

# **NES-Plantation Forestry:** Development and workability analysis to support Mana Taiao Tairāwhiti submission to the Ministerial Inquiry into Land Use

## Purpose

The Hon Stuart Nash (Minister of Forestry) and the Hon David Parker (Minister for the Environment) announced on 23 February 2023 the Ministerial Inquiry into Land Use (MILU) causing woody debris, including forestry slash, and sediment-related damage in Te Tairāwhiti, Tūranganui-a-Kiwa and Te Wairoa regions.

This report was commissioned by Te Weu Charitable Trust to provide an analysis of the development of, and a summary of stakeholder submissions, on the National Environmental Standards for- Plantation Forestry since its inception to the present day to support a submission by Mana Taiao Tairāwhiti on the Ministerial Inquiry into Land Use in Te Tairāwhiti, Tūranganui-a-Kiwa and Te Wairoa regions.

The report provides a brief background to the NES-PF and presents a system view of forestry management. Summaries of some of the commentary deemed most relevant to the MILU from officials, local government representatives, and industry, are provided. Commentary is categorised by key questions that relate to the various components within this system view. Further analysis on commentary themes is provided by the author along with further context on the development of the NES-PF, and expert commentary on aspects of NES-PF design and implementation. This analysis includes:

- The impact of Ministry for Primary Industries vs Ministry for the Environment-led NES-PF development
- The impact of resource management reform on future NES-PF revision
- Commentary on the 2015 consultation process with iwi
- Assessing erosion risk in the context of climate change.

Submission themes that were considered out of scope were:

- Impacts on native fish, birds, bats, and bees
- Wilding conifer spread
- Genetically modified plantation species

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## Executive Summary

Stakeholder positions on the National Environmental Standards for Plantation Forestry (NES-PF) throughout its development were reviewed. Stakeholders included iwi/hapū, local authorities, environmental NGOs, forestry operators, and subject matter experts. The advice of central government agencies was also consulted. The timeframe under which this review was completed meant the number of positions reviewed was limited. The positions and advice reviewed point to seven main themes:

- The Resource Management Act 1991 is unsatisfactory to deliver expectations for environmental outcomes for all stakeholders, and particularly those of iwi/hapū and environmental NGOs.
- The NES-PF permits forestry activities under conditions which, when they are breached, cause significant environmental effects.
- The Erosion Susceptibility Classification (ESC) model has limitations in terms of its core assumptions, and the data on which it depends, which render its resulting erosion risk classification zones inaccurate at the land-block scale.
- The NES-PF's ESC and Annual Exceedance Probability (AEP) thresholds do not adequately account for the consequences of landslide events when calculating risk.
- Industry standards lack sufficient guidance on managing debris flows. Multiple forestry operators in Tairāwhiti have been found breaching permitted activity rules and the terms of their consents.
- Monitoring and enforcement by the GDC has been lacklustre citing a lack of available resourcing, however monitoring and enforcement has increased since 2018.
- GDC is currently considering bringing forward a review of forestry rules in the regional and district plan, but no formal review is proposed to include consenting practices.

Further analysis of the themes imparted the following conclusions:

- Central government and industry approaches to forestry appear to underestimate the impact the post-harvest period has within the forestry cycle on increasing erosion risk.
- Claims that NES-PF development and gazettal is 'ultra-vires' are likely unfounded. The Ministry for Primary Industries leading the development of the NES-PF as opposed to the Ministry for the Environment is unlikely to have significantly influenced the final NES-PF wording.
- The proposed resource management reform may significantly improve forestry issues in Tairāwhiti, and the degree of engagement by central government with iwi/hapū, by addressing legacy issues with New Zealand's resource management system.
- The effects of climate change on New Zealand's national and regional weather patterns has not been sufficiently considered throughout the development of the NES-PF. Future weather predictions need to inform risk thresholds when making decisions about permitting or prohibiting forestry activities.

## Background

### Resource Management in Aotearoa New Zealand

The Resource Management Act 1991 (RMA) is the primary piece of legislation governing management and use of natural resources in New Zealand. National Environmental Standards are secondary legislation and an RMA instrument by which central government can prescribe technical standards, methods, or other requirements for environmental matters at the regional and district level. National Environmental Standards must be consistent with the purpose and principles of the RMA (see figure 2). Regional planning rules must not conflict with National Environmental Standards.



Figure 1. Hierarchy of resource management planning instruments in New Zealand<sup>1</sup>.

<sup>1</sup> Medium Density Housing, 2023

## 5 Purpose

- (1) The purpose of this Act is to promote the sustainable management of natural and physical resources.
- (2) In this Act, **sustainable management** means 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.

*Figure 2. The overarching purpose of the RMA 1991 with which all planning instruments must be consistent.*

## National Environmental Standards - Plantation Forestry

The National Environmental Standards for Plantation Forestry (NES-PF) objectives set by Cabinet were to:

- maintain or improve the environmental outcomes associated with plantation forestry activities
- increase the efficiency and certainty of managing plantation forestry activities.

The NES-PF sets standards for eight core plantation forestry activities, allowing these to be carried out as permitted activities, subject to conditions to manage potential effects on the environment.<sup>2</sup>

The NES-PF classifies permitted, controlled, and restricted discretionary activities to apply to different land classes. Most relevant to the MILU are rules for slash (figure 3), harvesting (figure 4), and slash and debris management when harvesting (figure 5).

### 20 Permitted activity conditions: slash

- (1) Slash from pruning and thinning to waste must not be deposited into a water body, onto the land that would be covered by water during a 5% AEP event, or into coastal water.
- (2) If subclause (1) is not complied with, slash from pruning and thinning to waste must be removed from a water body, the land that would be covered by water during a 5% AEP event, and coastal water, unless to do so would be unsafe, to avoid—
  - (a) blocking or damming of a water body;
  - (b) eroding river banks;
  - (c) significant adverse effects on aquatic life;
  - (d) damaging downstream infrastructure, property, or receiving environments, including the coastal environment.

*Figure 3. Minimum prescribed conditions for slash activities under [Part 2 subpart 2: Pruning and thinning to waste](#).*

<sup>2</sup> Ministry for Primary Industries, 2022a

**63 Permitted activity***Territorial authority*

- (1) Harvesting is a permitted activity if [regulation 64\(1\) and \(2\)](#) is complied with.

*Regional council*

- (2) Harvesting is a permitted activity if [regulations 64 to 69](#) are complied with and the harvesting is in any—
  - (a) green, yellow, or orange zone; or
  - (b) red zone that is not of Land Use Capability Class 8e, where it involves no more than 2 ha of harvesting in any 3-month period.
- (3) Harvesting where a minimum of 75% canopy cover is maintained at all times for any given hectare of plantation forest land (low-intensity harvesting) is a permitted activity in all erosion susceptibility classification zones if [regulations 64 to 69](#) are complied with.

Figure 4. Minimum prescribed conditions for harvesting activities under [Part 2 subpart 6: Harvesting](#)

**69 Permitted activity conditions: slash and debris management**

- (1) Slash from harvesting must be placed onto stable ground.
- (2) Slash from harvesting that is on the edge of landing sites must be managed to avoid the collapse of slash piles.
- (3) Slash from harvesting must not be deposited into a water body or onto the land that would be covered by water during a 5% AEP event.
- (4) If subclause (3) is not complied with, slash from harvesting must be removed from a water body and the land that would be covered by water during a 5% AEP flood event, unless to do so would be unsafe, to avoid—
  - (a) blocking or damming of a water body;
  - (b) eroding river banks;
  - (c) significant adverse effects on aquatic life;
  - (d) damaging downstream infrastructure, property, or receiving environments, including the coastal environment.

Figure 5. Minimum prescribed conditions for slash and debris management activities under [Part 2 subpart 6: Harvesting](#)

## Annual Exceedance Probability

Deposition of slash is restricted in instances according to Annual Exceedance Probability (AEP).

AEP is the probability of a certain size of flood flow occurring in a single year. A 5 per cent AEP flood flow has a 5 per cent, or 5-in-100 chance of occurring in any one year, and a 50 per cent chance of occurring in any 10 year period.

## Erosion Susceptibility Classification

Harvesting is a permitted activity depending on certain conditions being met, and depending on which zone (green, yellow, orange, or red) it is planned to occur in. Zones are determined via the Erosion Susceptibility Classification (ESC) data layer hosted on the MPI website.

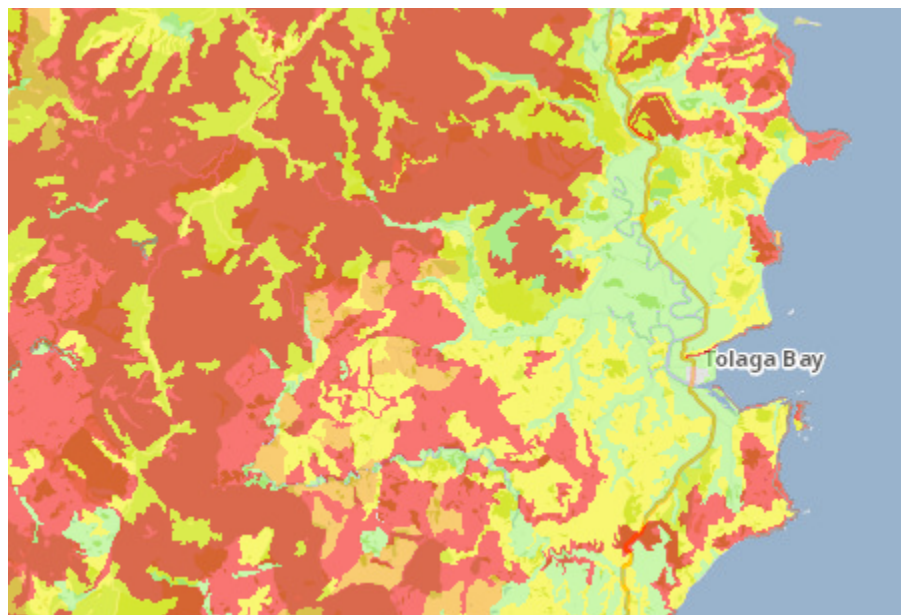


Figure 6. Snapshot of erosion susceptibility land classes west of Tolaga Bay, Tairāwhiti. Orange (high risk) or red (very high risk) — land more likely to erode. Most forestry activities can't be carried out on red-zoned land without resource consent. Some activities, such as earthworks also require consent on orange-zoned land with steeper slopes. (accessed : [https://mpi\\_nes.cloud.eaglelegis.co.nz/NESPF/](https://mpi_nes.cloud.eaglelegis.co.nz/NESPF/))

The classification categorises erosion risk based on the NZLRI Land Use Classification (LUC) database. The ESC interprets risk according to three factors inherent within LUC.

- steepness of slope
- dominant erosion processes like wind or water
- rock type

Slope data relies on a digital elevation model that records steepness at a scale of 1:50,000. The Land Use Classification 3rd Edition Handbook describes this scale as suitable for regional or district studies which is equivalent to a 10ha 'smallest area' of interest, sufficient to capture major soil and landform types.<sup>3</sup>

## Development of the NES-PF

**2009** – Minister for the Environment, Hon. Nick Smith, approves a scoping project into national environmental standards for plantation forestry.

**2009 to 2013** – The Ministry for the Environment (MfE) works with the commercial forestry sector, councils and other stakeholders to define the issues and draft preliminary conditions. Consultation is held in 2010 and 2011. Feedback shows further development of the proposal is needed.

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<sup>3</sup> Lynn, et al., 2009 (pg 11)



**2013** – Cabinet directs Ministry for Primary Industries (MPI) to address inconsistent forestry planning.

**2015** – Consultation opens on the NES-PF. 18,732 submissions are received from stakeholder groups and individual members of the public.

**2017** – Draft regulations are prepared and a draft circulated to a panel of technical experts to assess their clarity and workability. The panel includes representatives from councils, the plantation forestry sector and key environmental non-governmental organisations.

**2017 (May to June)** – Further consultation is held on a proposal to include a provision allowing councils to charge fees for monitoring permitted activities in the National Environment Standards for Plantation Forestry (NES-PF). This follows an amendment to the RMA which allows councils to charge a fee for monitoring permitted activities under a National Environmental Standard.

**2017 (June to August)** – Draft regulations are revised after consultation<sup>4</sup>. Final regulations under the NES-PF are approved by Cabinet and published in the New Zealand Gazette.

**2022 (November)** - MfE, MPI, and Te Uru Rākau consulted on four topics relating to afforestation and management of plantation and exotic carbon forests. Submissions are currently being processed.

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<sup>4</sup> Page 8 of Ministry for Primary Industries, 2017a summarises the additional analysis made to inform the final NES-PF draft.

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## Commentary on select aspects of the NES-PF

Submissions on the 2015 NES-PF consultation varied substantially by position, specificity, and areas of priority. The [NES-PF Report on Submissions and Recommendations](#) technical paper provides a summary of submissions and recommendations by sector, identifies the general themes, and provides an analysis of submissions and recommendations with reference to NES-PF content and development. Given time constraints on the development of this report, the commentary provided here is limited to those deemed most relevant to the scope.

The NES-PF does not operate in isolation from the broader resource management system and its key players, therefore a system view of the NES-PF is provided in figure 7. The key questions that relate to each system component are presented in figure 8. Key commentary by stakeholders is organised under these question headings.

### A systems view of forestry management

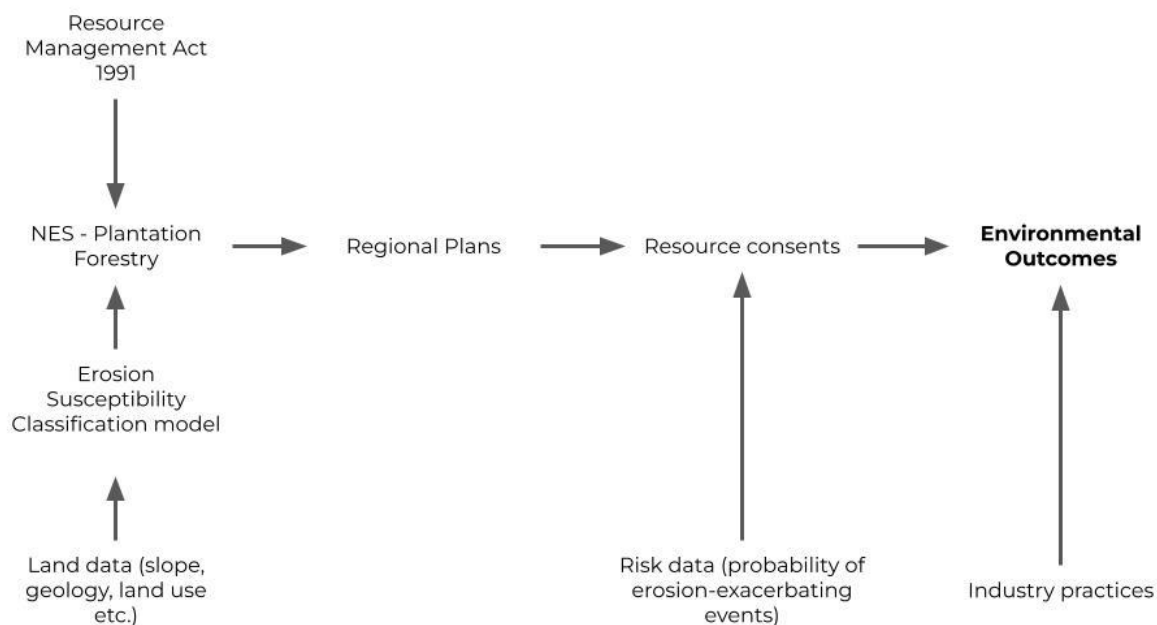


Figure 7. A simplified systems view of the components that contribute to environmental outcomes in the forestry sector.

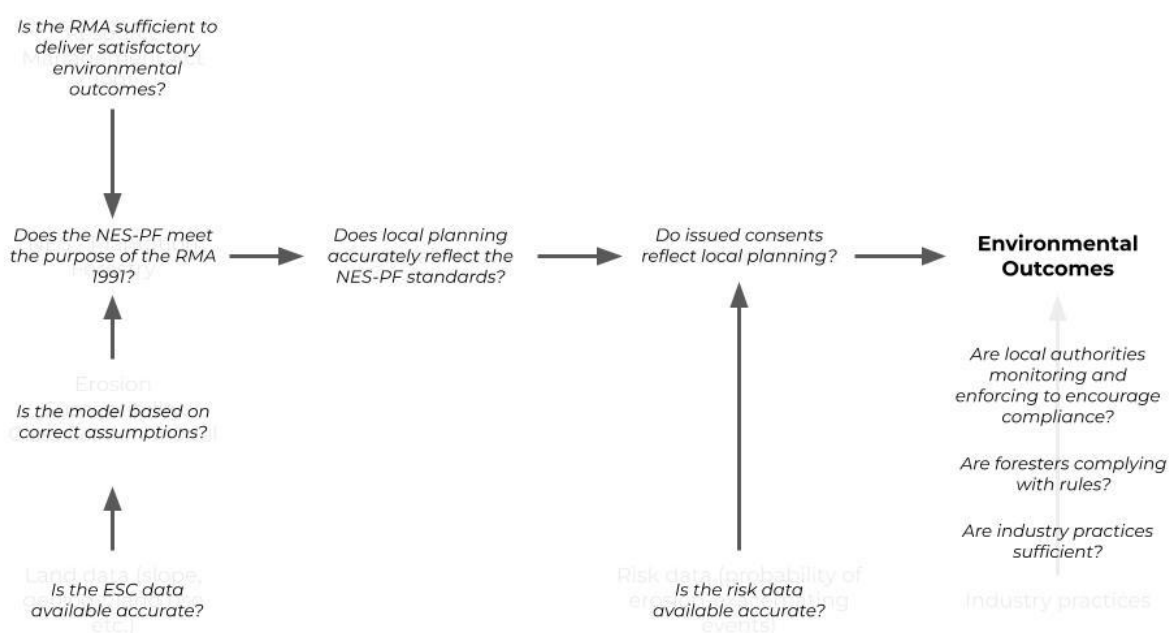


Figure 8. Key questions overlaying the system components that contribute to environmental outcomes in the forestry sector.

## Is the RMA sufficient to deliver satisfactory environmental outcomes?

It's necessary to consider that the NES-PF may be consistent with the RMA, yet due to deficiencies in the RMA is not adequately managing our use of the environment. The resource management reforms underway since 2021 indicate government acknowledgement that the RMA is failing. The Resource Management Review Panel, chaired by Tony Randerson, was appointed by the Minister for the Environment to undertake a comprehensive review of the resource management system in New Zealand. Among other recommendations, the resulting 'Randerson Report' recommends that resource management reform:

- establish a stronger system of environmental limits that incorporates a safety buffer to manage risks and uncertainty;
- codify the precautionary principle, favouring protection where there is uncertainty about information but significant risk of irreversible harm; and
- make plan-making more efficient and responsive to change, so that it better accommodates the uncertainty associated with climate change adaptation<sup>5</sup>.

These recommendations respond to the following observations made (particular to this kaupapa):

1. New Zealand's natural environment is under significant pressure: the way we use land and water has proved to be unsustainable for the natural environment. The quality of our freshwater,

<sup>5</sup> Randerson et al., 2020 (pg 29)

coastal and marine environments is in serious decline, and biodiversity is under significant threat.

2. An urgent need to reduce carbon emissions and adapt to climate change: the impacts of climate change are already affecting where people live and how we use our environment. Our land and resource use patterns need to change to mitigate and adapt to the effects of climate change and we need a resource management system that supports New Zealand's commitments to reduce greenhouse gas emissions.
3. The need to ensure that Māori have an effective role in the system, consistent with the principles of Te Tiriti o Waitangi: when it was enacted, the RMA was a significant step forward for Māori, offering opportunities for shared management of the environment. However, it has failed to live up to its promise, leaving Māori out of critical decision-making.
4. The need to improve system efficiency and effectiveness: significant criticisms of the RMA have been its increasing complexity, cost and delay caused by its processes, uncertainty, and lack of responsiveness to changing circumstances and demands.

The NES-PF may be inherently failing to deliver environmental outcomes because as a National Environmental Standard it is secondary legislation to legislation that is also failing.

## Does the NES-PF meet the purpose and principles of the RMA 1991?

### Cost-benefit analyses

In 2017 the Minister for the Environment presented a cabinet paper to the Cabinet Economic Growth and Infrastructure Committee. The cabinet paper stated that the policy objectives of the NES-PF are the most appropriate to achieve the purpose of the RMA and that there would be significant environmental benefits<sup>6</sup>. This statement mischaracterized the conclusions drawn in the section 32 report produced by NZIER which states only that the NES was found to be the most effective and certain option to deliver net environmental benefits. The report specifically stated under its 'effectiveness assessment' that NES-PF provisions will "maintain or improve environmental outcomes"<sup>7</sup> i.e., there is uncertainty whether there will be environmental benefits beyond the status quo, and it is unsure to what degree they could be expressed. NZIER's 2016 analysis stated the difficulties inherent in costing environmental benefits in analysis, specifically that "in some cases, there is not enough information to understand what the magnitude of costs and benefits is, particularly on environmental issues."<sup>8</sup> Submitters to the 2015 consultation also picked up on this. The Forest and Bird Mercury Bay branch remarked that, "the environmental costs have been woefully under-studied and considered within the cost benefit analysis."<sup>9</sup>

<sup>6</sup> Minister for the Environment, 2017a

<sup>7</sup> Ministry for Primary Industries, 2017b (pg 91)

<sup>8</sup> NZIER, 2016

<sup>9</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups A-L (pg 109)

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## Environmental impacts

A considerable number of submissions to the 2015 consultation from environmental non-government organisations (NGOs) and some iwi expressed concern that the NES-PF was too permissive and would result in environmental damage:

- Submissions by Hikurangi Takiwa Trust and Te Papatipu O Uepohatu Charitable Trust (entities representing mana whenua in the Waiapu Valley near Ruatōrea) opposed the NES-PF on the grounds that it would relax regulation further and ultimately be devastating for the district – both in terms of the life of waterways and soil conservation.<sup>10</sup>
- ECO NZ argued that more consideration needed to be given for how the NES-PF meets the purpose and principles of the RMA.<sup>11</sup>
- The Fish & Game Council considered NES-PF 2015 draft rules, “do not ensure that adverse effects of plantation forestry activities including cumulative effects are avoided, remedied, or mitigated...”<sup>12</sup>
- The Forest and Bird Dunedin branch said it was too permissive, and remarked that the NES-PF was an activity-based approach to rule-setting, rather than effects-based as is the RMA generally.<sup>13</sup> The Marlborough Sounds Integrated Management Trust agrees.<sup>14</sup> MfE has since acknowledged under resource management reform analysis that sector-specific national direction such as the NES-PF, “may have been better addressed with consistent limits for sediment and earthworks regardless of the activity”<sup>15</sup>.
- The Forest & Bird central branch considered that the designation of permitted activities removing certain forestry activities from the consenting process forgone the benefits of enabling site-specific mitigation measures that can’t be provided for in permitted activity standards. Further, permitted activities requiring management plans may be ineffective if councils have no power to require changes to them when they’re deemed unsatisfactory.<sup>16</sup>
- The Forest and Bird Mercury Bay branch said “If forestry companies want the benefits of a standardised approach and to take away the opportunity for public input they must be able to show that it will actually achieve better outcomes for the environment.”<sup>17</sup>
- Forest and Bird, and other environmental NGO submitters took issue with clear-felling, which the NES-PF allows as a permitted activity on all ESC zones albeit only 2,500 m<sup>2</sup>/hectare.
- Multiple environmental organisations proposed specific rule changes they felt would enable the NES-PF to meet their expectations for environmental outcomes e.g., greater riparian setbacks and prohibited clearfelling.

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<sup>10</sup> Hikurangi Takiwā Trust, 2015

<sup>11</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups A-L (pg 22)

<sup>12</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups A-L (pg 61)

<sup>13</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups A-L (pg 74)

<sup>14</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups M (pg 1)

<sup>15</sup> Ministry for the Environment, 2022 (p 193)

<sup>16</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups N-Z (pg 48)

<sup>17</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups A-L (pg 97)

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- Arguments were made by a number of submitters for better recognition of the impacts of forestry activities on sensitive receiving environments such as freshwater bodies, estuaries, and the coastal marine area, and the species that inhabit them.
- Environmental NGO and iwi submitters generally supported consenting authorities to retain the ability to make more stringent rules than the NES-PF prescribed.

Building on their 2015 submission, the Environmental Defence Society (EDS) has lodged legal proceedings in the Environment Court seeking a declaration that the NES-PF breaches the RMA by permitting harvesting in orange (high-risk erodible) zones because this permission is inconsistent with the RMA's statutory purpose.<sup>18</sup>

A specific area of focus was the designation of forestry activities on orange class (high risk erodible) land as permitted activities. Hikurangi Takiwa Trust's 2015 submission, argued that Section 43 A (3) (b) of the RMA does not allow an NES to state that an activity is a permitted activity if it has significant adverse effects on the environment, and that afforestation and harvesting on 'high-risk erodible' land is such an activity. This argument was raised by other submitters including the (EDS and was raised again by GDC in 2022: "Due to the effects of clear-fell harvest, [deforestation] should be avoided on erosion prone land." Their general message was that the NES-PF was not fit for purpose in regions like Tairāwhiti.<sup>19</sup> Mark Bloomberg - a senior academic within the School of Forestry at the University of Canterbury, and who has provided expert commentary on the aspects of the NES-PF throughout its development, contends that controlled activity status, "should be the default minimum for earthworks and clearfell harvesting on orange ESC land, as these activities may not meet the threshold for permitted activity status on land highly susceptible to erosion".<sup>20</sup>

## Forestry operators

Forestry operators have expressed that regardless, they would prefer rules that restrict afforestation or replanting to equally restrict harvesting to avoid the possibility of investment in forestry where harvesting becomes prohibited. The Forest Owners Association (FOA) contend that criticisms of the NES-PF are precipitous given the NES-PF is only five years old. They consider the NES-PF could take a full plantation cycle (30 years) for full benefits to be realised.<sup>21</sup>

Under the RMA, decision-makers must balance competing priorities for resource use. These priorities are listed under sections 6-7 of the act identifying national and other matters of importance that must be recognised and provided for, or given particular regard to, respectively. Whether these matters have been balanced appropriately is a constant source of debate. What is clear from environmental NGO and

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<sup>18</sup> Environmental Defence Society Incorporated, 2023

<sup>19</sup> Gisborne District Council, 2023b (attachment 2)

<sup>20</sup> Bloomberg, 2022

<sup>21</sup> Forest Owners Association, 2022

iwi/hapū submissions is that the NES-PF does not reflect their expectations for environmental outcomes from forestry.

## Is the ESC model based on correct assumptions?

2015 consultation submitters raised concerns that the NES-PF would permit forestry activities on highly erosion prone land (the 'Orange Zone'), and increase the potential for significant adverse effects to arise from higher risk forestry activities (harvesting, earthworks, and mechanical land preparation) on this land.<sup>22</sup> Other key concerns with the ESC summarised in this report were:

- The ESC should incorporate the probability and impact of high intensity rainfall events and climate change;
- The ESC is focused on erosion susceptibility and does not address the 'downstream' risks of sediment, slash and debris delivery to receiving environments; and
- The reliance on the New Zealand Land Resource Inventory (NZLRI) to derive the ESC ratings does not adequately represent erosion susceptibility.<sup>23</sup>

Mark Bloomberg argues that the NES-PF and guidance documents do not adequately address problems with the scale and accuracy of mapping for the ESC and the need for landslide hazard mapping by qualified geoscience professionals.<sup>24</sup>

A 2023 memorandum by EDS to the Environment Court argues that ESC's methodology is flawed because it does not address site-specific effects of sediment erosion<sup>25</sup>. This argument may find less traction in the Environment Court given the NES-PF still requires harvesting activities to have a harvest plan in place for all ESC zones, and an additional erosion management plan in place for orange and red zones that respond to site-specific characteristics in order for harvesting to be considered a permitted activity. It should be noted however that Cabinet received advice in 2017 that these particular activities should be monitored by council, recognising that large scale or long-term environmental impacts could occur if the harvest and erosion management plans were not complied with.<sup>26</sup>

## Is the ESC data available accurate?

The 2015 consultation summary or submissions and recommendations acknowledged submitters' views that the 1:50,000 scale of the ESC could significantly affect its accuracy to identify erosion risk features. For example, Fish & Game Council<sup>27</sup> and the Environment Institute of Australia and New Zealand Inc<sup>28</sup>.

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<sup>22</sup> Ministry for Primary Industries, 2017a

<sup>23</sup> Ministry for Primary Industries, 2017a

<sup>24</sup> Bloomberg, 2022

<sup>25</sup> Environmental Defence Society Incorporated, 2023

<sup>26</sup> Minister for the Environment, 2017a (para 35)

<sup>27</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups N-Z (pg 10)

<sup>28</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups N-Z (pg 15)

Robson 2013, Basher et al. 2015 note that the ESC has limitations related to the scale of mapping and misclassification of some land. Basher et al. 2015 consider this is best resolved through mapping at a more detailed scale. They provide an example:

*Part of the difficulty with classifying some LUC units was their broad definition. For example, legend 00 LUC unit 7e9 includes areas of highly erodible Separation Point Granite, but it also includes areas of weathered schist and greywacke. The ESC for this LUC unit applies to the unit as a whole, even though some parts of it are more susceptible to erosion than others.<sup>29</sup>*

The EDS in its 2023 Environment Court proceedings has declared that the NES-PF breaches the RMA specifically because it relies on an ESC that in turn relies on elevation data at an unreliable scale (1:50,000). GDC in its 2022 submission on the NES-PF suggested “the LUC and red zone [classification system] is too coarse a measure to be helpful in Tairāwhiti. The LUC system is used to identify risk zones and is mapped at a 1:50,000<sup>30</sup>.”

## Is the risk data available accurate?

The Wellington Recreational Marine Fishers Association was the only submitter in 2015 to recommend readjusting AEP to take into account climate change predictions in order to avoid or mitigate the effects of slash and debris movement. They argued that climate change has increased the depth and speed of depressions moving across the lower North Island dumping more water than perhaps the AEP model is able to predict.<sup>31</sup>

## Are industry practices sufficient?

Forest Owners Association president Grant Dodson contends that tree planting remains the answer for stabilising erodible soils. Dodson also acknowledged the forestry industry needs to improve practices and have done so since the 2018 Tolaga Bay storm, however there is further improvement the industry can make to stay ahead of climate change and reduce slash discharge.<sup>32</sup> A report prepared for the Gisborne District Council of industry practices suggests that industry standards fall short, reporting that, “New Zealand has a number of documents that support best harvesting practices, but few collate, detail or set standards for minimising debris flow risk.”<sup>33</sup>

A 2017 review by 4Sight Consulting on behalf of MPI to confirm the robustness of the 2017 NES-PF Exposure Draft restated Boffa Miskell’s earlier evaluation<sup>34</sup> that the NES-PF “ensures (...) no significant residual effects arise from activities that are permitted”. 4Sight Consulting concluded that Boffa Miskell’s

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<sup>29</sup> Basher, Lynn, and Page, 2015 (pg 11)

<sup>30</sup> Gisborne District Council, 2023b (attachment 2)

<sup>31</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups N-Z (pg 113)

<sup>32</sup> Farmers Weekly, 2023

<sup>33</sup> Visser, Spinelli, & Brown, 2018

<sup>34</sup> Flynn, 2017



evaluation endured despite the exposure draft changes, but noted that “a significant assumption of that evaluation was consistent compliance with all of the rules, controls and conditions.”<sup>35</sup> NZIER’s 2016 economic analysis also pointed to the success of the NES-PF depending on the compliance of forestry operators.<sup>36</sup>

## **Are foresters complying with rules?**

In 2018, GDC successfully prosecuted five forestry companies for poor forestry harvesting & management. Fines ranged from \$124,700 to \$379,500. In the wake of Cyclone Gabrielle GDC is extending its investigations.<sup>37</sup> The prosecutions are irrefutable evidence that regardless of whether the rules are fit for purpose, forestry companies have not regulated their practices sufficiently to comply with NES-PF rules.

In a 2021 review of the NES-PF, Te Uru Rākau concluded that, “further implementation support for councils and the forestry sector was required to lift performance and compliance”, and better national data to, “allow the development and implementation of a nationally consistent compliance, monitoring, and enforcement framework.”<sup>38</sup> Te Uru Rākau’s conclusion provides further evidence that assigning permitted activity rules for forestry activities would inevitably fail if the positive environmental outcomes anticipated were dependent on implementation support that was not provided for. In their 2022 submission, GDC stressed their inability to recover costs associated with compliance and monitoring activities<sup>39</sup>.

## **Are local authorities monitoring and enforcing to encourage compliance?**

Te Uru Rākau’s 2021 identification of a need for a nationally consistent compliance, monitoring, and enforcement framework suggests that some councils are not monitoring and enforcing activities sufficiently to encourage compliance by forestry operators. Indeed they note that, “where expectations of compliance activity are low and/or pressure to harvest is high, poor practice has been observed.”<sup>40</sup>

The 2017 RMA amendment enabled local authorities to charge for monitoring of permitted activities. 12 out of 16 councils surveyed in 2018 stated they had a permitted activity monitoring programme in place

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<sup>35</sup> 4Sight Consulting Limited, 2018

<sup>36</sup> NZIER, 2016

<sup>37</sup> NZ Herald, 2023

<sup>38</sup> Te Uru Rākau, 2020

<sup>39</sup> Gisborne District Council, 2023b (attachment 2)

<sup>40</sup> Te Uru Rākau, 2020 (pg 24)

for forestry. GDC at this time did not but stated that one was under development.<sup>41</sup> GDC's Chief Executive in 2022 said monitoring of forestry consent conditions had increased.<sup>42</sup>

The absence of full NES-PF compliance means that the question remains open whether the NES-PF could deliver positive environmental outcomes if implementation were appropriately resourced. Councils may have limited capacity and may have committed inadequate resources to properly monitor these sites.

## Does local planning accurately reflect the NES-PF standards?

Te Uru Rākau's one-year review of NES-PF implementation reported that all regional and unitary councils had undertaken, or were in the process of undertaking, alignment of the major parts of their plans that deal with forestry. They noted that most district councils in a sample had not undertaken alignment, but that this would have less direct impact on resource users given forestry activities largely trigger regional versus district planning activities.<sup>43</sup> At least two reports in 2016 and 2017 highlighted the need for GDC to take a more proactive approach to forestry consent monitoring and compliance.<sup>44 45</sup>

The MILU terms of reference notes that GDC has commenced a review of planning instruments to provide GDC and its community an opportunity to, "consider longer term land use changes to manage the effects of climate change and plantation forestry in the region, and achieve other environmental outcomes."<sup>46</sup> **Do issued consents reflect local planning?**

No formal review has been undertaken by GDC to determine whether the issuance of consents for forestry activities are consistent with planning rules. Generally however, the resource management reform policy development process has identified that plans and consenting don't adequately control for cumulative effects.<sup>47</sup> In the context of forestry, and in the absence of more stringent rules than the NES-PF being set in planning, multiple consents for erosion-inducing forestry activities could be granted in the same catchment and compound erosion risk and potential impacts.

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<sup>41</sup> Brown, 2018 (p52)

<sup>42</sup> Gisborne District Council, 2022

<sup>43</sup> Te Uru Rākau, 2020 (pg 43)

<sup>44</sup> Phillips, Basher, & Marden, 2016

<sup>45</sup> Gisborne District Council, 2017

<sup>46</sup> Terms of Reference for the Ministerial Inquiry into Land Use. Retrieved from <https://environment.govt.nz/assets/Terms-of-Reference-for-Ministerial-inquiry-v2.pdf>

<sup>47</sup> Ministry for the Environment, 2022

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## Summary of 2017 changes in response to commentary

The ESC was revised in 2015 by Manaaki Whenua on behalf of MPI with the intention of identifying LUC units in the High and Very High ESC classes that were misclassified or conservatively classified, and update the ESC accordingly. The ESC was subsequently changed for approximately 16% of LUC units, and mostly involved in lowering the ESC classification (eg., from red to orange, or orange to yellow) predominantly within te Wai Pounamu<sup>48</sup>. While the ESC was revised, it was made more permissible, rather than more stringent.

In February 2017, an exposure draft of the NES-PF was tested with a group of technical experts made up of regional councils and a Stakeholder Working Group which largely consisted of forestry industry representatives.<sup>49</sup>

Additional public consultation was held in May-June 2017 on an additional NES-PF provision to explicitly state that councils can charge for permitted activities. This was received with mixed support by submitters<sup>50</sup> but was ultimately included in the final NES-PF.<sup>51</sup>

The 2017 Cabinet paper *Revised Policy Proposal for the National Environmental Standard for Plantation Forestry* summarises the revision made to the final NES-PF. Of relevance to the commentary reference in this report, flexibility was incorporated for councils to manage nationally important resource management issues and unique and sensitive receiving environments, and to create more stringent rules in planning than the NES-PF provides if deemed appropriate.<sup>52</sup>

In November 2022, MfE, MPI, and Te Uru Rākau – New Zealand Forest Service consulted on changes to the NES-PF.<sup>53</sup> The proposal features changes to slash provisions however these are largely changes in wording to improve clarification.

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<sup>48</sup> Basher, Lynn, and Page, 2015

<sup>49</sup> Stakeholder Working Group members: Gisborne District Council, Upper Hutt City Council, Bay of Plenty Regional Council, Tasman District Council, Forest and Bird, Raukawa Trust, Farm Forestry Association, PF Olsen, Ernslaw One, Hancock Forest Management, Timberlands.

<sup>50</sup> Minister for the Environment, 2017a

<sup>51</sup> Minister for the Environment, 2017b

<sup>52</sup> Minister for the Environment, 2017b

<sup>53</sup> Ministry for Primary Industries, 2022b

## Analysis

### The Window of Vulnerability

In addition to public criticisms, it is the author's opinion that there is a key flawed assumption behind the NES-PF - that afforestation of plantation forestry intended for harvest is a solution to manage erosion on highly erodible land. The benefits of managing erosion from afforestation are lost and potentially exacerbated at the point of harvest, recognising that the erosion-reducing ability of plantation forestry is likely lost for significant periods of time in which annual exceedance events are likely to occur. Particular attention should be focussed on the environmental effects and duration of effects on the mass removal of canopy.

Experts place this "window of vulnerability" generally between six and seven and a half years after clearfell harvesting<sup>54 55</sup>. While not referred to explicitly in 2015 submissions, Fish in Game in their submission alluded to it in their recommendation to shift the thresholds for activity status accordingly to the length of rotation for the species being considered ie., restricted discretionary for the replanting of species with a rotation cycle of less than 25 years<sup>56</sup>. Restricting the size of clearcut felling areas is a pragmatic way of mitigating some of the risk of erosion and slash movement. An official report indicates this window of vulnerability is perhaps not well understood by officials (see figure X)

#### 3.1.1 Analysis

Concerns raised about the adequacy of the ESC were mainly from submitters in regions where recent storm events had resulted in active erosion on recently harvested steepland areas, leading to sedimentation and deposition of forestry debris in waterways and on beaches. It is not clear whether these submitters recognise the role that forestry plays in stabilising soils and reducing sediment runoff during the majority of the forestry cycle.

Figure X. MPI Officials commentary appears to minimise the contribution the "window of vulnerability" (typically 6 years) makes to erosion susceptibility during the forestry cycle (typically 30 years).

### MPI-led versus MfE-led policy development

The author considers the leadership of the NES-PF by MPI versus MfE unlikely to have significantly impacted the direction of development of the NES-PF. Cabinet Ministers are collectively responsible for making final policy decisions, and the Minister for the Environment will have been briefed on the cabinet paper regarding the NES-PF by MfE officials particularly as it relates to the Minister for the Environment's Environment portfolio responsibilities. Cabinet authorised the Minister for the Environment and the

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<sup>54</sup> Phillips, Marden, & Basher, 2018

<sup>55</sup> Watson, Phillips, & Marden, 1999

<sup>56</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups N-Z (pg 11)

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Associate Minister for Primary Industries to approve the final details of planning and control terms and conditions in the final NES-PF<sup>57</sup>.

A far more significant determiner of NES-PF outcomes would be the Cabinet-agreed objectives for NES-PF development/review and/or the ruling Government's political priorities.

It should be noted however that the Dunedin branch of Forest & Bird in their 2015 submission stated that the NES-PF should be promulgated, administered and monitored by MfE. They opposed MPI being the government agency promoting, administering and monitoring the NES and considered this to be ultra vires (done without the appropriate authority) as it is the Minister with the responsibility for the RMA who has this power that cannot be delegated.<sup>58</sup>

Some commentators, including the EDS, claimed that the NES-PF was "ultra vires" - null and void because it was not produced by the proper authority - the Minister for the Environment. The Minister for the Environment is endowed by law with the function of recommending the making of national environmental standards to Cabinet under Part 4, section 24(b) of the RMA. While MPI may have led the development of the NES-PF, it was the Minister for the Environment who presented the recommendation to Cabinet. The RMA does not clearly state whether the development of an environmental standard can be led by another Minister's department.<sup>59</sup>

## In the context of reform

The resource management reform policy programme announced in 2021 recognises that New Zealand's resource management system has not adequately protected the natural environment. Ecosystems have been degraded by poorly managed cumulative effects, biodiversity lost, and the response to climate change challenges has been slow.<sup>60</sup>

Many environmental and iwi submitters felt that the NES-PF should have been able to provide that environmental benefits would improve, rather than be maintained, perhaps acknowledging that existing environmental outcomes were considered unsatisfactory. The Natural and Built Environment Act exposure draft proposes to shift environmental outcomes from the RMA's "maintain or improve" to "protect, restore, or improve" e.g. figure X.

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<sup>57</sup> Minister for the Environment, 2017a (para 27)

<sup>58</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups A-L (page 76)

<sup>59</sup> The interpretation given here is solely the authors and does not constitute legal advice. Specific advice should be sought from qualified professionals before taking any action based on this information.

<sup>60</sup> Minister for the Environment, 2020

## 8 Environmental outcomes

To assist in achieving the purpose of the Act, the national planning framework and all plans must promote the following environmental outcomes:

- (a) the quality of air, freshwater, coastal waters, estuaries, and soils is protected, restored, or improved:

*Figure 9. Excerpt from Natural & Built Environment Act exposure draft demonstrating a strengthening of expectations for environmental outcomes away from the RMA's "maintain or improve".*

National oversight of compliance, monitoring, and enforcement practices has been identified as a critical need to support the transition to the proposed new resource management system. New funding tools have also been identified as necessary to support the effective implementation of a more ambitious environmental management system.<sup>61</sup>

## Comments on consultation process with iwi/hapū

Treaty analysis in the development of the original NES-PF appears to be completely absent. No mention of Treaty analysis or impacts were presented in the advice that went to Cabinet in 2017. Perhaps as a result of a lack of analysis, the level of engagement with iwi throughout NES-PF development was considered largely unsatisfactory by many iwi/hapū submitters,<sup>62</sup> and iwi/hapū environmental concerns were grouped under general commentary in the summary of submissions and recommendations.<sup>63</sup>

The resource management reform recognises that, "the more effective involvement of Māori in the RSS and NBA plans process will support the protection and resilience of taonga, wāhi tapu, marae and other important places from the effects of climate change and natural hazards".<sup>64</sup> The dedicated chapter defining Māori interests in forestry within the 2022 NES-PF consultation discussion document<sup>65</sup> suggests that officials are improving their understanding of Treaty rights and interests that intersect with NES-PF matters (see chapter 2, page 19). Future engagement with iwi/hapū/Māori on forestry management rules and regulations may continue to disappoint, but should hopefully improve over time.

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<sup>61</sup> Ministry for the Environment, 2021b

<sup>62</sup> Ministry for Primary Industries. NES-PF Submissions: Iwi organisations A-M & Ministry for Primary Industries. NES-PF Submissions: Iwi organisations N-Z

<sup>63</sup> Ministry for Primary Industries, 2017a (pg 7)

<sup>64</sup> Ministry for the Environment, 2022 (pg 61)

<sup>65</sup> Ministry for Primary Industries, 2022b

## Assessing erosion risk in the context of climate change.

Geomorphologists agree that where a weather event is severe enough, or part of a sustained weather pattern, no form of land cover will prevent slope failure.<sup>66</sup> It is therefore essential for proper risk management to be informed by accurate weather prediction.. Saunders and Glassey's 2007 *Guidelines for assessing planning, policy and consent requirements for landslide-prone land* identifies three components for assessing erosion risk:

1. Erosion susceptibility
2. Probability of erosion-triggering events
3. Consequences should erosion occur<sup>67</sup>

The NES-PF identifies erosion susceptibility via ESC, and the probability of erosion-triggering events via AEP. Experts suggest AEP thresholds (typically 5% for permitted activities) are insufficient and inaccurate. Mark Bloomberg asserts that the ESC will “never be a completely reliable predictor of risk”, and that the ESC “should be backed up by a robust risk management process” to account for the consequences should erosion occur<sup>68</sup>.

De Lange & Hibb (2000) argue that two assumptions underlying AEP - that annual exceedance events are randomly distributed, and do not change characteristics over time, are invalid. Climate change models predict an increasing frequency of high-intensity rainfall events for some parts of New Zealand<sup>69</sup>. This has been acknowledged by MPI in their one-year review of the NES-PF that intense storm events drive slash mobilisation, and more intense events are expected due to climate change<sup>70</sup>. Forest & Bird's 2015 submission stated their concern that, “no regard has been had to the effects of climate change in designing the calculators and setting the associated rules (within the NES-PF)”.<sup>71</sup>

De Lange & Gibb (2000) argue that while this doesn't mean the application of AEP is always inappropriate, it could well be inappropriate when it is applied to developments with design lifetimes longer than a few decades. If AEP data is found to mischaracterise the risk and probability of annual exceedance events occurring due to climate change, then it may also be considered that the NES-PF is flawed in its reliance on AEP to assess erosion risk.

Perhaps the last piece of the puzzle beyond accurate rainfall data is, as Manaaki Whenua and Phillips et al. (2013) have suggested, improved quantitative and spatial data on landslide and debris flow occurrence to assist in better defining thresholds for triggering landslides and debris flows.<sup>72</sup> Laurence, Reisinger, Mullan & Jackson (2013) consider that a more nuanced, risk-based approach to flood

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<sup>66</sup> Te Uru Rākau, 2020

<sup>67</sup> Saunders & Glassey, 2007

<sup>68</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups N-Z (pg 51)

<sup>69</sup> NIWA, retrieved 23/03/23

<sup>70</sup> Te Uru Rākau, 2020

<sup>71</sup> Ministry for Primary Industries. NES-PF Submissions: NGOs and community groups N-Z (pg 42)

<sup>72</sup> Phillips, Basher, & Marden, 2013

frequency changes is needed to reflect climate change uncertainties.<sup>73</sup> Finer mapping down to 1:1,000 is available for most forestry areas in Tairāwhiti and can be provided on unmapped areas. This finer scale mapping would be much more accurate for determining where and where not to plant responsibly at the land-block scale.<sup>74</sup>

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<sup>73</sup> Laurence, Reisinger, Mullan, & Jackson, 2013

<sup>74</sup> [Gisborne District Council, 2023b \(attachment 2\)](#)

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