFICATIONS AND EXPERIENCE....3
CODE OF CONDUCT....4
SCOPE OF EVIDENCE....4
BACKGROUND....5
RESPONSE....8

INTRODUCTION

1 My full name is Kevin Henry Reardon. I am a Director at Forme Consulting Group Ltd (Forme), a forest consultancy business based in Tawa, Wellington.

2 I have prepared this statement of evidence on behalf of Greater Wellington Regional Council (**the Council**) in respect of technical matters arising from the submissions and further submissions Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region (**PC1**) regarding vegetation clearance and forestry. I have read the section 42A report and submissions relating to these topics.

3 Specifically, this statement of evidence relates to the issues covering Forestry in the Section 42A Report.

QUALIFICATIONS AND EXPERIENCE

4 My academic and professional qualifications include:

- Diploma in Forestry Management (Dip.For.Mgmt), Waiariki Inst. of Technology (1998)
- Master of Business Administration (MBA), Auck University of Technology (2003)
- Registered forest consultant with the New Zealand Institute of Forestry (since 2010)
- Chairperson of the Southern North Island Branch of the New Zealand Institute of Forestry.
- Member of the Institute of Directors (since 2023)

5 I have been a registered forestry consultant since 2010 and hold a current Certificate of Registration.

6 I have over 30 years' experience in the forestry sector, including 20 years within the Wellington Region. As an owner and Director at Forme Consulting Group Limited, I provide independent forest consultancy services to the forestry sector, and I specialise in forestry within the Emissions Trading Scheme. Throughout my professional career, I have undertaken various consultancy projects related to most aspects of forestry and forest land management across New Zealand, spanning both the public and private sectors.

CODE OF CONDUCT

7 I have read the Code of Conduct for Expert Witnesses set out in the Environment Court's Practice Note 2023 (Part 9). I have complied with the Code of Conduct in preparing this evidence. My experience and qualifications are set out above. Except where I state I rely on the evidence of another person, I confirm that the issues addressed in this evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

SCOPE OF EVIDENCE

8 I have been requested to provide an opinion on the following questions:

Q. “Is there a risk that greater regulation of forestry on steeper slopes, which are usually higher up in catchments, will lead to unintended consequences. For example, forestry is forced lower down in the catchments and valleys?

Q. “Will the approach to highest erosion risk mapping in PC1 (accuracy of mapping, pixelation, identification of pockets of highest erosion risk land) be appropriate for managing forestry activities on-site?

Q. ''What is your view of the importance of non-regulatory methods, including education about best practice and sector involvement and permitted activity monitoring compared to more stringent regulation?

Q. “What is your view on the biggest sediment risks/contributions related to forestry activities at each stage of the forestry cycle and what are the best ways of managing them (i.e. afforestation, harvest, replanting). Does the management approach change based on the scale of the site? (small woodlots vs large commercial operators).

Q. Leading on from the above, what sorts of activities are appropriate to be managed by NES-CF controls (afforestation, replanting?) vs what activities you think the NES-CF doesn’t manage well enough that require a greater level of scrutiny/control.

Q “Commentary on any gaps you see in the NES-CF related to activities which generate the most sediment (have potential sediment issues) and how these activities could be filled or managed better”

Q. What is your view on the sorts of controls that are most effective at reducing sediment in a vegetation clearance/forestry context and the best approach for monitoring these controls – details would be good, reference to any relevant guidelines, best practice documentation etc

Q. Are suspended sediment limits (i.e. 100g/m3) relevant for the forestry context or better to focus on conspicuous change in visual clarity (for sediment) as per the current NES-CF?

Q. Are there alternative harvesting strategies that could be promoted in the Wellington Region in lieu of requiring avoidance of forestry in higher risk areas? What might these look like? Is there much innovation in the types of forestry/locations of forestry being observed on the ground?

Q. What is your view of the performance of the forestry sector on the ground and whether the controls in the NES-CF are sufficient to protect water quality or whether more control/restriction is required (and some advice about what this might look like).

BACKGROUND

8 In August 2023, Greater Wellington Regional Council (the Council) engaged Forme Consulting Group (Forme) to proactively engage with forest owners, harvest managers, and logging contractors in an advisory and advocacy role, working within the Te Awarua-o-Porirua Whaitua (TAoP).

9 Our work began by mapping the exotic forest resources within the TAoP Whaitua, identifying those forests by age class profile and imagery assessment due for harvesting, currently being harvested, or recently harvested. The participating land and forest owners granted us access to assess the planning and harvesting activities against forest industry best practice guidelines (Forest Owner Association Forest Practice Guides, 2020) and provide independent and non-regulatory advice.

10 Our role in this project was non-regulatory. Our objectives were to drive continuous environmental improvement in harvest-related activities in order to achieve better environmental outcomes within the Porirua Whaitua.

11 The TAoP Whaitua has 2,075ha of P.radiata exotic forest resource within its boundaries.

12 Based on the age class profiles and aerial imagery assessment, approximately 500 hectares of exotic forests have been harvested over the last 5-year period (2020-2024) and replanted. This harvesting occurred across 16 individual forest sites/owners. Larger forest owners (>100ha) undertook 32% (150ha) of the harvesting over this time period.

13 There are 864 hectares of P.radiata exotic forest resource between the ages of 25 years old and 40 years old in the TAoP Whaitua that will more than likely be harvested within the next 5 years (2025-2029) across approximately 80 individual forest sites/owners. 100% of the projected harvest area (864ha) is expected to be completed by small forest owners.

14 I have completed further exotic forest resource analysis within the Whanganui-a-Tara Whaitua (TWT) to determine the forest age class profile and identify the forests harvested over the last five years (2020-2024), as well as those forests likely to be harvested over the next five years (2025-2029).

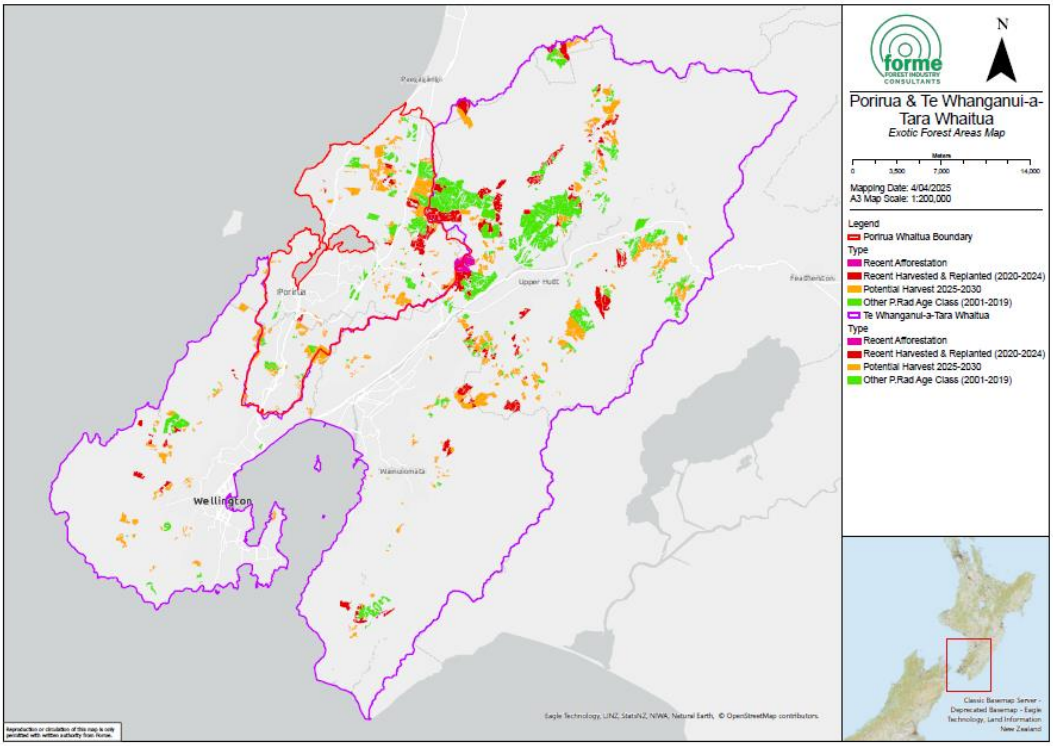
15 In total, there are 7,335 hectares of P. radiata exotic forest resource within the TWT Whaitua.

16 Based on the age class profiles and aerial imagery assessment, 1,706 hectares of exotic forests have been harvested over the last 5-year period (2020-2024) and have been replanted. This harvesting occurred across 54 individual forest sites/owners. Larger forest owners undertook 39% (665ha) of the harvesting over this period.

17 Of the 1,706 hectares, just over half, 963ha, have been harvested since 2022 and would be considered susceptible to increased erosion and sediment runoff based on the relatively young age of the replanted pines.

18 There are 2,221 hectares of exotic forest resources between the ages of 25 and 40 that will likely be harvested within the next 5 years (2025-2029) across 150 individual forest sites/owners in the TWT Whaitua. 17% of the projected harvest area (368ha) is expected to be completed within larger forest ownership. This reflects a higher number of small forest owners who will more than likely harvest over the next 5 years.

19 Two owners, totalling 118 hectares, have undertaken new forest planting (afforestation) within the TAoP and TWT Whaituas over the last five years.



The following responses highlight my observations of the harvesting and earthworks practices within the TAoP and TWT Whaitua, and GWRC forests during this time and the shortfalls I see in the current NES-CF, which could be addressed through PC1 to achieve better environmental outcomes.

RESPONSE

In response to the questions asked of me, I make the following statements;

Q. ***'Is there a risk that greater regulation of forestry on steeper slopes which are usually higher up in catchments will lead to unintended consequences. For example, forestry is forced lower down in the catchments and valleys?***

20 No, it is already preferable for forestry investors to pursue new forest planting (afforestation) on gentler, easier slopes (generally less than 25 degrees). This type of land typically has better tree growth rates due to favourable soils, easier and cheaper harvesting and infrastructure requirements, and consequently, higher economic returns. Further regulation targeting steeper slopes is unlikely to shift forestry any more towards easier and better land-use classes.

21 Much of the Wellington region has convex slopes, including easier terrain on the ridgetops and more deeply incised gullies where the waterways are. These rounded ridgetops are high and dry and have the least erosion and sediment loss risk. Therefore, not all steep slopes are at the top of the hill.

22 The NES-CF already provides regulations regarding forest harvesting and earthworks on slopes exceeding 25 and 35 degrees.

Q. '*Will the approach to highest erosion risk mapping in PC1 (accuracy of mapping, pixelation, identification of pockets of highest erosion risk land) be appropriate for managing forestry activities on-site?*

23 No, it is not appropriate in my opinion. The poor accuracy of the erosion risk mapping, including pixelation, will lead to areas of moderate risk of erosion being wrongly classified as unsuitable for forest activity.

24 Sites of high erosion susceptibility can already be identified through slope maps based on Lidar data, site inspection and historical imagery.

25 PC1 could perhaps focus on the type of harvest system employed, being suitable for the appropriate terrain. Harvest systems that could be promoted in erosion-prone or sensitive areas include cable hauler harvesting or winch-assist harvesting. These systems require minimal earthworks and cause minimal soil disturbance when compared to ground-based logging.

Q. "*What is your view of the importance of non-regulatory methods, including education about best practice and sector involvement and permitted activity monitoring compared to more stringent regulation?'*

26 Before we started our advice and advocacy role with the Council, practically no non-regulatory methods were employed within the two Whaituas to improve the environmental performance of forestry activities.

27 Further upskilling of harvest contractors, managers, and supervisors in identifying, planning for, and controlling environmental risk could be promoted further through PC1 and more generally through education, training, and promotion of educational resources.

28 The NZ Forest Owners Association (NZFOA) provides excellent resources for undertaking forest operations while meeting environmental standards and regulations. This information is readily available through the NZFOA website but is not widely promoted either within industry or outside of industry from other key stakeholders, i.e. regulatory/unitary bodies. I agree with PC1 referencing these guidelines.

29 The New Zealand Qualifications Authority (NZQA) provides relevant qualifications for most disciplines within forest operations. Entry-level forest environmental training could be encouraged more widely through the industry, including Unit 17769: Demonstrate knowledge of (DKO) general health, safety and environmental requirements; Unit 17772: DKO environmental requirements in forestry operations; Unit 20474: DKO forestry earthworks job prescriptions; Unit 20476: Construct forestry roads, tracks and landings. Regional Council staff and compliance officers might also benefit from this training.

30 I believe that increased environmental training through the forest sector workforce would help improve the environmental outcomes of forest operations. Council officers would also benefit from upskilling their knowledge base in general forestry activities.

31 Large corporate forest owners often have their own environmental management systems, which include external environmental audits and international certification systems e.g. Forest Stewardship Council – FSC. Therefore, these larger organisations usually already provide adequate knowledge and training to their staff and contract workforce. The larger forest owners (> 100ha) represent 37% (3,489ha) of the total exotic forest resource within the two Whaituas.

32 Small forest/woodlot owners often lack the scale to implement and maintain their own environmental management systems. They would, therefore, benefit from participating in

an environmental working group or committee where they can share information with other forest industry bodies and larger corporate-managed forest owners. Smaller forest owners (<100ha) represent 63% (5,921ha) of the total exotic forest resource within the two Whaituas.

33 Within recent years, the forest industry has established multiple environmental working groups that have improved knowledge sharing, collaboration on projects and familiarisation with environmental standards and regulatory requirements. These working groups provide the opportunity for participants to display their good work, or discuss difficulties before they become a problem, and a non-regulatory platform to build a good working relationship with the Council. This is lacking in the Greater Wellington region. Forme are currently in the process of setting up a Greater Wellington Region Environmental Working Group on behalf of the Council.

34 Regulatory Monitoring of forest operations by the Council is a direct form of sector engagement by the regulator and is a proven way to provide education on environmental standards. When both parties take part in the monitoring inspection, both parties will identify issues, discuss them together, agree on controls, and learn from the exercise.

35 I believe that increased regulatory monitoring of forest activity at the planning, operational and post-operational stages is required and that it would achieve more positive environmental outcomes. In my opinion, the Council should monitor all forest operations within the two Whaituas and inspect all harvesting and earthworks operations regularly.

36 Harvest managers or forest owners who can demonstrate working environmental management systems, complete self-monitoring, or undertake external environmental audits may require fewer compliance visits. Harvest managers who do not have formal environmental management training or systems or have a poor track record might warrant more frequent compliance monitoring visits.

37 The ideal scenario for improving the environmental performance of forest stakeholders would involve a combination of a) promoting further environmental training through the sector, b) promoting already available industry standard resources, c) increasing compliance monitoring of forestry activities and d) enforcement where warranted.

Q. ***'What is your view on the biggest sediment risks/contributions related to forestry activities at each stage of the forestry cycle and what are the best ways of managing them (i.e. afforestation, harvest, replanting). Does the management approach change based on the scale of the site? (small woodlots vs large commercial operators).***

38 Sediment loss risk is very low during the afforestation (new forest planting) and growing stages of the forest cycle due to minimal earthworks usually required and the lack of heavy machinery required for this activity.

39 Sediment loss is most extreme in the four years before and after harvest of the tree crop, especially during wet operating conditions, usually associated with the winter months. The main causes of this are the soil disturbance associated with earthworks and the sudden loss of vegetation cover once the trees have been harvested.

40 Ground-based logging methods where heavy machinery is utilised to drag logs across the cutover to a processing point provide the highest risk for sediment loss. Multiple mid-slope extraction tracks may be required, and where slopes exceed 25-degrees, tracking and earthworks are generally required. Ground-based harvest extraction should be limited to suitable terrain and/or monitored more regularly to ensure that harvesting operations do not exceed permitted activity regulations in the NES-CF.

41 Machine movement during log extraction also creates higher levels of soil displacement, rutting, and potential sediment discharge. More detailed harvest planning may be necessary to reduce lead distances, resulting in fewer machine movements across the land. Selecting the appropriate harvest methodology and gear for the terrain is also critical to minimising soil disturbance and sediment discharge. This level of harvest planning detail, i.e. slope maps, lidar data, is not required under the current NES-CF.

42 Correct road construction techniques, as described in the NZ Forest Owners Association (FOA) Road Engineering Manual and Forest Practice Guides, will reduce the incidence of soil disturbance. To minimise road construction, more detailed harvest planning for steeper sites should also be required. These resources and technical guides are not referenced in the NES-CF and should be promoted more through PC1.

43 Exposed soil during and after road and landing construction contributes to sediment loss. Grass seeding, hydroseeding, mulch, or other stabilisation measures are not widely initiated within woodlot harvesting, more than likely due to cost. Any stabilisation or revegetation measures referenced in management plans at the planning/notification

phase need to be backed up with compliance monitoring to check that the measures have been implemented and are working.

44 The Erosion risk is high after harvesting due to the exposure of bare soil. Usually, there is also a lack of vegetation cover or root systems to hold the soil. Replanting the cutover area ASAP, within 18 months of harvest, is recommended because the young trees take approximately 5 years to achieve both soil stability from root systems and canopy cover.

45 The root systems of the felled radiata begin to decay, and the capacity to hold the soil diminishes over an 18–48-month period after harvest. The loss of root-holding capacity contributes to erosion of slopes in high-risk areas. PC1 could promote the revegetation of the site by over sowing with grass or forest species ASAP.

46 The harvest manager should include all expenditures to minimise erosion and sediment discharge in pre-harvest planning and budgets. Contracts between parties should define who will undertake the remedial work and pay for the costs before the operations are undertaken.

47 I have observed a noticeable difference in operating standards between small forest owners and managers, and larger corporate forest owners and managers, and the contractors they employ.

48 Small forest owners and managers often fail to factor in the cost of remedial works or additional infrastructure at the planning phase. They are therefore reluctant to incur unplanned costs post-harvest. Education for small forest owners and harvest managers of woodlots would emphasise a) the requirement for post-harvest remedial work (this is not necessarily apparent to the landowner), and b) the costs of the works.

49 Large forest owners often, but not always, have detailed harvest planning, operational standards, regular and competent supervision, and sufficient budget to undertake remedial works.

Q. ***Leading on from the above, what sorts of activities are appropriate to be managed by NES-CF controls (afforestation, replanting?) vs what activities you think the NES-CF doesn't manage well enough that require a greater level of scrutiny/control.***

50 In my opinion, the NES-CF does not require sufficient setbacks for afforestation and replanting of conifer species on steep erosion-prone terrain above waterways. e.g. Pinus radiata will grow to 30-40m in height. If planted at the current setback of 10m on the

slope above a waterway, it will still likely fall across the waterway during the harvest period, and machines will still need to access areas where the risk of sediment discharge is a likely occurrence. Increased planting setbacks through PC1 could ultimately lead to better environmental outcomes for forest activities around waterways in future harvest rotations.

51 The NES-CF is appropriate mainly for Forest Earthworks and Quarrying. A higher level of review of earthworks plans and monitoring of earthworks during operations is, however, required. The permitted activity regulations have a grey area, which I have not seen enforced by Councils regarding the threshold for where the volume of forest earthworks becomes a restricted discretionary activity.

52 Earthworks required for harvest extraction and access tracks are often not constructed or monitored at the same level as earthworks necessary for road and landing construction. e.g. the earthworks contractor must utilise earthworks construction techniques close to those described in the NZFOA Manual and Practice Guides, but earthworks for a harvest extraction or access track are often not constructed at the same standard and require minimal remedial works when compared.

53 The NES-CF permitted activity regulations for harvesting have some grey areas, which are often exploited by ground-based harvest operations pushing into terrain traditionally designated for extraction by cable haulers. This grey area includes extracting stems across waterways (theoretically allowed for cable extraction but not for ground-based extraction) and harvest machinery access within the riparian zone.

Q. ***Commentary on any gaps you see in the NES-CF related to activities which generate the most sediment (have potential sediment issues) and how these activities could be filled or managed better.***

54 Ground-based harvest extraction across waterways, including machine access within the riparian zone, is a major contributor to sediment discharge. This poor practice appears to have increased due to the NES-CF permitted activity regulations not clearly stating that trees must be felled and extracted away from waterways (especially ephemeral water courses). The NES-CF regulations are vague. Ground-based harvest operations prefer to fall, drag, or shovel stems downhill to maintain production and profitability. Eventually, they run out of room to move and end up making a mess of the valley floor and nearby water courses.

55 Bulk earthworks will generate bulk sediment discharge if not managed correctly. Regulation 24 (3) of the NES-CF, which requires earthworks exceeding 5000m^3 in a three-month period to be a restricted activity, is not widely adhered to. Many participants are not aware when they have exceeded this threshold or that resource consent is required when doing so. This is also not being picked up during compliance monitoring.

56 The NES-CF requirement that planning maps include contour lines at intervals less than or equal to 20 meters is too broad. A higher level of spatial information, including LiDar, is readily available and should be used where available for harvest and earthworks planning. Ideally, 5-meter or 10-meter contours at a maximum should be used for more detailed harvest planning.

57 Most harvest crews observed in the two Waituas were selected on availability and price, not for their environmental performance or track record.

Q. *What is your view on the sorts of controls that are most effective at reducing sediment in a vegetation clearance/forestry context and the best approach for monitoring these controls – details would be good, reference to any relevant guidelines, best practice documentation etc.*

58 The resources provided by the NZ Forest Owners Association suitably describes the controls most effective for reducing sediment from forestry activities as outlined below:

- NZ Forest Owners Association Road Engineering Manual 2020

https://www.nzfoa.org.nz/resources/file-libraries-resources/transport-and-roading/843-nz-forest-road-engineering-manual-2020/file

- NZ Forest Owners Association Road Engineering Manual, Operators Guide 2020

https://www.nzfoa.org.nz/resources/file-libraries-resources/transport-and-roading/844-nz-forest-road-engineering-manual-operators-guide-2020/file

- NZ Forest Owners Association Forest Practice Guides (updated 2020)

https://docs.nzfoa.org.nz/forest-practice-guides/

59 Monitoring by Council should take place at regular intervals, particularly post weather event, and at the end of the construction season, prior to winter. The focus of compliance monitoring should be on higher-risk activities e.g. earthworks, or higher-risk sites.

60 Forest company compliance standards should include regular reporting and recording of all levels of environmental incidents. These should have definitions as to what is notifiable to the Council. The Council should require notification of all serious breaches. It is noted that very few environmental breaches are reported, even though they occur almost every day. Lower-level environmental incidents should be recorded and corrective action and timeframe set for remediation so that the site is not left discharging sediment over a long period.

Q. ***Are suspended sediment limits (i.e. 100g/m^3) relevant for the forestry context or better to focus on conspicuous change in visual clarity (for sediment) as per the current NES-CF?***

61 Sediment discharge needs to be visually assessed during live harvest and earthworks operations. Sediment discharge is unavoidable and obvious during periods of wet weather.

62 Suspended sediment limits may not be relevant for forest operations. If sampling is undertaken during a low flow situation, it may not be relevant. Any sampling undertaken during periods of high flow will fail the sediment limits.

63 It would be better to focus on the conspicuous change in visual clarity. Regular monitoring of harvest and earthworks operations will quickly identify any change in visual clarity.

64 The issue for compliance monitoring is that visual change in water clarity due to sediment discharge from harvesting and earthworks operations is expected and is not an unusual event. Nearly all harvest and earthwork operations across the country have a discharge of sediment that can be visually observed during periods of wet weather.

65 However, visual monitoring of the water clarity is as good a tool as any to find the source of the sediment discharge and put in place a corrective action to minimise the amount and duration of the sediment discharge event.

Q. ***Are there alternative harvesting strategies that could be promoted in the Wellington Region in lieu of requiring avoidance of forestry in higher risk areas? What might these look like? Is there much innovation in the types of forestry/locations of forestry being observed on the ground?***

66 Yes, there are multiple alternative harvest strategies that the forest industry and Council could promote to avoid or minimise excess soil disturbance in high erosion risk areas.

67 The use of tethered felling and/or extraction harvest systems. These are prominent in other regions (Northland, Central North Island, Tasman) and already in use in the wider Wellington region. This harvest method is fast becoming the accepted standard for steep terrain in the low to medium ESC zone. Tethered extraction does however have the negative effect of preferring to shovel logs downhill in the direction of waterways and additional machine ruts vertically on the hillside which can channel water runoff.

68 Use of a forwarder to 2-stage cut logs out of the harvest area and reduce reliance of multiple machine passage of either skidder or shovel machine, plus allow access to hauler 2-stage. This may also reduce road construction and therefore the volume of earthworks required at harvest, plus allow access to areas that are blind to harvest.

69 Harvest-line cable extraction. This would allow a small cable hauler to access difficult areas where a conventional tower or swing-yarder could not access without additional earthworks.

70 There are currently multiple tethered harvest operations in the region, but a lack of cable capacity and 2-stage operations.

71 The smaller ground-based harvest operations which do not support tethered capacity generally lack detailed planning and supervision and would benefit from review of plans submitted with their NES-CF notifications and repeat monitoring by Council.

Q. ***What is your view of the performance of the forestry sector on the ground and whether the controls in the NES-CF are sufficient to protect water quality or whether more control/restriction is required (and some advice about what this might look like).***

72 Many environmental issues were observed through harvesting operations within the TAoP Whaitua, mainly through small woodlot harvesting operations. These included excessive mid-slope tracking to facilitate harvesting, no ongoing maintenance of tracks or roads, and poor standards of post-harvest remedial work. These practices contributed to the increased risk of sedimentation into waterways.

73 As a general observation, it is apparent that ground-based logging operations are encroaching onto terrain and slopes better suited to less invasive harvest systems, including winch assist and cable hauler logging. The incorrect choice of harvest system has been one of the key contributors to the poor environmental performance I have observed within the region and is typically driven by the lowest cost solution to harvesting of the block, generally at the expense of better environmental outcomes.

74 Smaller woodlot harvesting had higher incidences of sub-standard practices stemming from poor planning. This included machine movement and log extraction within waterways, poor slash management, lack of water control features and a lack of soil stabilisation methods, all contributing to increased risk of sediment discharge from the harvest operation. Whilst the NES-CF requires a description of mitigating measures that will be employed through submitted management plans, there is an apparent lack understanding of the Standards that should be adhered to in the application of these measures.

75 “Guidelines” and “Standards” were often referenced in harvest contractors' planning documents (operation plans, job prescriptions, etc) in harvesting crews; however, very few had copies of the NZFOA Forest Road Engineering Manual and NZFOA Forest Practice Guides in their crew vehicles or huts. The Council could more widely promote these materials as part of an educational campaign or advocacy.

76 Some of the harvest sites I visited within the TAoP Whaitua had not received a site monitoring visit from the Council.

77 Another common observation was that when harvest operations commenced and operational changes were made to the harvest or earthwork plans submitted under the NES-CF, no material amendments were submitted to Council as required under the NES-CF. This could reflect operators not being aware when they are triggering the requirements to amend their plans. This was common for both small and larger forest owner harvest operations.

78 Increased Council inspections should identify whether material amendments to the plans should have been made.

79 A higher degree of harvest and earthworks planning information should be promoted for smaller woodlot harvesting in sensitive areas.

80 Over the course of the next 5 years, there will be approximately 3,085ha of P.radiata exotic forest being harvested across both the Porirua and Whanganui-o-Tara Whaituas. This represents a 40% increase in harvested forest area compared to the previous 5-year period. Most of this harvesting will occur across multiple smaller woodlot harvesting sites.

81 Where the risk of poor environmental practice is higher, Council should be working with the sector and investing in education and promoting best practice. Increasing capability in compliance monitoring and enforcement will also help to minimise these risks.

DATE: 15 APRIL 2025

KEVIN HENRY REARDON