

**JOINT SUBMISSION ON DISCUSSION DOCUMENT “NATIONAL DIRECTION FOR
PLANTATION AND EXOTIC CARBON AFFORESTATION”**

on behalf of

THE ENVIRONMENTAL DEFENCE SOCIETY and PURE ADVANTAGE

Submitter Details

Full Name Environmental Defence Society Incorporated
Address PO Box 91736, Victoria Street West, Auckland 1142
Phone 09 302 2972
Contact Shay Schlaepfer
Email shay@eds.org.nz
Date 11 November 2022

Full Name Pure Advantage
Address PO Box 99421, Newmarket, Auckland 1149
Phone 09 600 6408
Contact Simon Millar
Email simon@pureadvantage.org
Date 11 November 2022

1 Introduction

- 1.1 This is a joint submission on behalf of the Environmental Defence Society (EDS) and Pure Advantage on the Ministry for Primary Industries’ (MPI) “National Direction for plantation and exotic carbon afforestation” – MPI Discussion Document 2022/10 (Discussion Document).
- 1.2 Pure Advantage is a registered charity led by business leaders and supported by a collective of researchers and writers who investigate, communicate and promote opportunities for Aotearoa New Zealand to fulfil its potential for green growth.
- 1.3 EDS is a not-for-profit, non-government national environmental organisation. It was established in 1971 with the objective of bringing together the disciplines of law, science, and planning to promote better environmental outcomes in resource management.

- 1.4 EDS and Pure Advantage (together, 'we') welcome the opportunity to present this joint submission in relation to the Discussion Document.
- 1.5 We have had an intimate engagement in related land use challenges, ranging from EDS's involvement in the evolution of freshwater and indigenous biodiversity national policy and regulations, through to Pure Advantage's co-hosting of O Tātou Ngahere, a recent conference on indigenous forestry and biodiversity.
- 1.6 EDS's involvement in reviewing the efficacy of Aotearoa New Zealand's regulatory settings for forestry to avoid adverse (and enable positive) environmental effects is extensive. Most relevantly, in 2019 EDS published [a comprehensive review](#) of the National Environmental Standards for Plantation Forestry (NESPF) (EDS NESPF Review)¹ to determine whether its settings adequately address the environmental risks associated with plantation forestry activities and ensure the right tree is planted in the right place for the right purpose.
- 1.7 That review identified a series of shortcomings in the NESPF which have not been addressed by Te Uru Rākau's Year One Review of the NESPF, nor (consequently) in this Discussion Document. The findings of the EDS NESPF Review underpin many of the matters raised in this submission.
- 1.8 We accept that the plantation forestry sector is an important part of our economy and will remain so. We also accept the role forestry plays in offsetting carbon emissions in the near term under the Emission Trading Scheme (ETS).
- 1.9 But we have serious reservations about the role of so-called 'permanent' exotic forests as a key feature of our climate mitigation and resilience strategy. Exotic carbon forests are a relatively recent construct driven by short-term climate change policy settings and the economics of the ETS. This means that in practice, the exotic carbon forests being planted are predominantly *Pinus radiata* monocrops, which are relatively inexpensive and fast-growing, promising a quicker and higher rate of return on investment than alternative species can realise.
- 1.10 We do not accept the rationale for refusing to ban these forests from registering in the ETS's permanent forest category and consider that Ministers have made an egregious error in recently deciding - contrary to their original position - to allow such forests to do so from January 2023. In extending the ETS's permanent forest category to exotic carbon forests, Ministers are exacerbating serious policy failings in this area.
- 1.11 The way that incentives are driving 'permanent' *Pinus radiata* forests to take advantage of an increasing carbon price (while it lasts) is an appalling breakdown in environmental policy. Tens of thousands of hectares of land will be planted in pines, well in excess of the Climate

¹ Wright, M., Gepp, S., and Hall, D., A Review of the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 - Are the settings right to incentivise "the right tree in the right place", and is a high trust regulatory model the right fit for a high risk industry? Environmental Defence Society Inc and Royal New Zealand Forest & Bird Protection Society of New Zealand, April 2019.

Change Commission’s net-zero modelling recommendations. The resulting oversupply of ETS units and suppressing effect on carbon prices will stymy the rate of gross emissions reductions in Aotearoa New Zealand, with attendant reputational and market risks.

- 1.12 Meanwhile, the opportunity to restore much of our lost indigenous forest cover with its multiple benefits will be lost. This is all down to Government agencies and Ministers not acting resolutely and quickly enough, and being captured by vested interests. It is notable that the current review of relevant provisions in the ETS is being led by an advisory group consisting largely of those same interests.
- 1.13 The perverse ecological outcomes that the ETS settings are driving, and will further cement, provide the context for this submission. Financial incentives must be urgently redirected to realise a sustainable, biodiverse, climate-resilient forest future for Aotearoa New Zealand. This necessitates amendments to the ETS settings to:
- i. Recognise the carbon sequestration rates of different native species relative to age and location;
 - ii. Extend the carbon sequestration look-up tables beyond 50 years to recognise the true total carbon stocks of native forests, which accumulate for hundreds of years; and
 - iii. Establish a premium class of NZUs generated by indigenous forests.²
- 1.14 In addition, and recognising that the ETS is limited in scope to incentivising carbon sequestration, a complementary biodiversity credit scheme is needed. Proposals³ and pilots⁴ for this already exist.
- 1.15 At the very least, we are seeking tighter controls over ‘permanent’ exotic forests to minimise adverse environmental effects associated with these shorter-lived forests.
- 1.16 We also have serious concerns about the way *plantation* forestry’s environmental effects are managed currently and consider that the NESPF in its current form is *ultra vires* the Resource Management Act 1991 (RMA) for reasons further outlined in this submission.
- 1.17 In brief, the NESPF is:
- (a) Failing to effectively address adverse environmental outcomes associated with plantation forestry activities, let alone “*maintain[ing] or improv[ing] the environmental outcomes associated with plantation forestry activities*” in accordance with an NESPF objective;
 - (b) Unjustifiably and unlawfully permissive for such high risk activities, particularly with regard to afforestation on highly erodible land and clear fell harvesting;

² As proposed in The Aotearoa Circle’s Native Forests: Resetting the balance Report, <https://www.theaotearoacircle.nz/reports-resources/biodiversity>.

³ Including The Aotearoa Circle’s Native Forests: Resetting the balance Report, <https://www.theaotearoacircle.nz/reports-resources/biodiversity>, at p 24.

⁴ See for example <https://www.agriculture.gov.au/agriculture-land/farm-food-drought/natural-resources/landcare/sustaining-future-australian-farming/carbon-biodiversity-pilot>.

- (c) Failing to adequately recognise and encourage the wider and longer-term intergenerational climate resilience, biodiversity, social, cultural, and economic opportunities associated with indigenous forests; and
- (d) Insufficiently aligned with national objectives and direction in relation to freshwater, coastal and indigenous biodiversity protection and long-term carbon sequestration.

1.18 These shortcomings necessarily inform our response to the proposal to extend the NESPF to exotic carbon forestry.

1.19 We will set out the regulatory tightening required to properly manage the adverse environmental effects associated with plantation forestry activities, and bring plantation forestry operations into line with other land use obligations. This is essential if regulatory controls under the NESPF are to be extended to include 'permanent' exotic forests.

2 Structure of submission

2.1 Our submission is structured as follows:

- (a) National context, where we outline the:
 - i. Need for better regulatory controls for all forest types in light of increasing afforestation rates;
 - ii. Need to ensure broader policy alignment; and
 - iii. Relevant legal principles;
- (b) Scope of consultation, which must be expanded to address the adequacy of the NESPF's settings *vis-à-vis* *plantation* forestry in order to properly consider the appropriateness of their application to 'permanent' exotic forests;
- (c) Problems with the NESPF's settings, where we set out how they are:
 - i. Unlawfully permissive;
 - ii. Insensitive to the diversity and suitability of tree species; and
 - iii. High trust with limited regulatory oversight;
- (d) Part A, where we outline why we support:
 - i. Bringing 'permanent' exotic forests into the NESPF, subject to addressing its many shortcomings for plantation forests;
 - ii. Mandating certified forest management plans for all forest types, consistent with the requirements for freshwater farm management plans under the RMA;
- (e) Part B, where we support national direction to manage social, cultural and economic effects subject to the avoidance of adverse biophysical effects;
- (f) Part C, where we support the need for wildfire risk management planning as an element of a broader forest management plan; and

- (g) Part D, where we address:
- i. Year One Review issues covered by the Discussion Document, namely the need for a more precautionary approach to wilding tree risk assessment thresholds and the ability for Councils to interrogate scores, and correcting the scale of risk assessment that underpins the Erosion Susceptibility Classification tool (beyond *ad hoc* remapping);
 - ii. Year One Review issues not covered by the Discussion Document (or indeed the Year One Review), including how it is that clear fell harvesting could be permitted under the NESPF in light of its significant adverse environmental effects, and the inadequacy of protections for indigenous biodiversity; and
 - iii. Other issues with the NESPF in relation to the protection of significant natural areas, landscape and natural character; inconsistent and ecologically questionable setbacks; and vague and unenforceable sediment controls.

3 National context

Increasing rates of afforestation mean we need to get the settings right, for all forest types

3.1 The Discussion Document is a response to what it describes as “the recent surge of interest in carbon forestry”, which is not currently subject to national direction. MPI details a number of reasons why the NESPF’s shortcomings need to be promptly addressed, noting “[t]he issue has become more urgent because the scale and type of interest in exotic afforestation has changed rapidly since the NZU price rose significantly in 2021.”⁵

3.2 These reasons include that:

- (a) Of Aotearoa New Zealand’s 1.74 million hectares (approx.) of plantation forests, 90% comprise *Pinus radiata*;
- (b) Aotearoa New Zealand can expect to see continued growth in the establishment of exotic forestry, largely attributable to increasing NZU prices, but also an emerging bioeconomy:
 - i. Total afforestation in 2022 is intended to be 68,000 hectares, of which only 5,000 hectares is indigenous species;⁶
 - ii. Close to 1 million hectares could be planted between 2022 – 2050, of which around 70% would be exotic plantation forestry, 20% permanent exotic forest, and 10% indigenous forest;
 - iii. Additionally, people with exotic and indigenous forest that meet the requirements of the permanent post-1989 forest category will be able to register in the NZ ETS from 1 January 2023. Taking this into account, “[m]odelled scenarios suggest that *exotic afforestation could total around*

⁵ Discussion Document, at 14.

⁶ Discussion Document, at 8, citing the Afforestation and Deforestation Intentions Survey, 2021.

2.8 million hectares over 2022-2050, with the majority managed as exotic carbon forests.”⁷

- (c) The “Government is taking action to help the forestry and wood processing sector increase its potential – to offset emissions, replace high-emissions products with biomaterials and biofuels, enhance the natural environment by supporting biodiversity, improve water quality and stabilise erosion-prone land, and contribute to social and cultural wellbeing.”⁸
- (d) “[W]e are ... starting to see shorter rotation exotic plantation forests to provide feedstock for the growing bioeconomy.”⁹

3.3 Māori interests in forestry are growing, with the percentage of plantation forestry on Māori land expected to increase from around 30% to 40% as Treaty settlements are concluded.

3.4 In short, Aotearoa New Zealand needs to plan for a significant increase in exotic afforestation rates. Ensuring this growth is carefully managed, for *both* plantation and permanent forests, is urgent and critical.

Ensuring broader policy alignment is critical

3.5 Forests affect soil health and stability, freshwater ecology and wellbeing, water yields and quality, flood and fire management, climate resilience, carbon sequestration, air quality and biodiversity. They also provide (or detract from) visual amenity, recreational and cultural opportunities, spiritual connection, ETS revenue streams, timber, biofuels, and associated livelihoods.

3.6 As a result, the location, scale, types, and management of forestry activities directly impact whether Aotearoa New Zealand:

- (a) Meets national emissions reductions targets, both in the short-term and in perpetuity, and how it does so (the Climate Change Response Act and Emissions Reductions Plan (ERP) relate);
- (b) Reverses biodiversity decline and leaves a legacy rich with indigenous flora and fauna (Te Mana O Te Taiao and the National Policy Statement for Indigenous Biodiversity (NPS IB) relate);
- (c) Protects highly productive and erodible soils and minimises the risk of landslides in the face of increasingly frequent and severe storm events (National Policy Statement

⁷ Discussion Document, at 8, based on the 2021 Afforestation Economic Modelling report completed by the University of Canterbury’s School of Forestry.

⁸ Discussion Document, at 12.

⁹ Discussion Document, at 13.

for Highly Productive Land (NPS HPL) and New Zealand’s Climate Change Risk Assessment relate); and

- (d) Avoids significant adverse effects on receiving freshwater and coastal environments (National Policy Statement Freshwater Management (NPS FM), National Environmental Standards for Freshwater (NES F), and New Zealand Coastal Policy Statement (NZCPS) relate).

3.7 Achieving such broad policy and regulatory alignment is challenging in the absence of an overarching national land use strategy.

3.8 A degree of forestry-specific guidance is set out in the Government’s first ERP, which establishes a ‘vision for forestry’ that acknowledges the vital role forests will play as Aotearoa New Zealand transitions to a low-emissions economy:¹⁰

“By 2050, Aotearoa New Zealand has a sustainable and **diverse** forest estate that provides a renewable resource to support our transition to a low-emissions economy. Forestry will contribute to global efforts to address climate change and emissions reductions **beyond 2050**, while building sustainable communities, **resilient landscapes, and a legacy for future generations to thrive.**”

3.9 In support of this vision, the ERP variously articulates support for the right type, mix, scale and location of afforestation to achieve afforestation rates consistent with the bioeconomy aspirations set out in the draft Forestry and Wood Processing Industry Transformation Plan, whilst also seeking to balance the need for carbon removals in tandem with driving gross emissions reductions. It recognises the significance of, and expresses a desire to encourage more, permanent native forests as long-term carbon sinks;¹¹ the need to maintain and increase native biodiversity;¹² and that there is an opportunity to grow and manage the forestry sector in ways that secure positive outcomes for climate change, biodiversity and water quality alongside economic aspirations.

3.10 Translating these interrelated aspirations and the ERP’s vision for forestry into practical outcomes appears limited to the extent that these goals are either:

- (a) Influenced by the ETS settings (i.e., as a function of carbon pricing); or
- (b) Regulated directly or indirectly by the NESPF.

3.11 For reasons we explore later in this submission, the NESPF as currently drafted does not function as an effective cross-cutting regulatory tool in this regard. Its ability to do so is further limited by the absence of a biodiversity credit scheme capable of counteracting the ETS’s economic bias towards *Pinus radiata* monocrops.

¹⁰ Aotearoa New Zealand’s First Emissions Reduction Plan, Chapter 14.

¹¹ ERP, at 272 – 273, 276.

¹² ERP, at 274.

Legal context

3.12 In considering the Discussion Document’s proposals, we have had particular regard to the following legal principles and provisions:

(a) Promoting the sustainable management of natural resources, which means:¹³

“managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

- (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
- (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.”

(b) Managing the use, development, and protection of natural resources in ways that recognise and provide for:¹⁴

- (a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate use;
- (b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development; and
- (c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;

and with particular regard to:¹⁵

- (a) Kaitiakitanga;
- (b) The ethic of stewardship;
- (c) The maintenance and enhancement of amenity values;
- (d) Intrinsic values of ecosystems;
- (e) Maintenance and enhancement of the quality of the environment; and
- (f) The effects of climate change.

(c) Section 43A(3) of the RMA, which provides that:

“If an activity has significant adverse effects on the environment, a national environmental standard must not, under subsections (1)(b) and (4),—

- (a) allow the activity, unless it states that a resource consent is required for the activity; or
- (b) state that the activity is a permitted activity.”

¹³ RMA, s 5.

¹⁴ RMA, s 6.

¹⁵ RMA, s 7.

- (d) Applying a precautionary approach where there is uncertainty about the risk of adverse effects on the environment.

4 Scope: This consultation *must* address the current settings for plantation forestry activities

- 4.1 The changes proposed to the NESPF in the Discussion Document address matters not currently managed by the NESPF, namely managing the environmental effects associated with permanent exotic forests and controlling the location of afforestation to manage social, cultural and economic effects. The proposed changes do not seek to amend the existing regulatory settings for plantation forestry in the NESPF.
- 4.2 In the interests of achieving nationally consistent environmental outcomes for all forestry, regulatory coherence and administrative efficiency, and avoiding unnecessary duplication, we agree that the NESPF should manage all forestry, plantation and permanent.
- 4.3 However, support for this option necessarily relies on the efficacy of the existing controls to achieve their purpose: to manage adverse environmental effects of forestry activities. The current NESPF settings are failing to achieve this objective.
- 4.4 Aside from a limited set of shortcomings identified in the One Year Review of the NESPF (not all of which are, in fact, addressed in the Discussion Document), the Discussion Document fails to examine some fundamental issues with the current regulations. To ensure that the environmental effects of permanent exotic forests are successfully managed, issues with the current settings for *plantation* forestry must be addressed. This necessitates a full review of the NESPF with particular focus on the following shortcomings:
 - (a) Removing the permissive activity status regime for forestry activities;
 - (b) Improving the NESPF's risk assessment tools, particularly the Erosion Susceptibility Classification (ESC);
 - (c) Changing the regulatory settings which permit widespread clear fell harvesting in respect of which the avoidance, or indeed minimisation, of adverse environmental effects is impossible;
 - (d) Increasing accountability through mandatory forestry management plans on the basis that a high trust model is inappropriate for forestry, which has the potential for significant adverse effects; and
 - (e) Changing the NESPF's agnosticism in relation to species diversity and stand composition (other than concern for wilding conifer spread).
- 4.5 In simple terms, current regulatory settings in the NESPF are failing to address significant adverse environmental effects associated with *where* trees are planted, *what* trees are planted (and to what end), and *how* forests are managed and harvested.

5 Problems with the NESPF

Activity status: presumption of permitted activity status for plantation forestry activities is irreconcilable with risk of significant adverse effects and is unlawful

- 5.1 The NESPF were developed largely to address the effects of clear fell harvesting following a period of net deforestation in Aotearoa New Zealand. To encourage afforestation, the NESPF established a highly permissive regulatory regime pursuant to which most forestry activities enjoy permitted activity status, subject to compliance with conditions.
- 5.2 Matters in respect of which Councils may apply greater stringency are restricted to:¹⁶
- (a) Achieving an objective of the NPS FM;
 - (b) Giving effect to Policies 11, 13, 15 and 22 of the NZCPS;
 - (c) Protecting outstanding natural features and landscapes and significant natural areas (SNAs); and
 - (d) Managing activities in certain unique and sensitive environments.
- 5.3 Such a permissive approach has put the forestry sector's regulatory regime at odds with more stringent primary sector regulatory regimes. More worryingly, it fails to recognise that forestry activities are inherently high risk in light of their potential for environmental harm.
- 5.4 The need to change this permissive starting point is particularly important given the NESPF's tacit endorsement of clear fell harvesting, which gives rise to significant adverse environmental effects that are largely externalised downstream.
- 5.5 The EDS NESPF Review concluded that:¹⁷

“the NESPF's presumption that plantation forestry activities should be a permitted activity needs to be revisited. A complex, intensive activity that not only has immediate impacts but contributes to diffuse pollutants does not easily lend itself to the certainty and specificity required for a permitted activity standard of national application. This is particularly so when that activity occurs across a national landscape that is extremely diverse and which, in many areas, is reaching environmental limits.”

Additionally, the EDS NESPF Review noted that permitted standards are either inadequate to achieve the necessary level of environmental protection in all situations, or are uncertain and subject to value judgement, making them difficult to implement or enforce.¹⁸ In sum, a presumption that forestry activities should be “permitted” is unworkable, inappropriate, and ineffective at securing environmental protection.

¹⁶ NESPF, Regulation 6.

¹⁷ EDS NESPF Review, at 2.

¹⁸ Ibid.

- 5.6 Crucially, the RMA does not allow an NESPF to permit an activity that may result in significant adverse effects.¹⁹ Yet the NESPF's permissive approach, in combination with its reliance on the ESC as a risk assessment tool, is permitting forestry activities that are resulting in significant adverse environmental effects. This is particularly evident with regard to clear fell harvesting on highly erodible land, with significant adverse environmental effects resulting on receiving marine environments. In this regard, the NESPF is in breach of the RMA.
- 5.7 As recommended in the EDS NESPF Review, the balance between permitted activities and those requiring a resource consent "will need to shift if the issues associated with the current approach are to be addressed."²⁰ A better approach to activity status might be as follows:²¹
- (a) If all potential effects are known, then restricted discretionary status may be appropriate;
 - (b) If all potential effects are not known, discretionary status should apply; and
 - (c) In areas where plantation (or exotic carbon) forestry is not desirable, non-complying or prohibited status should be used.

The ESC is not fit for purpose

- 5.8 The ESC attributes an erosion risk to land according to four zones – green (low risk), yellow (moderate risk), orange (high risk) or red (very high risk).
- 5.9 The NESPF uses the ESC-ascribed risk profile to determine whether a resource consent is required to undertake certain plantation forestry activities. The NESPF imposes fewer controls on activities conducted on lower risk (green and yellow zoned) land and more controls on activities conducted on higher risk (orange²² and red zoned) land.
- 5.10 The ESC is therefore critical to the level of regulation applied to forestry activities under the NESPF, and consequently the appropriate management of associated environmental effects.
- 5.11 However, as the ESC applies an erosion risk assessment scale of 1:50,000 and relies on out-dated data in some areas, it is unable to determine site-specific erosion risk accurately and therefore assign appropriate regulatory controls.
- 5.12 Although the NESPF requires that earthworks management and harvest plans include maps at "a scale not less than 1:10,000",²³ the provision of these plans is only required in accordance with permitted activity conditions or as a matter of control/discretion for controlled or restricted discretionary activities. Thus, the finer scale assessment is not the information basis for determining what regulatory controls should apply in the first place.

¹⁹ RMA, s 43A(3).

²⁰ EDS NESPF Review, at 2.

²¹ EDS NESPF Review, at 2.

²² The controls in respect of orange zoned land are barely distinct from green and yellow.

²³ NESPF, Schedule 3(2).

- 5.13 This creates problems for foresters and Councils because it provides a misleading picture of risk and does not appropriately assign resource consent to activities. For example, at a 1:50,000 scale an area may be mapped as yellow zone, when areas within it, if mapped at a granular resolution, would be zoned red and subject to greater control.
- 5.14 Issues associated with using the ESC in the NPSPF have been raised since it was first proposed and are acknowledged by MPI via its Forestry Service Te Uru Rākau.
- 5.15 The ESC was first developed by Bloomberg et al in a 2011 report.²⁴ That version of the ESC was the basis for consultation on the proposed NESPF. A number of submitters contended that the model was not precise enough nor completely accurate with regard to the characterisation of risk. Accordingly, MPI commissioned Landcare Research to refine the original ESC. It did so in three reports published in 2015, 2016 and 2017²⁵ which variously amended and updated the ESC. The current version of the ESC is dated March 2018.
- 5.16 A 2020 research article published in the New Zealand Journal of Forestry Science stated that “the coarse spatial resolution of the ESC may be ill-suited to managing forestry activities at the scale of forestry operations”²⁶ and:²⁷

“... in our study **the ESC failed to reliably discriminate areas of high landslide occurrence from areas of low landslide occurrence.** This probably relates to the resolution of the ESC and the New Zealand Land Resource Inventory (NZLRI) (Newsome et al. 2008) on which it is based, as **the scale (1:50000) of these data layers may be too coarse to adequately represent local scale (1:10000) variation** in land cover, climate, or topography. Deficiencies in the ESC could also be due to the **quality of the data contained in the NZLRI, which in some areas is 40 years out of date** (Bloomberg et al, 2011). The potential shortcomings of the ESC are well recognised (Basher et al. 2015a; Bloomberg et al. 2011; Marden et al. 2015) and it was intended as a regional rather than local land use management tool (Bloomberg et al. 2011). Nevertheless, the failure of the ESC to discriminate areas of high landslide occurrence from areas of low landslide occurrence in our study area, which covers almost 20,000 ha, raises questions about the reliability of the ESC as a regional land management tool in Tasman, New Zealand, and may warrant investigation elsewhere.”

²⁴ Bloomberg M, Davies T, Visser R, Morgenroth J (2011) *Erosion Susceptibility Classification and analysis of erosion risks for plantation forestry*. Report prepared by the University of Canterbury for the Ministry for the Environment, Wellington.

²⁵ These are:

1. Bloomberg M, Davies T, Visser R, Morgenroth J (2011) *Erosion Susceptibility Classification and analysis of erosion risks for plantation forestry*. Report prepared by the University of Canterbury for the Ministry for the Environment, Wellington.

2. Basher L, Lynn I, Page M (2015) *Update of the Erosion Susceptibility Classification (ESC) for the proposed National Environmental Standard for Plantation Forestry – revision of the ESC*. MPI Technical Paper No. 2015/13. Prepared by Landcare Research for the Ministry for Primary Industries, Wellington (Landcare Research Contract Report LC2196).

3. Basher L, Barringer J, Lynn I (2016) *Update of the Erosion Susceptibility Classification (ESC) for the proposed NES for Plantation Forestry: Subdividing the High and Very High ESC classes – Final report*. MPI Technical Paper No. 2016/12. Prepared by Landcare Research for the Ministry for Primary Industries, Wellington (Landcare Research Contract Report LC2472).

4. Basher L, Barringer J (2017) *Erosion Susceptibility Classification for the NES for Plantation Forestry*. Prepared by Landcare Research for the Ministry for Primary Industries, Wellington (Landcare Research Contract Report LC2744).

²⁶ J Griffiths, C Lukens, R May, 2020, *Increased forest cover and limits on clear felling could substantially reduce landslide occurrence in Tasman, New Zealand*, New Zealand Journal of Forestry Science, 50:13, p 2.

²⁷ Ibid, p 9.

- 5.17 Te Uru Rākau states that “[i]t is recognised that the application of this data, to the specific requirements of the NES-PF, may bring about local issues that require adjustment to the ESC to improve its accuracy”.²⁸ That the ESC applies an assessment scale that is not sufficiently granular and therefore accurate for the purpose of site-specific assessments was also identified in the Year One Review of the NESPF by Te Uru Rākau, released in April 2021. The Year One Review also acknowledged that some regions have questioned the accuracy of the ESC. But ultimately, it is up to forest owners or Councils to request a reassessment or readjustment of applicable ESC zoning²⁹ “if there are concerns about its accuracy.”³⁰
- 5.18 Technologies exist which provide new forms of data to understand erosion (i.e., LiDAR and physiographic mapping) but currently there is no national, or even regional level data to supersede the ESC. Te Uru Rākau acknowledges that when this information becomes available it will need to consider whether, and how, more wholesale changes to the ESC can be made.
- 5.19 Given the scale of afforestation anticipated over the coming years, the need for locationally-sensitive risk assessment tools is urgent and essential for the avoidance of significant adverse environmental effects. It is therefore disappointing to see that the Discussion Document proposes only to “[a]mend the regulations to clarify that a Council may waive resource consent, or require it if satisfied that remapping by a suitably qualified person indicates at a 1:10,000 scale the land in question fits within a different erosion susceptibility zone to that recorded in the ESC.”³¹ Such amendment will only address the shortcomings of the ESC’s assessment scale in cases where remapping is requested, either by Council or a forest operator. Failing to address the reliability of the ESC as the default risk assessment tool itself is further reason why the permissive regime of the NESPF is inappropriate.

Regulatory controls associated with ESC zones need to better correlate with risk profile

- 5.20 In addition to recalibrating the scale at which an ESC assessment is undertaken, the distinctions made between, and thresholds and controls applied to, the various ESC zones should better reflect relative risk. Perverse outcomes are occurring whereby afforestation and replanting in green, yellow and orange zoned land is permitted, despite many orange and some yellow zoned land areas being at high risk of erosion.
- 5.21 Harvesting in red zoned land is permitted provided the area is less than 2ha in a calendar year. However, should trees that are planted specifically for removal be put in these areas? Whilst there may be some short-term stabilisation benefit, the erosion and sediment discharge that follow harvesting (particularly clear felling) could be significant, even from smaller areas.³² Permanent forests should be targeted towards areas where the risk of

²⁸ Process for Updating the Erosion Susceptibility Classification for the National Environmental Standards for Plantation Forestry, 2019, Te Uru Rākau.

²⁹ <https://www.mpi.govt.nz/dmsdocument/28542-Process-to-update-the-NES-PF-ESC-on-a-case-by-case-basis>.

³⁰ The NES-PF’s Risk Assessment Tools, Te Uru Rākau, p 3; <https://www.mpi.govt.nz/dmsdocument/28485-The-NES-PFs-Risk-assessment-tools-guidance>.

³¹ Discussion Document, at 65: D10a.

³² EDS NESPF Review, at 2.

adverse environmental effects from tree removal is high, and the NESPF should provide a robust and clear regulatory framework consistent with that approach.³³

5.22 Regard should also be had to the reality that the:³⁴

“erosion-control benefits of plantation forests are short-lived, lasting only as long as the trees are in the ground. On extraction, the benefit is gone and the bare face that remains can itself result in significant amounts of sediment ending up in sensitive receiving environments. This issue is particularly acute in respect of clear fell extraction as this opens a window of vulnerability between when new trees replace the rotting roots from the previous rotation.”

During this window, which can last between 3 and 8 years from the time of harvest,³⁵ the site is vulnerable to landslides, mobilisation of slash, debris, and sediment. Pines are associated with a longer window due to rapidly rotting roots. Other species with slower root decay rates provide more soil stability and land resilience after harvesting.

5.23 The complex interplay of variables associated with forestry activities calls for a more sophisticated, nuanced and strategic approach to decision-making about where plantation forests are located, what trees are planted, and how they are harvested. Identification of significant environmental values and risks needs to take place *before* planting, not at the point of harvesting or on an *ad hoc* basis when a certain operational activity needs to occur.³⁶ As drafted, “[t]he NESPF simply does not provide for that level of care and precision.”³⁷

5.24 Clearly there is a need to ensure that plantation forest activities are considered from a lifecycle perspective, from the point of afforestation, through to harvest and replanting. Such an assessment would ensure forest operations and management are appropriately calibrated according to a more holistic risk profile.

The right tree: NESPF is agnostic as to species (other than exotics generally)

5.25 Apart from a wilding conifer tree risk assessment, the NESPF is agnostic as to species selection. The continuing proliferation of *Pinus radiata* afforestation suggests stronger direction and more nuanced regulatory controls should be provided around what trees should be planted where in order to achieve the right tree in the right place for the right purpose.

5.26 Species choice has implications for a wide range of environmental effects and forest outcomes. These include longevity, stand stability, biodiversity, impacts on water yield, carbon sequestration rates and volume, soil stability (including in relation to root decay

³³ EDS NESPF Review, at 2.

³⁴ EDS NESPF Review, at 25.

³⁵ EDS NESPF Review, at 17.

³⁶ EDS NESPF Review, at 2.

³⁷ EDS NESPF Review, at 2.

during the post-harvest window of vulnerability), risk of windthrow, water purification, and resilience to pest, disease, fire and drought, as well as broader landscape, social, cultural and economic effects.

How should we determine what species to plant? The need for broader policy alignment pursuant to a national land use strategy

- 5.27 Forestry is to play a central role in delivering Aotearoa New Zealand’s short-term domestic emissions abatement, so the extent to which the NESPF enables certain forestry activities is relevant to the delivery of our climate change mitigation strategy. But the way the NESPF regulates plantation forestry activities (and possibly, by extension, exotic carbon forestry) is also relevant to developing long-term climate resilience and adaptation.
- 5.28 From a *mitigation* perspective, the starting proposition is the more forest the better. On this measure:
- (a) The NESPF is climate-aligned only to extent that it promotes afforestation and discourages deforestation (by facilitating the replanting of sites or by limiting harvesting); and
 - (b) Tree species and forest management systems are only of subsidiary interest, insofar as they can optimise sequestration rates and increase total carbon stocks (these are important to adaptation and sustainability).³⁸
- 5.29 As previously noted in the EDS NESPF Review:³⁹

“A narrow focus on mitigation is concerned with species and systems ONLY insofar as these optimise carbon sequestration rates. In Aotearoa, **this tends to recommend pines**, which [are] fast growing in a range of circumstances, highly adaptable, and well understood by forestry operators. These qualities make this species attractive for plantation forestry, but also for carbon farming, because rapid growth corresponds to rapid carbon sequestration and, consequently, rapid accrual of carbon credits.”

The increasing carbon price has further cemented *Pinus radiata*’s preferential status.

- 5.30 However, a narrow policy and management focus on single environmental problems without considering the broader ecological context can give rise to ‘bio-perversities’. The better view, and one that supports policy coherence, is to place the NESPF in its wider regulatory context which includes the ETS and other environmental regulation, and which indirectly influences land use choices in ways that may or may not align with climate change mitigation objectives.⁴⁰ This requires looking more broadly at the role of forestry in terms of mitigation, adaptation and wider sustainability (biodiversity) and resilience outcomes (like the Sustainable Development Goals (SDGs) and Part 2 of the RMA).

³⁸ EDS NESPF Review, at 9.

³⁹ EDS NESPF Review, at 10.

⁴⁰ EDS NESPF Review, at 10.

- 5.31 The EDS NESPF Review noted, for example, that Goal 15 of the SDGs calls on nations to manage forests sustainably, combat desertification, halt and reverse land degradation, and halt biodiversity loss. Regard to this goal is more consistent with the RMA’s purpose of promoting “the sustainable management of natural and physical resources” and the NESPF’s objective of “maintaining or improving the environmental outcomes associated with plantation forestry activities”.
- 5.32 Applying a climate adaptation lens, pine monocultures are not the optimal choice:⁴¹
- “Generally, **diversity is key to ecosystem resilience**, both in terms of age and species diversity. Accordingly, even-aged, monoculture forests are generally regarded as more vulnerable to the impacts of extreme weather events such as drought, fire, and windthrow, as well as pests and diseases. These risks multiply as global mean temperatures increase because of the increased incidence of extreme weather events.”
- 5.33 Given the increasing risks of massive forest loss as a result of climate change, the NESPF settings should be recalibrated towards building the resilience of future forests in line with best practice for climate adaptation – the inclusion of firebreaks, rules on slash and residue management to reduce fire risk, tighter regulation of clonal forestry, promoting age and species diversification, and climate-resilient management practices for thinning, fertilising, weeding, and pest control.⁴²
- 5.34 Land resilience⁴³ is also compromised with pines as roots decay rapidly on harvesting, so the soil-holding capacity of remaining roots is quickly lost. This means clear felled sites are vulnerable to erosion and sedimentation during this ‘window of vulnerability’, when new trees are yet to establish themselves.
- 5.35 Pines are not aligned with the objective of restoring indigenous biodiversity. Wilding conifer spread is detrimental to the regeneration of indigenous flora and can affect the integrity of SNAs, outstanding natural landscapes (ONLs), visual amenity landscapes (VALs), natural character areas, sites of cultural significance, or the opportunity to preserve non-forest land uses such as high-country farming.
- 5.36 We have also raised concern in relation to potential legacy issues associated with ‘permanent’ pines: it is unclear what landowners will do when these forests mature and cease to generate carbon revenue, what happens when forest land changes ownership, or whether large pine sinks will have social licence among future generations.⁴⁴
- 5.37 A national land use strategy (subject to which a national forestry strategy could be developed) would help to secure more synergistic policy approaches and outcomes, providing a holistic view across the various regulatory interventions and ensuring that they

⁴¹ EDS NESPF Review, at 10-11.

⁴² EDS NESPF Review, at 11.

⁴³ Choice of forest management system also impacts land resilience – clear felling exposes land to climatic impacts after harvesting. Continuous cover forestry has no window of vulnerability because a forest canopy cover is maintained continuously.

⁴⁴ EDS NESPF Review, at 11.

are mutually reinforcing, as well as clearly addressing interactions between instruments like the NESPF, ETS, Zero Carbon Act, NZCPS, NPSFM, NESF, NPSIB, ERP, and NPSHPL, and various market factors, and the emergence of sectoral inequities for the land sector.⁴⁵

How we are managing our forests: No requirement for plantation forest management plans creates an accountability gap

- 5.38 Forest operations in Aotearoa New Zealand enjoy a very high trust management regime. The NESPF only requires the submission of earthworks and harvest management plans. There is no requirement for these to be independently verified, peer-reviewed or qualitatively assessed in any way. As we have noted previously:⁴⁶

“Using management plans that cannot be certified or rejected relies heavily on foresters designing adequate management plans and complying with vague permitted standards. This is a **very high trust model, which may not be warranted given the seriousness of potential environmental impacts, variability in practice around the country, and poor compliance outcomes in some areas.**”

- 5.39 Furthermore, those management plans are limited in scope to specific time and effects related activities. Such a narrow approach to forest management gives rise to a significant accountability gap in relation to how forest operators are identifying and assessing risks, and selecting appropriate management actions in relation thereto.
- 5.40 For exotic carbon forests, requiring a more holistic, forest lifecycle approach to forest management and regular compliance auditing and enforcement will be essential to ensuring owners do not just ‘plant and walk away’. In this regard, we strongly disagree with the suggestion in the Discussion Document that it is too challenging to implement a management plan for a forest that extends over decades.⁴⁷ We detail a practicable forest management planning regime that could apply to all forest operations (plantation and ‘permanent’) in paragraphs 6.16 – 6.22 below.

How we are harvesting our forests: Tacit acceptance of clear fell harvesting irreconcilable with avoidance of adverse effects

- 5.41 The Discussion Document acknowledges that:⁴⁸

“The design of the NES-PF has a focus on managing the effects of clear fell harvest, which is the dominant harvest model in Aotearoa New Zealand, because **other harvest models (eg low-intensity harvesting) usually have lesser environmental effects**”.

⁴⁵ This will enable the development of ubiquitous, cross-cutting controls where appropriate, such as setbacks that apply equitably to competing land uses (eg pastoral agriculture cf plantation forestry, where setback requirements can penalise small holdings where they disproportionately reduce productive land vis-à-vis larger holdings and other land-users). EDS NESPF Review refers.

⁴⁶ EDS NESPF Review, at 2.

⁴⁷ Discussion Document, at 26.

⁴⁸ Discussion Document, at 16.

- 5.42 The Discussion Document further notes that the provisions in the NESPF are intended to achieve its policy objective of maintaining or improving the environmental outcomes associated with plantation forestry activities nationally through “[e]stablishing rules that permit plantation forestry activities where it is efficient and appropriate to do so, and where the activities will not have significant adverse effects on the natural environment”, and “[r]equiring resource consent for activities where the environmental risk is higher and more site-specific oversight is needed”.⁴⁹
- 5.43 In most instances, clear fell harvesting gives rise to significant adverse environmental impacts. Biodiversity loss, climate change, and water quality pressures mean these impacts are increasingly damaging.
- 5.44 Yet under the NESPF, harvesting activities start from a baseline presumption of permitted activity status. Having regard to s 43A(3) of the RMA, this approach is unlawful.
- 5.45 Given the widespread use of lower impact harvesting models overseas that result in less harmful environmental effects, it is unclear why such ecologically superior alternatives are perceived as ‘niche’ in Aotearoa New Zealand. They should be the norm.
- 5.46 In support of this, the NESPF should apply a reverse burden on forest operators, whereby clear fell harvesting cannot be carried out unless it can be established that clear felling will not result in significant adverse environmental effects.
- 5.47 In the absence of a more stringent approach to harvesting methods, the costs of clear fell harvesting will continue to be externalised and ecological damage permitted. This is particularly the case for difficult, fragile and/or steep terrain where low impact harvesting systems should be mandatory, or the land retired and restored through native regeneration. Clear fell harvesting on red zone land should be non-complying, and permanent indigenous forest on such land incentivised.⁵⁰
- 5.48 Clear policy direction and regulatory measures are essential to facilitate a transition to lower impact harvesting methods, like continuous cover (which has a range of benefits in relation to erosion control, biodiversity and water quality) or small coupe alternatives.⁵¹ This is how plantation forestry is undertaken now in many countries, where the downstream social, economic and ecological costs associated with more damaging harvest methods are internalised. It is past time for Aotearoa New Zealand to catch up.
- 5.49 It is often argued that low impact harvesting systems tend to be more expensive financially. To the extent that this is correct, support for this transition may be needed to ensure commercial viability. This may encourage a positive shift from pine monocrops and other low value timber species to maintain profitability.

⁴⁹ Discussion Document, at 16.

⁵⁰ EDS NESPF Review, at 26.

⁵¹ EDS NESPF Review, at 2.

6 Part A: Bringing ‘permanent’ exotics into the NESPF

- 6.1 As a preliminary point, we do not support the overreliance on (and consequent facilitation of) exotic afforestation as an emissions abatement tool.
- 6.2 Whilst it is accepted that some additional afforestation will be necessary to meet Aotearoa New Zealand’s emissions reduction targets:
- (a) We disagree that this should be primarily achieved through exotic afforestation, which will not provide a multigenerational carbon sink with any of the attendant benefits that a reorientation towards indigenous forests would achieve;
 - (b) There is a significant risk that increased exotic afforestation rates could lead to an oversupply of NZUs with a dampening effect on the cost of offsetting. This could slow the rate at which carbon-intensive industries transition to low-emission operational footprints. The Climate Change Commission’s net-zero pathway modelling estimated that Aotearoa New Zealand could meet its net-zero goals by planting around 25,000 hectares of exotics per annum (in addition to complementary actions). Current and projected exotic afforestation rates appear to be around double that; and
 - (c) The assumption of equivalence between one tonne of carbon emitted and one tonne of carbon sequestered vis-à-vis forestry does not adequately account for forest risks, such as stock loss from disease, pest incursions or fire. These risks may be higher for exotic single species forests, particularly if they are long standing.
- 6.3 Of the options proposed to effectively manage ‘permanent’ exotic forests, **we prefer Option 2** – amending the NESPF to include exotic carbon forests. Our support for Option 2 is, however, **subject to addressing the shortcomings of the NESPF**, many of which are identified in this submission. These need to be comprehensively and urgently addressed alongside any amendments proposed in relation to exotic carbon forestry specifically.
- 6.4 The Discussion Document notes that:⁵²
- “Although the NESPF was designed to focus on anticipating and managing a forest at harvest, this means **exotic carbon forests in the NESPF would be required to comply with all afforestation provisions, which have been designed with harvest in mind**. However, **these provide protections where harvest is part of an exotic carbon forest lifecycle and where related activities are carried out** (e.g. pruning and thinning, development of river crossings, and harvest activities).”
- 6.5 We support the proposal that exotic carbon forestry should be required to comply with all afforestation controls that apply to plantation forests. As a matter of good forest management practice, exotic carbon forests will require pruning and thinning, and some

⁵² Discussion Document, at 25.

degree of harvesting and extraction. It is correct to anticipate and provide for this through regulatory controls at the point of afforestation.

- 6.6 Ensuring that exotic carbon afforestation activities are subject to the same regulatory controls as plantation forests:
- (a) Is consistent with the relative impermanence of ETS-registered ‘permanent’ *Pinus radiata* forests, in respect of which only 30% canopy cover must be maintained, and which cannot otherwise be clear felled for “at least 50 years” to qualify as such;⁵³ and
 - (b) Ensures that appropriate protections are in place in the event of a subsequent change in intended land use or circumstance.
- 6.7 Option 2 also proposes to introduce a new matter of discretion to enable Councils to consider wind effects on forest stability for all forests greater than 2 ha on red zone land. It is not clear why wind effects on forest stability would be the only new matter of discretion to which Councils would be able to have regard in respect of exotic carbon forestry. And in light of our concerns regarding the robustness of the ESC as a land zoning tool, we do not think consideration of wind effects on forest stability should be limited to red zone land.
- A note on ‘permanence’***
- 6.8 *Pinus radiata* continues to be the species of choice due to the rate of return on investment under the ETS. This informs our interpretation of the reference to ‘permanent’ exotic forests, making it something of an oxymoron. That is because, as we understand it, unlike most indigenous tree species (and indeed many alternative exotic species), *Pinus radiata* has a comparatively limited natural lifespan.⁵⁴ This is acknowledged in the Discussion Document,⁵⁵ and is borne out in the need for a regulatory approach that anticipates issues like end-of-life management – i.e., what is to happen to vast swathes of pines when they reach the end of their natural lifespan and pose increasing stand stability, fire, and pest risks. Indigenous forests, by comparison, do not need to be designed with such longevity risks in mind.
- 6.9 Transitional forests are also referred to, where the primary exotic forest is only ‘permanent’ for as long as it takes to establish a viable indigenous forest. Transitional forests are an emerging concept with further research required to inform their efficacy and necessary management interventions.
- 6.10 In combination, these factors make references to ‘permanence’ and to managing environmental effects “to ensure a carbon forest is sustainable in perpetuity”⁵⁶ misleading. It also suggests that the benefits associated with ‘permanent’ exotic forests, such as carbon

⁵³ <https://www.mpi.govt.nz/forestry/forestry-in-the-emissions-trading-scheme/about-forestry-in-the-emissions-trading-scheme/permanent-forests-in-the-ets/>.

⁵⁴ Around 80 to 90 years: <https://www.nationalarboretum.act.gov.au/living-collections/forests-and-trees/forest-76>.

⁵⁵ Discussion Document, at 27.

⁵⁶ Discussion Document, at 20.

sequestration, providing biodiversity habitats, and erosion-control could be overstated (or certainly more temporary), particularly where harvesting occurs.

Forest Management Plans should be mandatory, for all forests

- 6.11 The Discussion Document acknowledges that “The regulations do not include requirements for managing a forest, so cannot currently require certain activities in relation to the longevity or composition of the forest e.g., cutting lightwells in the forest to enable regeneration, or requiring assessment of an existing native seed source.”⁵⁷ In this regard, **we support proposed Option 3**, which involves amending the NESPF to require forest management plans for exotic carbon forests.
- 6.12 However, we submit that **a comprehensive forest management plan should be mandatory for all forests**: plantation, exotic carbon, and transitional.
- 6.13 However, the efficacy of management plans depends on the scope and quality of content; the translation of clearly identified risks to specific, measurable, proportionate, and effective responses; and proper implementation and monitoring. Compliance with the current regulations is achieved simply by preparing and submitting the plan (e.g., for earthworks or harvesting). As noted in the EDS NESPF Review:⁵⁸
- “The unverified management plan approach assumes that forestry operators will submit management plans that are high quality, and which adequately address the environmental risks that they are intended to manage. That assumption is untested, and this ‘high trust’ model of regulation is unlikely to be warranted across the board.”
- 6.14 To address this accountability gap, forest management plans must be subject to independent, expert review to ensure that forest management risks and opportunities are comprehensively identified and translated into credible management objectives and actions, with measurable outcomes. The implementation of forest management plans should be regularly monitored, periodically reviewed and updated, and enforcement action taken in the event of non-compliance.
- 6.15 The Discussion Document identifies that there may be administrative costs for Councils associated with reviewing, monitoring and enforcing forest management plans.⁵⁹ Such administrative costs are outweighed by the ecological, social and economic costs of poor forest planning and mismanagement, which are currently falling to Councils, ratepayers, local communities, and ecosystems to pay. In any event, as for freshwater farm management plans, a number of these functions could be outsourced to independent certifiers and auditors as described below.

⁵⁷ Discussion Document, at 26.

⁵⁸ EDS NESPF Review, at 32.

⁵⁹ Discussion Document, at 27.

- 6.16 Management plans are required for Forestry Stewardship Council certification.⁶⁰ Further precedent for a workable, qualitatively robust management planning regime is set out in Part 9A of the RMA with respect to freshwater farm plans. This regime provides a clear line of sight between regulation and management practice. Introducing a comparable regime for forest operators would also address sector equity concerns.

Plans should be certified

- 6.17 Part 9A requires that farms must have **certified** freshwater farm plans if they meet certain land use thresholds.⁶¹ The duties of farm operators who require a certified freshwater farm plan include:⁶²
- (a) Preparing a plan in accordance with Part 9A and applicable regulations;
 - (b) Submitting the plan to a certifier for certification;
 - (c) Ensuring the farm operates in compliance with the plan;
 - (d) Arranging for the farm to be audited for compliance with the certified plan; and
 - (e) Keeping the plan fit-for-purpose by amending it (and having it recertified) to reflect changes in the farm or to achieve compliance with Part 9A and applicable regulations.

Section 217G sets out the certification process, which involves:

- (a) The farm operator submitting a plan to a certifier within a prescribed time frame; and
- (b) The certifier certifying the plan if satisfied the plan complies with the contents requirements set out in section 217F (see below), and notifying the relevant regional council of the fact of certification and the date thereof.

Contents of plans should be set out

- 6.18 Section 217F of the RMA prescribes the contents of a freshwater farm plan. They must:
- (a) Identify any adverse effects of activities carried out on the farm on freshwater and freshwater ecosystems;
 - (b) Specify requirements that are appropriate for the purpose of avoiding, remedying, or mitigating the adverse effects of those activities on freshwater and freshwater ecosystems, and are clear and measurable;
 - (c) Demonstrate how any outcomes prescribed in regulations are to be achieved; and
 - (d) Comply with any other requirements in regulations.

- 6.19 For forests, such plans should (among other things) clearly identify:

⁶⁰ Principle 7 refers.

⁶¹ RMA, s 217D.

⁶² RMA, s 217E.

- (a) How compliance with the NPS FM and other matters of stringency will be achieved;
- (b) Risks that may give rise to adverse environmental effects, including but not limited to anticipated harvesting (including sediment controls, slash management, etc), windthrow, fire, drought, pests and disease, natural decay and senescence, stand stability, and biodiversity protection. For administrative efficiency, we recommend that wildfire risk management planning (discussed further in relation to Part C below) is incorporated as a module of a mandatory forest management plan;
- (c) Clear and measurable actions appropriate for the purpose of avoiding, remedying, or mitigating those adverse effects; and
- (d) Forest outcomes and how those will be achieved over the life of the forest. Transitional forests will need to identify what interventions will be undertaken with clear progress (and compositional) milestones that map out how the forest will achieve its transition from exotic to indigenous species.

Auditing for compliance

- 6.20 Like farms,⁶³ we submit that forests should be subject to auditing for compliance with their certified forest management plans. Any compliance failures and supporting reasoning would be identified in the auditor's findings, together with a reasonable timeframe within which to remedy non-compliance. Audit reports would be provided to the relevant regional councils.

Role of regional councils

- 6.21 The functions of regional councils in relation to freshwater farm plans is to:
- (a) Appoint certifiers and auditors;⁶⁴
 - (b) Receive notification that freshwater farm plans have been certified and receive audit reports;⁶⁵ and
 - (c) Enforce the observance of the Part 9A requirements and applicable regulations and monitor compliance by farm operators in respect of these.⁶⁶
- 6.22 The same functions could apply vis-à-vis forest management plans, assuming the same certification and auditing processes and requirements were adopted.

Forest management plans should be underpinned by a performance bond

- 6.23 Currently, the adverse environmental effects associated with forestry activities are externalised, with downstream communities and receiving ecosystems wearing the financial and biophysical costs. This is entirely unacceptable. Forest management plans should be underpinned by a performance management bond designed to better incentivise effective

⁶³ RMA, s 217H.

⁶⁴ RMA, s 217K.

⁶⁵ RMA, s 217I.

⁶⁶ RMA, s 217I.

risk management measures and internalise the costs where such measures result in adverse effects. A performance bond would also disincentivise forest abandonment when a forest is at the end of its natural lifespan, has exhausted its ETS-revenue capacity, there is a drop in the carbon price, and/or it is uneconomic to harvest.

- 6.24 There will be other ways of obtaining a performance guarantee (such as holding back a proportion of NZUs for ETS-registered forests, or arranging a form of compulsory insurance). But the key point is that given the long-lived nature of so-called permanent carbon forests, there needs to be a formal and secure arrangement put in place.

7 Part B: How to manage social, economic, cultural effects

- 7.1 The Discussion Document considers two approaches to manage the social, cultural and economic effects of plantation and exotic carbon forests:

- (a) Option 1 involves amending the NESPF to make explicit that Councils have the ability to make rules to manage these effects pursuant to district and regional plans (application), and enable Councils to make more stringent or lenient rules relating to afforestation (stringency); or
- (b) Option 2 entails providing national direction in respect of these effects through the development of a consenting framework, which could apply nationally or by district, be time-limited, and address a number of variables such as land type, forest type, and scale of afforestation.

- 7.2 On balance, we favour **Option 2 – national direction**. In assessing the relative merits of these approaches, we note the following:

- (a) Consideration of social, cultural and economic effects is likely to attract a range of competing interests and perspectives. These should be reconciled subject to the avoidance of adverse biophysical effects. There is precedent for this hierarchy of considerations. For example, clause 2.1 of the NPS FM (which reflects and gives effect to *Te Mana o Te Wai*) provides that:

“The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that **prioritises**:

- (a) first, the health and well-being of water bodies and freshwater ecosystems
 - (b) second, the health needs of people (such as drinking water)
 - (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.”
- (b) Consideration of social, cultural and economic effects must support the right tree in the right place for the right purpose. This necessitates a holistic and intergenerational approach to forestry effects and outcomes and broader policy alignment with other national direction, including in relation to freshwater

management, coastal protection, indigenous biodiversity, and climate change mitigation, resilience and adaptation.

For example, narrow, short-term economic considerations could favour further *Pinus radiata* afforestation, whether for harvest or carbon sequestration. However, where, what and how forestry activities are undertaken - particularly for (multigenerational) permanence - requires a more strategic, longer-term assessment lens that properly internalises the costs of such forests on indigenous biodiversity, freshwater and coastal ecosystems, mahinga kai, future climate resilience and any other legacy measures, and is thereby more consistent with kaitiāngatanga.

- (c) The competing interests that will characterise consideration of the social, cultural and economic effects associated with exotic carbon forests would be very challenging for local authorities to navigate. It could be difficult for Councils to engage effectively on such potentially broad effects, let alone articulate permitted activity standards relating to social, cultural and economic effects with the specificity and measurability required of a permitted activity standard.⁶⁷ Councils may be hesitant to include controls that could expose them to litigation risk.
- (d) The absence of national direction may lead to inconsistent approaches whereby those effects are actively considered by some Councils but not at all by others (since the NESPF would simply clarify that social, cultural and economic effects are a matter of full discretion). This would limit the ability of the NESPF to achieve its objective of ensuring certainty and consistency for forest owners. It could also dilute alignment with wider policy strategies (biodiversity, ERP, freshwater, etc).
- (e) The suggestion in Option 1 that the NESPF could enable Councils to make more lenient rules than the NESPF afforestation controls having regard to social, cultural and economic effects could risk cutting across NESPF rules in relation to (biophysical) environmental effects and thereby undermine the very risks the regulations were established to address.
- (f) The absence of national direction could exacerbate such risks if inconsistency across regional approaches led to a displacement effect, with afforestation occurring more intensively (and disproportionately) in regions without rules that appropriately distinguish the risks associated with different forest types, the scale at which they are being established, and the cumulative effects thereof (or as a result of more lenient rules, as proposed by the Discussion Document).
- (g) In relation to Option 2, for reasons already set out above, we disagree with Table 3's "Possible approaches to design a consent requirement" presumption that some land types or scales of afforestation might not require a consent. All afforestation proposals should require consent above a certain threshold.

⁶⁷ EDS NESPF Review, at 8 refers.

- (h) We are not entirely clear how the possible approaches to designing a consent requirement set out in Table 3 would interact with the existing settings. For example, Table 3 discusses the possibility of designing consent requirements according to land types, which might be determined by reference to the ESC, “or other tools (e.g., HPL or the Land Use Capability (LUC) classification).” It is unclear how introducing a different method of land type assessment for the consideration of social, cultural and economic effects would interact with the current application of the ESC to determine the consent status for afforestation and associated activities.

We suggest that possible approaches in this regard are properly explored under the proposed National Planning Framework and Regional Spatial Plans. We further recommend that tree species and suitability for low impact harvesting would be relevant variables to consider.

8 Part C: Improving wildfire risk management in all forests

- 8.1 MPI is proposing to introduce a standardised national approach that will require the preparation of a wildfire risk management plan (WRMP) and attestation to its completeness for all forests larger than one hectare covered by the NESPF as part of the NESPF notification or consent process. The aim of this proposal is “to reduce the environmental effects that a wildfire in a forest might pose.”⁶⁸
- 8.2 It is further proposed that the comprehensiveness of an WRMP would vary according to the size of the forest. The Discussion Document explains that “[t]he intent of requiring a plan is to ensure wildfire is considered in both planning and managing the forest over its life cycle, proportional to the size of the risks.”⁶⁹ To this end, the Discussion Document notes that risk reduction for plantation forestry requires assessing the following variables: the species being planted, the weather, topography, values at risk within and neighbouring the forest, suppression and containment options, access to water for firefighting, and mitigation measures which can be built into the development and management of the forest.⁷⁰
- 8.3 We agree that wildfire risk management planning should be an essential feature of every forestry operation. However, (and noting our arguments above that afforestation should not enjoy permitted activity status), we do not agree that the mere preparation of an WRMP, and providing attestation thereof to Council, would allow the necessary qualitative assessment to which such plans should be subject, and therefore support the overarching goal of ensuring the right tree in the right place for the right purpose.
- 8.4 Although WRMPs would be a requirement of the NESPF, MPI is:

“not proposing that Councils are responsible for the plan, as FENZ has the statutory responsibility for fire management, and few Councils have the knowledge or systems to use

⁶⁸ Discussion Document, at 36.

⁶⁹ Discussion Document, at 40.

⁷⁰ Discussion Document, at 37.

the plans meaningfully. However, where a WRMP is a requirement of a permitted activity, the Council would be able to request a copy of the plan to verify that conditions have been met ... [and w]here afforestation requires a resource consent, the Council would be able to request a copy of the plan as a matter of discretion if there is demonstrated benefit to them holding it.”⁷¹

In short, it is proposed that Councils’ role in monitoring the WRMP (irrespective of afforestation’s activity status) would be limited to ensuring that a plan has been developed.

8.5 The WRMP proposal thus gives rise to a gap in meaningful oversight in terms of reviewing the adequacy of forest planning for fire risk reduction, and in subsequent responsibility for compliance monitoring and enforcement. We suggest that:

- (a) Wildfire risk management planning is a module required in a forest management plan; and
- (b) As set out at section 6 above, those forest management plans would be subject to certification, compliance auditing and enforcement.

8.6 The Discussion Document acknowledges that climate change will increase the number of very high or extreme fire weather danger days per annum. This translates to increasing risks of forest loss. In light of this, the NESPF’s afforestation and replanting controls should build in resilience consistent with best practice for climate adaptation.⁷² As noted above at paragraph 6.19(b), the inclusion of firebreaks, rules on slash and residue management to reduce fire risk, proximate water availability and yield pressures, tighter regulation of clonal forestry, diversification of species and age groups, controls around scale, and active climate-resilient management practices for thinning, fertilising, weeding and pest control⁷³ will be key determinants of risk and should therefore be subject to qualitative scrutiny, not just once the trees are in the ground, but *before* that even occurs. The NESPF does not provide the necessary degree or quality of oversight in this regard.

9 Part D: Addressing Year One Review (and other) issues

Year One Review issues covered by the Discussion Document

Wilding Tree Risk Calculator (WTRC)

9.1 The WTRC currently operates as a high trust tool that relies on the adequacy of the assessment with little scope for regulatory oversight.⁷⁴ A WTRC score must be generated by a “suitably competent person” on behalf of the forestry company. There is no express requirement for it to be carried out on site, and Councils have no discretion whether or not to accept a WTRC assessment. To date, the NESPF has not required forest operators to show how their wilding tree risk calculation has been undertaken other than to provide the

⁷¹ Discussion Document, at 40.

⁷² EDS NESPF Review, at 11.

⁷³ EDS NESPF Review, at 11.

⁷⁴ EDS NESPF Review, at 27.

resulting score. We understand that the quality of WTRC assessments received so far has been questionable.

- 9.2 To improve the quality and transparency around such calculations, we support the proposal for template worksheets and the requirement to provide these worksheets with supporting information (and resulting score) to Councils 6-8 months prior to afforestation. Depending on the design of the standard format template (which should discourage scope for subjective assessment), we agree that this should ensure a degree of consistency, transparency, and quality in respect of how wilding tree risk calculations are derived and presented.
- 9.3 However, Council's role is, as before, essentially limited to receipt of such workings. The Year One Review noted that Councils needed more time and ability under the regulations to query scores⁷⁵ and address any discrepancies before forest operators commit resources.⁷⁶ For meaningful oversight of wilding conifer risk, Councils should be empowered to qualitatively review, reject, or seek third party verification of wilding tree risk calculations.
- 9.4 Importantly, the Discussion Document does not interrogate the merits or arbitrary effect of the WTRC thresholds. A resource consent is only required for afforestation if a wilding conifer calculation scores an area at 12 or above. However, a score of 10 or 11 is still deemed 'relatively high risk'.⁷⁷
- 9.5 The Year One Review observed that the NESPF does not specify that a score lower than 12 equates to low risk. It noted that:⁷⁸
- "One forest sector expert considered scores over 9 of concern because they rely on assessed conditions remaining static over a long period."
- 9.6 Although the Discussion Document proposes both to remove downstream land use as wilding tree risk criteria due to future uncertainty, and to require a wilding tree risk assessment at replanting to ensure changes in risk over time are managed, it does not address the appropriateness of the risk threshold. In this regard, the Year One Review noted that given spread may extend many kilometres from the source site and that foresters cannot manage spread beyond their own property, a more precautionary threshold should be considered.⁷⁹ It also recommended that the conservation value of downwind cover type should be considered.⁸⁰
- 9.7 Wilding conifer control is costing millions of dollars annually. Without such control, the cost of wilding pine spread "could reach \$4.6 billion over 50 years."⁸¹ And because forest owners are only deemed responsible for eradication measures within their property, the cost of

⁷⁵ Year One Review, at 14.

⁷⁶ Discussion Document, at 46.

⁷⁷ EDS NESPF Review, at 2.

⁷⁸ Year One Review, at 13.

⁷⁹ Year One Review, at 14.

⁸⁰ Year One Review, at 14.

⁸¹ <https://www.beehive.govt.nz/release/wilding-conifer-control-efforts-smash-targets>

wilding control is not borne by those responsible for the problem. Clearly the settings are failing, and the externalisation of these costs is totally unacceptable. We agree that, at minimum, a more precautionary threshold should be set, and consideration of the conservation value of downwind cover type incorporated within the assessment.

- 9.8 As we have previously observed, “[a]ctivities with a relatively high risk of causing significant economic and environmental effects on surrounding land would not normally be classified as permitted under the RMA.”⁸² Instead, a zoning or spatial planning approach that enabled Councils to require consent for afforestation and replanting in moderate to high risk wilding conifer areas would reserve discretion to better assess risk and decline consent or impose conditions (such as a requirement to plant buffer trees with lower seed spread risk).

ESC

- 9.9 The Terms of Reference for the Year One Review included considering whether changes were required to the ESC. The inadequacy of the ESC as a risk assessment tool and our recommendations are set out in paragraphs 5.8 – 5.19 above. As we note there, the ESC is not fit-for-purpose. Changes to its underlying risk assessment scale are urgent and should not be confined to *ad hoc* remapping at the request of forest operators or Councils.

Year One Review issues not covered by the Discussion Document

- 9.10 The Terms of Reference for the Year One Review also included considering:
- (a) “Whether the settings in the NESPF relating to harvesting and slash management are appropriate for controlling the environmental effects on plantation forestry on erosion-prone land, including whether the controls for ESC orange and red zone land are too narrow”; and
 - (b) Biodiversity protections in the NESPF, including protections for indigenous flora and mobile fauna such as birds and fish.

Neither of these issues is adequately addressed.

NESPF settings for harvesting should impose a reverse burden for clear felling

- 9.11 In most cases, clear fell harvesting will result in significant adverse biophysical effects. It is contrary s 43A(3) of the RMA to ascribe permitted activity status to clear fell harvesting where this is the case. To correct this, the NESPF settings should impose a reverse burden for clear fell harvesting. Our discussion and recommendations in paragraphs 5.41 – 5.49 above refer.

⁸² EDS NESPF Review, at 28.

The NESPF's biodiversity protections are insufficient

- 9.12 The NESPF recognises that plantation forestry activities can adversely affect indigenous flora and fauna by giving particular consideration to SNAs, indigenous vegetation clearance (excluding pre-afforestation), certain bird species when nesting, and freshwater fish species when spawning.⁸³ The scope and substance of these limited protections are inadequate, particularly in light of the increasing role of plantation forests in providing ecological buffers and connectivity between indigenous forest remnants, habitat for indigenous endangered fauna, and canopy cover for the growth of indigenous understorey flora. Indeed, in Kinleith Forest, the proportion of indigenous plants in the understorey of a 29-year-old stand was found to be 82%.⁸⁴
- 9.13 With the extensive loss of natural, indigenous habitat for so many species, plantation forests are becoming increasingly important in some regions for helping to conserve indigenous fauna on a landscape scale. As a result, “[f]ailing to both assess the effects of forestry activities on indigenous fauna and ensure the protection of species that live in plantation forest could have significant impacts, even including species extinction.”⁸⁵
- 9.14 It is therefore a significant omission that, in relation to fauna habitat, the NESPF deals only with certain bird species nesting sites. No provision is made for other fauna species for whom plantation forests provide habitat, such as bats, reptiles, frogs and invertebrates.⁸⁶
- 9.15 And as far as the NESPF relates to bird nesting sites, the efficacy of its protections is questionable. Where nesting sites for certain species are known to be present, steps must be taken to locate these; staff trained to identify them, and unspecified steps taken to avoid or mitigate impacts on these birds and nests. Such a degree of regulatory generality makes these controls unlikely to be enforceable except in very clear cases and ultimately inadequate to address what may be significant adverse effects on threatened species.⁸⁷
- 9.16 Realising the positive outcomes of forests for all native flora and fauna depends on a much more comprehensive and integrated approach that extends well beyond bird nesting sites. The diverse habitat requirements, dispersal abilities, and threat status of indigenous fauna and impact of harvesting on these requires a multifaceted approach within plantation forests to help conserve indigenous biodiversity on a landscape scale.⁸⁸ Peterson and Hayman⁸⁹ have suggested that effective measures should include retaining areas of forest which develop high structural complexity,⁹⁰ maintenance of mixed-age exotic stands, and individual threatened species programmes.

⁸³ EDS NESPF Review, at 12.

⁸⁴ EDS NESPF Review, at 3, 12, citing Dyck W J, 1997, Biodiversity in New Zealand plantation forestry – an industry perspective, NZ Forestry 42(3): 6–8.

⁸⁵ EDS NESPF Review, at 13.

⁸⁶ EDS NESPF Review, at 13.

⁸⁷ EDS NESPF Review, at 13.

⁸⁸ EDS NESPF Review, at 14.

⁸⁹ Peterson P and E Hayman, 2018, Conserving indigenous fauna within production landscapes, Contract Report LC3216, Manaaki Whenua–Landcare Research, Lincoln, cited in the EDS NESPF Review, at 14.

⁹⁰ Retention forestry has emerged as an effective, practical approach to achieve biodiversity gains internationally. EDS NESPF Review refers at 14.

- 9.17 Requirements under the Forestry Stewardship Council’s certification scheme are more consistent with such an approach. These require signatories to:⁹¹
- (a) Identify, map, and protect indigenous habitat that supports rare, threatened, or endangered species and those important to their life cycle;
 - (b) Detail in management plans and work prescriptions for areas due for harvesting or silviculture the steps to be taken to protect rare, threatened, or endangered species in production areas. This includes training employees and contractors to recognise these species and in contingency planning to enable the protection of located species; and
 - (c) Retain or restore at least 5% of the management unit to natural forest cover⁹² and a minimum of 10% of the ecological district or region must be protected or restored to indigenous vegetation (although this can be achieved through “equivalent ecological effort” elsewhere).
- 9.18 The draft NPSIB recognises that plantation forestry blocks increasingly provide significant habitat for indigenous fauna and vegetation, which would ordinarily qualify as an SNA (thereby triggering requirements for a resource consent and associated SNA controls in respect of future forestry activities).⁹³ The approach proposed under the NPSIB is “to provide for production activities to continue, while protecting the rarest species.” The Ministry for the Environment’s exposure draft summary of the NPSIB for the forestry sector accordingly provides that:⁹⁴
- “Where Threatened or At Risk species occur within the productive parts of a plantation forest, this creates an SNA but without the full set of SNA restrictions. Instead, the NPSIB requires the species to be managed to maintain their long-term populations over the course of consecutive rotations. This replaces the ‘avoid’ requirements and the effects management hierarchy which normally apply to SNAs (3.10(2)).”
- 9.19 In light of our current biodiversity crisis, regulatory controls must extend beyond both a managing-for-maintenance for Threatened or At-Risk species, or an ‘avoid or mitigate’ adverse effects approach, if genuine biodiversity gains are to be achieved.⁹⁵ Integrated species conservation measures for all indigenous species that use plantation forests as habitat are necessary.⁹⁶ Such measures should be expressly provided for in certified forest management plans, and subject to compliance auditing and enforcement.
- 9.20 A biodiversity grant scheme could be explored to recognise that retention forest decreases the productive area to some extent, and therefore compensates forest owners for the associated financial loss and incentivises the setting aside of such areas.⁹⁷

⁹¹ EDS NESPF Review refers at 14.

⁹² FSC Certification, Criterion 10.5.

⁹³ EDS NESPF Review, at 13.

⁹⁴ Ministry for the Environment’s National Policy Statement for Indigenous Biodiversity - Exposure Draft Summary for the Forestry Sector, at 2.

⁹⁵ EDS NESPF Review, at 15.

⁹⁶ EDS NESPF Review, at 15.

⁹⁷ EDS NESPF Review, at 15.

- 9.21 A more powerful tool would be to establish a credible biodiversity credit scheme that operates alongside and as a counterbalance to the bio-perversities occurring as a result of the ETS. Foresters would be able to access revenue streams for carbon sequestration under the ETS and for measurable biodiversity gains under a biodiversity credits scheme. The latter would support the achievement of freshwater objectives, help arrest the decline of Aotearoa New Zealand's indigenous flora and fauna, and create long-term, biodiverse and climate-resilient carbon sinks in line with the Government's aspirations under the ERP.
- 9.22 Harvest methods and management also need to be addressed. The nature of plantation forestry means that many biodiversity gains are temporary and are lost during harvesting when the plantation canopy cover, understorey, and associated fauna habitats are lost.⁹⁸ As the Year One Review noted, a cyclical forest regime conflicts with providing continuous habitat for species.⁹⁹
- 9.23 The effects can vary, however, depending on the method and speed of felling, refugia that remain, and the surrounding land uses.¹⁰⁰ Where clear fell harvesting methods are used, as is typical in Aotearoa New Zealand, habitats are destroyed and flora and fauna can be harmed or killed.¹⁰¹ Some are taonga.
- 9.24 The protection of areas of indigenous vegetation and habitats of indigenous fauna is a matter of national importance under section 6 of the RMA. Yet it is abundantly clear that clear fell harvesting often results in significant adverse environmental effects, including for biodiversity, and is therefore contrary to sections 6 and 43A(3) of the RMA. As a harvesting method, clear fell harvesting should be the exception (pursuant to a reverse burden) under the NESPF. The presumption, thus, would be that alternative, less ecologically destructive harvesting methods, should be deployed.
- 9.25 Freshwater biodiversity protections under the NESPF should also be revisited. Shortcomings include:
- (a) The focus of regulatory protection is on streams as freshwater fish spawning habitat. This fails to recognise the broader ecosystem value of freshwater habitat, or habitat at other stages of a freshwater fish's life. The NESPF should recognise that freshwater biodiversity is not limited to fish species and other aquatic species should be recognised and protected, including protection of ephemeral water bodies;
 - (b) The exclusion of ephemeral streams (which only flow part of the year after rainfall) from the NESPF's definition of perennial river. Ephemeral streams are highly important for vertebrate life. As a result, the NESPF fails to provide protection for entire ecosystems;¹⁰²

⁹⁸ EDS NESPF Review, at 12.

⁹⁹ Year One Review, at 31.

¹⁰⁰ Year One Review, at 29.

¹⁰¹ EDS NESPF Review, at 12.

¹⁰² EDS NESPF Review, at 15.

- (c) River crossings other than fords may be installed as a permitted activity regardless of the water body's significance as habitat;¹⁰³
- (d) New fords are not permitted in a river listed in a regional plan or water conservation order as a habitat for *threatened* indigenous freshwater fish or as a freshwater fish spawning area, but this does not provide any protection for those at risk but not threatened, except when they are spawning;¹⁰⁴ and
- (e) Reliance on the New Zealand Freshwater Fish database and Freshwater Fish Spawning Indicator to predict the presence of absence of fish is questionable due to significant data gaps.¹⁰⁵

Other issues that need to be addressed under an amended NES

SNA

- 9.26 Afforestation does not enjoy permitted activity status within SNAs. However, the protection of SNAs relies on their identification pursuant to a regional policy statement or plan. The extent to which Councils have identified and mapped SNAs is variable, and therefore their protection.
- 9.27 A better position would be to place an onus on forest operators to demonstrate *prior* to afforestation that the proposed areas do not contain indigenous vegetation cover, and that if they:
- (a) Do, it does not qualify as an SNA; or
 - (b) Do not, their forestry management plan identifies where SNAs are located and how they will be protected throughout the forestry rotation.¹⁰⁶
- 9.28 Currently, only harvest plans must identify the location of SNAs to be protected, and how harvest operations will ensure that:
- (a) There is no significant affect to SNA values; and
 - (b) The ecosystem will recover to a state where it is predominately of the composition previously found at that location within 36 months.

There is no requirement for independent expert ecological advice in relation to assessing the adequacy of any proposed measures in this regard.¹⁰⁷

- 9.29 As noted above at paragraph 9.27, the point of SNA protection should not be at harvest. SNA protection must be incorporated into forest design and planning to understand how the

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ EDS NESPF Review, at 13.

¹⁰⁷ EDS NESPF Review, at 14.

overall forestry operation will likely affect SNAs.¹⁰⁸ Again, a more holistic, lifecycle approach to forestry management planning prior to afforestation will better ensure the avoidance of adverse environmental effects.

9.30 Other concerns we have noted in relation to the SNAs include that:

- (a) The anticipated expansion of forestry land could give rise to the conversion of grassland and shrubland that may qualify as an SNA simply because they have not been identified as such by Council, and there are either no or inadequate controls for the clearance of indigenous vegetation prior to afforestation (which fall outside the NESPF). In such cases, “there is a real risk that there may be no interaction with Council prior to afforestation occurring.”¹⁰⁹ The Year One Review noted that the NESPF rules should include vegetation clearance pre-afforestation so that afforestation does not occur on land that has, or may develop, high indigenous biodiversity values.¹¹⁰
- (b) The ecological rationale for setbacks from SNAs for many plantation forestry activities is questionable, with many insufficient (e.g., 10m when trees may be as tall as 50m), or indeed not required at all (e.g., earthworks).¹¹¹
- (c) Although the NESPF allows Councils to apply more stringent rules to protect SNAs and other areas meeting Policy 11 of the NZCPS in the coastal marine area, in practice only a few Councils have identified marine SNAs. This means that ecologically significant coastal sites may not receive adequate protection from sedimentation impacts through regional rules. Support is necessary to require and incentivise regional councils to progress the identification of marine SNAs and provide guidance to help them derive regional rules relating to plantation forestry that address the effects of sediment on marine SNAs.¹¹²

Landscape and natural character

9.31 The NESPF protects landscapes and natural character only in relation to ONLs and VALs that have been identified in Council plans or policies by description or location.¹¹³ Areas of natural character are not referred to in the NESPF.¹¹⁴

9.32 Greater stringency is permitted to protect identified ONLs, but not for VALs, in respect of which controlled activity status applies to afforestation. In this regard,¹¹⁵

¹⁰⁸ EDS NESPF Review, at 14.

¹⁰⁹ EDS NESPF Review, at 14.

¹¹⁰ Year One Review, at 33.

¹¹¹ “The Scion assessment of the environmental costs and benefits of the NESPF did not include any evidence that a 10m setback would be adequate to protect SNAs.” (Scion 2015), cited in EDS NESPF Review, at 14.

¹¹² EDS NESPF Review, at 15.

¹¹³ EDS NESPF Review, at 29.

¹¹⁴ EDS NESPF Review, at 29.

¹¹⁵ EDS NESPF Review, at 30.

“although Councils have the ability to impose conditions in respect of matters over which control is reserved, these conditions cannot be so onerous so as to frustrate the consent. Because there is no ability for Councils to adopt more stringent provisions to control impacts on visual amenity landscapes, afforestation in these areas cannot be avoided and Councils are restricted to ‘tinkering around the edges’ in an effort to try and ameliorate effects.”

Instead, the activity status for afforestation in VALs should be changed so that afforestation can be declined.¹¹⁶

9.33 There is no ability to control the effects of plantation forestry adjacent to VALs or areas of natural character.

9.34 The EDS NESPF Review concluded that:¹¹⁷

“The lack of value placed on visual amenity landscapes is a significant gap. These landscapes are generally identified due to their significance to local communities, forming an important part of their background and heritage. [T]heir protection is important. Plantation forestry comes with significant visual impacts, but also other impacts on amenity such as reduced access, noise and traffic.”

9.35 The EDS NESPF Review also found that the NESPF does not directly control the effects of plantation forestry on the natural character of the coastal environment.¹¹⁸ Councils could adopt more stringent provisions for this purpose, but this places the onus back on Councils to develop and pursue appropriate controls and justify when greater stringency is warranted. Why natural character has been treated differently to landscape is not clear.

9.36 In summary, Councils should have flexibility to apply greater stringency to protect ONLs and VALs, including areas that qualify as such but have not yet been identified in plans.

Setbacks

9.37 The NESPF’s setback standards are inconsistent (both across the range of water bodies and as between forestry activities), inadequate and ecologically questionable. By way of summary, and subject to various listed exceptions:

- (a) Afforestation and the operation of harvesting machinery must not be undertaken within:
 - i. 5m of a perennial river less than 3m wide or a wetland larger than .025ha;
 - ii. 10m of a river greater than 3m, lake larger than 0.25ha, an outstanding freshwater body, a water body subject to a conservation order, or an SNA;
 - or
 - iii. 30m of a coastal marine area

¹¹⁶ EDS NESPF Review, at 30.

¹¹⁷ EDS NESPF Review, at 30.

¹¹⁸ EDS NESPF Review, at 30.

- (b) Earthworks must not be undertaken within:
 - i. 10m of a perennial river, wetlands or lakes larger than 0.25ha, an outstanding freshwater body or water body subject to a conservation order; or
 - ii. 30m of a coastal marine area
 SNAs are not addressed.

- (c) Forestry quarrying must not be undertaken within:
 - i. 20m perennial river of any size, wetland or lake larger than 0.25ha; or
 - ii. 30m of a coastal marine area.

No other water bodies are mentioned (e.g., outstanding freshwater bodies).

9.38 Thus, setback standards:

- (a) Only apply to a portion of water bodies, either because of size restrictions (e.g., wetlands) or due to exclusion altogether (ephemeral streams).
 - i. With wetlands on the precipice of total loss in Aotearoa New Zealand, the setbacks completely fail to recognise that many of the country's remaining wetlands are compositionally unique and home to many endemic flora species, irrespective of their size, and that even small wetlands have very high ecological values, intrinsically and ecologically;¹¹⁹
 - ii. Similarly, rivers less than 3m wide are equally as valuable as those greater than 3m.¹²⁰ Smaller streams in the headwaters are the main conduits to lower reaches, meaning water quality impacts there will significantly increase cumulative impacts further down the catchment.¹²¹ Loss of riparian vegetation in upper reaches will likely result in increased water temperatures at the point of tree clearance and down the catchment due to loss of shading.¹²² Smaller rivers, both those with continuous and intermittent flow, and surrounding riparian vegetation provide critical ecological habitat.¹²³

To this end, "size of the water body is not determinative of its value, so should not be used as the determinant for the application or width of setback. What should be determinative is the sensitivity of the water body, and its slope, soil, and rainfall."¹²⁴

¹¹⁹ EDS NESPF Review, at 20.

¹²⁰ EDS NESPF Review, at 21.

¹²¹ *Ibid.*

¹²² *Ibid.*

¹²³ *Ibid.*

¹²⁴ *Ibid.*

- (b) Are inadequate to protect riparian and instream ecosystem health. A minimum setback width of 10m is needed to achieve improvements in instream habitat and provide sustainable riparian areas;¹²⁵
- (c) Are either set at a distance for which no ecological (or scientific) justification has been evidenced (5m) or at a distance (10m) which, in light of the damage that occurs during harvesting, will effectively be halved. Generous setbacks need to apply at the point of afforestation and replanting because it is difficult to impose greater setbacks later;¹²⁶
- (d) Do not factor in degradation and loss of the setback buffer during harvesting; and
- (e) Do not properly account for the water absorption impacts of trees in close proximity to wetlands and smaller water bodies. The NESPF setbacks should adopt a conservative distance consistent with achieving protection of the most sensitive water bodies on replanting.¹²⁷

9.39 These deficiencies are resulting in forestry activities having adverse impacts on water quality, natural character and aquatic ecosystems, thereby calling into question the lawfulness of permitted setback standards under s 43A(3) of the RMA.¹²⁸

Sediment controls

9.40 Sediment controls under the NESPF are vague and unenforceable. They require the management of sediment originating from applicable forestry activities to ensure that “after reasonable mixing” it does not give rise to “any conspicuous change in colour or visual clarity”, the rendering of fresh water unsuitable for consumption by farm animals, or any significant adverse effect on aquatic life in the receiving waters. We acknowledge that the phrase “reasonable mixing” derives from RMA’s provisions regarding discharges. Nevertheless, it is unclear how to determine the point at which “reasonable mixing” may have occurred, nor indeed what would constitute “any conspicuous change in colour or visual clarity”. It is unclear how compliance with this standard can be measured, adequately monitored, or enforced.

9.41 It is also unclear why a different set of effects are listed in relation to “disturbed soil” from harvesting, which “must be stabilised or contained to *minimise* sediment entering into any water and resulting in (a) the diversion or damming of any water body; or (b) degradation of the aquatic habitat, riparian zone, freshwater body, or coastal environment; or (c) damage to downstream infrastructure and properties.¹²⁹ In addition, the term “minimise” is inherently subjective and there are no clear baseline attributes, nor measurable quantitative

¹²⁵ EDS NESPF Review, at 20.

¹²⁶ EDS NESPF Review, at 24.

¹²⁷ EDS NESPF Review, at 20.

¹²⁸ EDS NESPF Review, at 20.

¹²⁹ NESPF, Regulation 67(2).

or qualitative level of ‘acceptable’ effects, against which to assess compliance.¹³⁰ Clear standards are essential, providing how and where to measure an acceptable percentage change in visibility, and within what time periods.

- 9.42 Such regulatory uncertainty, together with a permitted activity standards approach to regulatory control, risk cutting across the objectives of the NPS FM, including staying within limits, integrated catchment management, and the protection of ecosystem health, wetlands, and outstanding water bodies.¹³¹ Although regulation 6(1)(a) provides that rules or plans *may* be more stringent than the NESPF for the purpose of giving effect to the NPS FM, this is obviously not mandatory. The absence of such stringency (and a nationally consistent approach in this regard), in concert with the uncertain application and enforceability of sediment controls under the NESPF, jeopardise the health and well-being of water bodies and freshwater ecosystems. It is therefore essential that the NESPF’s sediment controls fully and expressly align with the objectives and requirements of the NPS FM.

10 Concluding remarks

- 10.1 Realising the full range of intergenerational benefits associated with forests is complex, with multiple policies and interests at play. Careful, long-term strategic thinking is necessary to chart a clear path towards a sustainable, biodiverse, climate-resilient forest future for Aotearoa New Zealand.
- 10.2 The first critical steps on this journey are to make the NESPF fit-for-purpose, and to counteract the ETS’s economic bias towards *Pinus radiata*. We would welcome further involvement in each of these tasks.

¹³⁰ EDS NESPF Review, at 21.

¹³¹ EDS NESPF Review, at 24.