



A National Environmental Standard for Plantation Forestry

Regulatory Impact Statement

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AGENCY DISCLOSURE STATEMENT

This Regulatory Impact Statement has been prepared by the Ministry for Primary Industries.

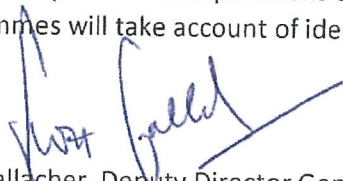
It provides an analysis of options to support the delivery of more consistent environmental outcomes, and greater operational certainty and efficiency in how plantation forestry activities are managed. In the 25 years since the Resource Management Act 1991 (RMA) took effect there has been growing divergence between district and regional rules for managing similar forestry activities. Analysis and expert advice recommends National Direction to achieve consistent environmental outcomes in forest management and reduce costs through greater certainty for foresters, councils and communities. MPI is of the view that the most appropriate tool for providing National Direction would be a National Environmental Standard (NES).

The principal constraints in the analysis have been the limited ability to value the net environmental benefits of the NES proposal, and to fully quantify benefits such as investment and planning certainty. A partial cost benefit analysis was completed which examined those costs and benefits that could be monetised. This produced a marginally positive net economic benefit. Monitoring of the main factors impacting this model will be included in the monitoring programme, principally the reduction in consents and the application of stringency.

To supplement available information, further work was commissioned to assess the likely environmental impact of the NES proposal and to provide expert planning advice. The resulting advice was that there were positive environmental effects and improved operational efficiency for large and smaller scale foresters, as well as planning benefits for councils, foresters and communities. These factors add to the monetised values, giving confidence and certainty that a national instrument is appropriate.

No assessment of the environmental effects of the proposal to permit the use of genetically modified (GM) tree stock has been carried out.

Final implementation planning and delivery, as well as a monitoring and evaluation programme, will be developed once a decision on the policy direction is made. Until that time it is not possible to fully assess the options and implications of these programmes, including on-going monitoring costs. These programmes will take account of identified areas of uncertainty.



Scott Gallacher, Deputy Director General, Regulation and Assurance

EXECUTIVE SUMMARY

Forestry is a significant contributor to New Zealand's economy. It also provides a number of environmental and ecosystem services that are important to our social wellbeing.

The sector, however, faces significant uncertainty created by the variation in rules in council plans under the Resource Management Act 1991 (the Act). Some variation in rules relating to forestry in district and regional council plans is required to manage local matters of significance but the current level of variation cannot be explained by environmental conditions. In some cases this results in less effective environmental outcomes. In the 25 years since the Act was enacted, variation has persisted and recent expert assessments indicate divergence in rules is increasing. It is anticipated that this increase will continue over time with successive reviews to district and regional plans.

After assessing alternative planning options under the Act, a National Environmental Standard for Plantation Forestry (NES-PF) is proposed as the alternative to existing council plans.

The resulting policy objective of the proposed NES-PF rules is

'To maintain or improve the environmental outcomes associated with plantation forestry activities nationally, while increasing efficiency and certainty in the management of those activities under the Resource Management Act 1991.'

The proposed NES-PF will provide standardised rules for managing the environmental effects of eight main plantation forestry activities: mechanical land preparation; afforestation; forestry earthworks and quarrying; river crossings; pruning and thinning to waste; harvesting; replanting. The proposed rules aim to codify good management practices in a pragmatic balance between national and local direction. This will build greater certainty into district and regional plans for managing the potential environmental risks posed by forestry activities.

A partial cost benefit analysis (CBA) indicates a marginally positive benefits for the proposed NES-PF over the status quo council rules. This partial CBA does not include consideration of the environmental effects of the proposed NES-PF as these are difficult to quantify. However, expert advice comparing the environmental effectiveness of the proposed NES-PF over the status quo demonstrates positive environmental benefits and improved operational efficiency through good practices driven through comprehensive targeted National Direction. In addition, expert assessment confirms that the NES-PF will not permit activities which have a significant adverse effect on the environment. These independent assessments, along with expert reviews, support the overall benefits of the proposed NES-PF over the status quo.

Stakeholders have confirmed the need for strong guidance and support throughout the transition to operation under an NES-PF. To be effective, implementation will need to be properly resourced throughout planning and delivery. We will incorporate lessons learned from the implementation of existing NESs.

The proposed NES-PF, in conjunction with council rules through stringency and wider resource management legislation, provide significantly improved management of the environmental effects of forestry. A monitoring and evaluation programme will assess the extent to which benefits are being realised and allow refinement to optimise benefits over time.

CONTEXT FOR THE PROPOSAL

CONTRIBUTION OF THE FORESTRY SECTOR TO NEW ZEALAND SOCIETY

New Zealand's planted forest estate has been developed in phases over the past century and now provides a sustainable timber resource for New Zealand's domestic requirements and for a growing export industry. The industry is an important part of the economy regionally and nationally. Planted forests cover 1.72 million hectares (around 6.5% of New Zealand's land area)¹. Twenty-four of New Zealand's 66 council districts have plantation forest areas of between 10 000 and 50 000 hectares. A further 13 districts have planted in excess of 50 000 hectares.

The plantation estate provides a number of environmental and ecosystem services that are important for the wellbeing of communities and for New Zealand society.

Forests are a tool for stabilising erosion prone slopes and for rehabilitating eroded catchments (through the growth of root mass and the de-watering of slopes). Once forests are established and growing they can act as nutrient filters, to maintain (and improve) water quality. Maturing plantations can also act as valuable habitats for indigenous flora and fauna. A further role for plantations is as a store of carbon, with forestry a major part of the Emissions Trading Scheme².

These ecosystem services continue through the growing cycle but are disrupted during harvesting and re-planting when activities such as earthworks and quarrying occur. In these periods, the use of established, good practices by foresters will minimise the environmental effects.

Plantation management

Managing a plantation from site preparation through to harvesting and replanting requires an intergenerational horizon. For the two major commercial species grown in New Zealand, the rotation length is typically between 26 and 32 years (for radiata pine), and 45 and 50 years (for Douglas-fir). A crop of this duration has a number of risks and uncertainties including the potential for damaging adverse events, disease outbreaks, and changes in planning and regulatory conditions. Over the rotation of a single crop, forest owners are likely to face at least three reviews of the district and regional plans.

Box 1: Forestry Sector Snapshot

- **Harvesting**
 - Annual harvest between 25 and 30 million cubic metres of Roundwood over the past 5 years (March year figures)
 - Harvesting from the plantation estate represent 99.9% of the annual harvest
 - Only 15-24 000 cubic metres per annum is now sourced from privately-owned indigenous forests.
- **Forest Industry**
 - Contributes around 3% of gross domestic product
 - Generated \$4.7 billion of export revenue in 2014/15, third only to the dairy and meat industries¹
 - Direct employment in forestry and first stage processing is close to 18 000, a significant proportion of which is in secondary centres and rural communities where it contributes to the social wellbeing and resilience of these areas.

¹ MPI figures as at April 2015

² Yao et al, 2013, Basher, 2013

Individuals and companies that manage plantations rely heavily upon technical standards and procedures to identify and mitigate environmental risks. The forest industry has worked collaboratively over a number of decades to prepare detailed activity standards (drawing on examples of good industry practice), and to promote their adoption. Recent examples of standards and guidelines include the New Zealand Environmental Code of Practice for Plantation Forestry (2007) and the New Zealand Forest Road Engineering Manual (2012). This industry has been an important advocate in seeking changes to the current management of plantation forestry. They see benefits from reduced planning and operational costs for companies operating in multiple jurisdictions and for the 13 000+ small scale foresters undertaking earthworks and commencing harvesting in coming years.

A further feature of plantation forest management in New Zealand is the high proportion of the estate that is independently audited against established environmental, legal and social principles. Fifty-six percent of the plantation estate (985 000 hectares) is certified by the Forest Stewardship Council (Forest Owners Association, 2014)³. Independent audit inspections assess compliance against ten principles and criteria, covering legal compliance with national rules, environmental and conservation values, monitoring and planning. There is a strong focus in this work on continual improvement in performance.









THE POTENTIAL ENVIRONMENTAL RISKS ASSOCIATED WITH PLANTATION FORESTRY

While plantation forestry provides a number of important ecosystem services there are periods in the crop cycle (and particular activities) where there is potential to cause adverse environmental effects. These effects include sediment discharges to waterways, vegetation disturbance, restricting the passage of fish and reactivating areas of erosion. During harvest and post-harvest there is potential for disturbance of indigenous vegetation, sediment and slash movement. Outside of these periods, the major land management activity is pruning and thinning to waste. While there is a chance of debris movement into water bodies, the risk is generally minor.

Each of these activities (with an outline of their associated effects) are illustrated in Table 1.

³ The Forestry Stewardship Council (FSC) is a market based initiative. The FSC system includes a certified chain of custody tracking timber through every stage in the supply chain from the forest to the end user. The FSC label guarantees trees are from sustainably managed forests. There are also a range of obligations on forest owner that ensures the rights of workers are recognised, the rights of indigenous people protected and communities supported.

Table 1: Forestry activities in scope of the proposed NES-PF and adverse environmental effects

Activity	Adverse environmental effects to be managed
Mechanical land preparation	
	Erosion and sedimentation, related effects on habitats and water quality from sediment run-off
Afforestation	
	"Wilding" spread, sedimentation from earthworks in erosion-prone areas
Earthworks	
	Erosion and sedimentation (for example, from construction of roads and infrastructure)
Forestry quarrying	
	Similar to effects from earthworks, impacts on cultural sites, over-burden disposal
River crossings	
	Erosion and sedimentation, restricting or preventing fish passage, bed erosion, accumulation of debris, damage to structures during flooding
Pruning and thinning-to-waste	
	Usually minor environmental effects, effects on and in water bodies if debris not appropriately managed
Harvesting	
	Discharge of slash and sediment onto land and into water, soil disturbance and erosion, riparian vegetation disturbance
Replanting	
	Similar to effects for afforestation, although likely to be less impact from earthworks in second generation forestry because of pre-existing infrastructure

FORESTRY SECTOR OWNERSHIP AND INDUSTRY PARTICIPANTS

The ownership of the forest estate in New Zealand (and the underlying land) has undergone significant change in the past twenty-five years. This stems from the sale of the Crown's forestry cutting rights, Treaty of Waitangi settlements, restructuring of the major corporates, purchases by fund managers, and a period of strong investment by small scale foresters (during the 1990s and early 2000s).

Nationally, eighteen companies own or manage approximately 64 percent of the plantation forest estate (around 1.1 million hectares)⁴. A number of these companies manage forests on behalf of smaller investors, through management contracts, investment syndicates and shareholding arrangements. While there are a small number of large investors, there are also around 13 000 owners with plantations of less than 40 hectares.

In discussing the forest estate, it is important to distinguish between forest and land ownership. Approximately one third of land under production forestry is Māori owned and leased to timber companies (New Zealand Government, 2013), and an increasing number of iwi intend to own and operate their own forests in the future.

In addition to forest and land owners, there are a number of participants who have a direct or indirect involvement in the management of plantation forestry and its effects:

- Councils – Regional, District, City and Unitary Authorities - who set the objectives, policies and rules to manage the environmental effects of land use activities;
- Forestry management consultants – who work on behalf of forest owners, and frequently deal with planning and consent processes;
- Iwi and hapū – with the return of forest land through the Treaty of Waitangi settlement process, Māori have a significant interest in the sector (MPI, 2009);
- Forestry contractors – who undertake forestry activities in accordance with a range of council, company and legal requirements;
- Environmental non-government organisations (eNGOs) – who advocate for environmental protection; and
- Local communities – who are interested in the environmental, economic, social and cultural outcome from forestry activities.

STATUS QUO

Council planning processes under the Act involve all stakeholders and iwi in creating the objectives, policies and rules that sustainably managing local land use activities including plantation forestry. The resulting district and regional plans determine whether the plantation forestry activities are permitted or require consent, and the related conditions and consent thresholds. The plans are designed to give effect to, and meet the s 5 purpose of the Act which states:

(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*

⁴ NZFOA, 2014

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.*

These plans also implement environmental management practices developed with iwi in accordance with Treaty of Waitangi settlements that recognise the special relationship between Māori and the Crown. An example is the vision and strategy for the Waikato River.

Councils and the forestry sector also use non-regulatory mechanisms including training and codes of practice based on industry best practice. The aim is to increase certainty that forestry sector operational practices are compliant and to maximise the likelihood of achieving good environmental and operational outcomes. Typically codes of practices set a higher standard than that anticipated by rules and/or clarify how compliance can be achieved.

The Act was designed to allow decision making to be close to the affected community so that plans reflect local environmental conditions and sector, community and iwi needs and priorities. Plans reflect changing needs and priorities through plan reviews which can be undertaken as needed and must be reviewed at least every 10 years. Typically reviews occur more frequently meaning council rules are constantly evolving and vary between districts and regions.

For this reason Government signalled its intention to evaluate the potential benefits of National Direction under the Act for plantation forestry⁵.

POLICY OBJECTIVE AND PROBLEM DEFINITION

POLICY OBJECTIVE

- *'To maintain or improve the environmental outcomes associated with plantation forestry activities nationally, while increasing efficiency and certainty in the management of those activities under the Resource Management Act 1991.'*

This objective represents the desired outcome of the forest industry, councils and environmental stakeholders who have been engaged in an eight year process to improve environmental outcomes and operational certainty in the management of forestry activities under the Act.

PROBLEM DEFINITION

Over time, successive changes to plans has resulted in a degree of variation in the policies and rules that district and regional councils have introduced for managing similar activities. While a degree of variation is to be expected to reflect local climatic and terrain conditions, studies

⁵ MfE website <http://www.mfe.govt.nz/rma/rma-legislative-tools/priorities-national-direction>

commissioned by MfE and MPI have found examples of inconsistent planning provisions in similar environments. (Refer Appendix One for more information and examples of such variation.)

Independent advice indicates that rather than more closely aligning, there has been increasing divergence in the way councils approach rules to manage forestry, and the thresholds at which specific activities require consents⁶. The level of variation (identified by the reviewers) was over and above what they expected to see if councils were simply managing for local biodiversity, climatic and terrain conditions. Increasing divergence in planning approaches (and rules) will compound the problems of inconsistent environmental outcomes and operation.

Variation of this nature has limited, inconsistent environmental benefits and can increase operational uncertainty and costs for forest owners⁷. This creates a complex operating environment making it more difficult for foresters to comply with council requirements. Also, this limits foresters licence to operate with differing approaches to permitted activities and thresholds for consents meaning multiple consents are required. This uncertainty can affect forester attitudes and views on investment, as raised in submissions. Foresters, as well as iwi and communities also have increased costs through planning including litigating similar issues in different council jurisdictions.

ASSESSMENT OF OPTIONS AND IMPACT ANALYSIS

In the three years that MPI has been leading this process, each of the planning instruments available under the Act have been assessed to determine their suitability to:

- Provide nationally-consistent rules that remove unwarranted⁸ variation between councils' rules for plantation forestry while managing the environmental effects of plantation forestry activities; and
- Establish rules that:
 - 'Permit' plantation forestry activities where it is efficient to do so and where activities will not have significant adverse environmental effects,
 - Increase the level of control as the risk of adverse effects increases; and
 - Provide flexibility for local authorities to set more stringent rules to manage unique local environmental needs arising from plantation forestry activities.

There are a range of regulatory and non-regulatory options available to establish more consistent environmental outcomes from plantation forestry and achieve greater operational certainty and efficiency for councils, foresters and the community. These options are evaluated in two stages:

- Section A - assesses options to identify feasible alternatives to the status quo; and
- Section B - assesses the alternative option and the status quo.

SECTION A: OPTION IDENTIFICATION

The Act sets out regulatory options for achieving national consistency in the management of plantation forestry and the framework within which non-regulatory options could apply.

⁶ Boffa Miskell, 2016; Brown and Pemberton, 2010; Brown and Company Planning Group, 2016; Pendly 2014

⁷ Brown and Pemberton 2010, Brown and Company Planning Group, 2016, Pendly, 2014, Boffa Miskell, 2016

⁸ Unwarranted variation is defined as a level of variation between plans that is not justified by environmental, economic, social or cultural benefits and imposes an unnecessary cost.

Criteria based on the desired policy objective for plantation forestry were developed to assess the suitability of regulatory and non-regulatory options in delivering the objective for plantation forestry and addressing the problems associated with unwarranted variation. (Refer Box 2). To ensure the purpose of the Act is met the options must balance National Direction with the ability for management of locally significant conditions. The option chosen must also align with the approach in existing council plans for matters relevant to forestry management. This will improve the potential for consistent implementation and the ease with which any new measures can be integrated into existing operational processes. This will allow a smoother transition, reducing ‘start-up’ and on-going compliance costs. MPI evaluated alternative non-regulatory and regulatory options (including the status quo) for their potential to achieve the objective of the proposed NES-PF. Only options meeting the first order criteria were assessed against second order criteria.

Non-regulatory options

Non-regulatory options included:

- Developing and delivering training to achieve a standard based on good management practice;
- Tools for an improved, consistent risk assessment as the basis for a consistent permitted activity and consent regime; and
- Guidance and forums aimed at improving:
 - the capability of councils; and
 - communication between councils to encourage significantly more collective and collaborative planning.

Box 2: Criteria for assessing the regulatory and non-regulatory options

First-Order Criteria

1. Improving certainty of nationally consistent:
 - i. Environmental outcomes from plantation forestry activities for forestry stakeholders and communities
 - ii. RMA processes and outcomes for plantation forestry stakeholders that achieve the underlying purpose of the RMA
2. Improving consistency by removing unwarranted variation between council planning controls for plantation forestry

Second-Order Criteria

3. Ease and effectiveness of implementation, including for monitoring and enforcement
4. Deliver efficiency gains that are likely to provide benefits that exceed the costs
5. Ability to evaluate the effect of the policy

These options do not meet the first-order criteria. There is no certainty the proposed new practices and tools would be implemented and no impetus for any council to change plans to integrate the guidance. This means these options are unlikely to deliver a full or permanent solution. Expert advice indicating increasing divergence in plans suggests it is unlikely that councils would deliver a more consistent collaborative approach.

Some submissions supported a more collaborative approach between councils and improved training of foresters and council staff. However, there was no compelling support for, or suggestions as to how councils could be incentivised to work more closely together and to nationally adopt an integrated, good practice package to manage the environmental effects of forestry activities. These factors tend to reinforce that on-regulatory options are likely to provide a ‘hit and miss’ approach with which councils would use the revised package, undermining any benefits for the sector or environment.

This means the costs associated with the development of good practice guidance and its implementation would be sunk and not likely to deliver a solution to the widening problem of unwarranted variation. The environmental benefits of the suite of integrated good practice guidance would therefore not be achieved and there would be no certainty or consistency to reduce the costs associated with permitted activity and consent regimes for forestry activities.

MPI recognises that while non-regulatory tools are not a total solution, they are a useful and necessary part of the solution. Significant improvements in the uptake and consistent interpretation of the revised package can be achieved through well targeted training and guidance material, and mechanisms to deliver these. Also, the accessibility of the main online risk assessment tools would need to be developed and tested with councils and foresters.

Regulatory Options

Six regulatory options were initially considered with only four of these meeting first-order criteria. The two options presented for consultation that did not meet the first-order criteria were options for local direction through:

- Transfer of Responsibilities – The Act enables a local authority to transfer one or more of its functions, powers or duties to another public authority potentially addressing concerns about overlapping responsibilities.
- Certificates of Compliance (COC) – The Act allows land owners to request a COC if an activity can be undertaken lawfully without resource consent.

As with non-regulatory measures, there is no compulsion on a [council] authority to transfer its powers to allow a single authority to administer the proposed rules. Similarly, for both the above local direction options, there is no incentive for councils to fully adopt the proposed measures. Submissions did not support these options.

A further three regulatory options for National Direction partially or fully met the first order criteria but did not, or only partially met, the second order criteria:

- National Planning Templates
- National Policy Statement
- Ministerial Directed Plan Change

National Planning Templates

National Planning Templates are a tool to provide a standardised range of rules for councils to choose from for different areas. This option has not been considered further as, while it could provide a useful mechanism to standardise the approach to forestry rules, the underlying policy is still being developed as part of the Resource Legislation Amendment Bill (RLAB) 9. Therefore, any proposal to use this mechanism, if suitable in its final form, would take a number of years to develop and implement.

National Policy Statements

National Policy Statements (NPS) are instruments issued under s 52(2) of the Act and state objectives and policies for matters of national significance. A National Policy Statement for plantation forestry would provide direction to local government as to how the specific matters

⁹ <https://www.mfe.govt.nz/sites/default/files/resource-management-summary-reform-proposals.pdf>.

and requirements they must consider when developing plans to deliver their Act responsibilities (in ss 5-8) for managing forestry and the effects of forestry activities.

While this option is likely to create more certainty and consistency through plans designed to achieve national objectives and policies, it is likely there will still be variability in how district and regional councils achieve this in their plans. In addition, identifying plan changes to implement an NPS would require a plan change. In some circumstances this requires the full review process outlined in Schedule 1 of the Act.

Different drafting and interpretation between councils is likely to result in variable planning approaches being taken in how to implement an NPS. This is likely to be compounded by the subsequent consultation, hearings and appeals that would result in plans and conditions that varied significantly across districts and regions (within one area or across different areas). These factors mean that an NPS is unlikely to achieve the desired consistency and certainty.

For this reason, a national policy statement option only partially met first-order criteria and, either partially or did not meet second-order criteria.

Ministerial-directed plan change

The Minister for the Environment can direct a regional council or territorial authority to prepare a plan change under s 25A of the Act. The plan change needs to relate to council functions under ss 30-31 of the Act. To bring greater consistency to forestry operations, the Minister would need to direct all district and regional plans to be amended to address the issue of unwarranted variation.

While this option would address consistency and certainty issues if sufficiently comprehensive guidance was given to all relevant authorities, the implementation process could cause issues. Amendments would be made by local authorities on a plan by plan basis in accord with the plan review process in Schedule 1 of the Act. Different drafting and interpretation between councils is likely to again result in conditions that vary from the original Ministerial direction. Subsequent consultation, hearings and appeals would compound this variation, undermining the benefits of the integrated set of NES-PF rules and increasing costs and time to advocate and litigate revisions.

For this reason, the ministerial- directed plan change option met first order criteria but did not meet second order criteria.

The remaining option that meets all first and second order criteria is National Direction through a National Environmental Standard (NES). The following section compares this option with the status quo (local direction). More detail on the assessment of these options is in Appendix Two.

SECTION B: ASSESSMENT OF THE PREFERRED REGULATORY APPROACH – A NATIONAL ENVIRONMENTAL STANDARD FOR PLANTATION FORESTRY (WITH COMPLEMENTARY MEASURES)

The recommendation to introduce an NES-PF is the culmination of eight years of work by MfE, MPI and stakeholder representatives. The proposed rules have been through three rounds of consultation. Major elements of the proposal have been assessed by expert reviewers

allowing an assessment of how well the proposal meets the policy objective. These reviewers include:

- Adderley Head – an assessment of the proposed NES-PF rules from a forester’s perspective in relation to the feasibility of implementation and compliance by an Act legal specialist;
- MWH – a planner perspective on the feasibility of the implementation by councils;
- Boffa Miskell Limited – an assessment of the effectiveness of the proposed NES-PF rules (compared with similar council rules for selected councils) in addressing the environmental effects of forestry activities, including permitted activities;
- Brown and Company Planning Group – a review of a selection of first and second generation plans to assess the variation in council rules (and update the Brown and Pemberton 2010 review of variation);
- NZIER (The New Zealand Institute of Economic Research Inc.) – a partial analysis of the costs and benefits to New Zealand of adopting the proposed NES-PF which excludes environmental impacts; and
- Scion (The New Zealand Forest Research Institute Limited) – an analysis of the expected environmental (non-market related) impact of the proposed NES-PF.

The decision to recommend an NES-PF builds directly on these findings.

Key Elements of the Proposed National Environmental Standard for Plantation Forestry

The proposed NES-PF will introduce a strong, effects based regime for managing the adverse environmental effects from forestry activities. While foresters will see more detailed (and extensive) permitted activity conditions than is typically the case today, they will have greater certainty in managing day to day operations¹⁰.

Following a transition period of six to twelve months from final promulgation to the date the proposed NES-PF takes effect, the national rules would apply to the eight principal activities that are undertaken during the forestry cycle. (Refer to Table 1 for a description of the activities and their potential environmental effects.)

For each activity, the proposed NES-PF rules outline the conditions under which the activity can be undertaken as a permitted activity, and when a consent would be required (if the activity is occurring in an area of higher environmental risk, or when the operator cannot meet the permitted activity standards). The proposed rules also contain a set of general conditions (covering issues such as vegetation clearance and disturbance, fish spawning and noise) that will apply to all forestry activities. These rules were developed to complement existing national instruments (such as the National Environmental Standards for Sources of Human Drinking Water and for Air Quality), National Policy Statements (such as those for Freshwater Management and the Coastal Policy Statement) and legislation (such as the Wildlife Act 1953 and the Heritage New Zealand Pouhere Taonga Act 2014).

The proposed NES-PF rules will replace existing district and regional council plan rules for plantation forestry activities. MPI recognises a combination of measures including complementary non-regulatory measures will be needed to simplify the transition to operating under the proposed NES-PF, if approved, and to maximise the benefits of national operational requirements.

¹⁰ Adderley Head, 2016

These measures will include the development of training material and courses, guidance material and case studies, and practical demonstrations of the NES-PF rules and supporting environmental risk assessment tools through field days and trials. The main focus will be on supporting councils and the forestry sector.

It is recognised that there will continue to be situations where councils may need the ability to apply more stringent rules to address other nationally or locally important resource management issues, and unique and sensitive receiving environments. In a similar vein, there are some effects that will continue to be managed by council plans rather than the provisions of the NES-PF, for example, council rules for the protection of water quality, including for sources of human drinking water. Also, there are some forestry activities (such as agrichemical use) that are beyond the scope of the proposed NES-PF.

The design of the proposed NES-PF draws on existing council provisions, to reflect good forestry practices. This is expected to raise the overall standard for managing the effects of plantation forestry activities. Generally, it is also expected to marginally increase the stringency of rules; this will vary depending upon the current planning rules and environmental conditions in a locality.

To assist councils and forest owners in identifying and managing some of the main environmental risks, the proposed NES-PF rules incorporate a number of complementary environmental risk assessment tools. These tools, which are based on local biophysical conditions and geomorphology, are the:

- Erosion Susceptibility Classification (ESC)¹¹;
- Freshwater Fish Spawning Indicator; and
- Wilding Tree Risk Calculator.

These tools will screen forestry activities for specific effects and set the activity status accordingly, i.e. whether a consent is required, and the level of consent. For example, the ESC sets four zones based on the land's susceptibility to erosion. Although there are exceptions, as a general rule, the higher the erosion risk the more stringent the controls will be.

Drawing on existing good practice conditions and using robust assessment tools will target environmental risks more effectively, while providing forest owners with greater certainty in managing an intergenerational crop.

A NES-PF COMPARED WITH THE STATUS QUO

In recommending the adoption of a proposed NES-PF, MPI has assessed the proposal against: A series of objective criteria;

- The results of the independent reviews; and
- The Act statutory requirements.

Assessment against Objective Criteria

The following table uses the two stage criteria to assess and compare the proposed NES-PF with the status quo. A detailed description of the criteria is in Box 2 above.

¹¹ MPI Technical Paper 2015/13, Update of the Erosion Susceptibility Classification (ESC) for the proposed National Environmental Standard for Plantation Forestry – revision of the ESC. June 2015

Table 2: Comparison of the Proposed National Environmental Standard and the Status Quo

		Proposed National Environmental Standard for Plantation Forestry		Status Quo	
First-order Criteria	Maintain or Improve Environmental Outcomes	National standards would ensure greater environmental consistency across all sizes of forest and reduce the potential for underperformance. Permitted activities meet RMA test.	Y	Plan reviews provide an opportunity to review the effectiveness of rules in maintaining and improving environmental outcomes. Areas of under-performance are likely to be progressively addressed, but in a district and regional context.	P
	Delivers Consistency	Would remove unwarranted variation through the introduction of prescriptive national planning rules for forestry activities.	Y	District and regional variation would remain, and there is likely to be increasing divergence in rules and policies.	N
	Improves Certainty	Would improve certainty about controls applied to forestry activities. Will avoid re-litigation of issues, and achieve more certain environmental impacts. Nationally coordinated reviews provide consistency.	Y	District and regional uncertainty would remain, and there is likely to be increasing uncertainty as future reviews are expected to increase the variation in rules and policies.	N
Second-order Criteria	Implementation	The proposed rules have been designed to address the specific risks associated with plantation forestry.	Y	Only a proportion of council rules focus directly on forestry activities (and even in these cases, they tend to cover only elements of the forestry cycle). The reliance on more generic land use provisions means the management of forestry risks varies.	P
	Efficiency	The benefits of the proposed NES-PF are expected to outweigh costs, according to independent reviews and a partial cost benefit analysis.	Y	Inconsistent provisions have the potential to affect environmental performance and outcomes, while the re-litigation of issues has significant costs for industry, councils and stakeholders.	P
	Monitor Impact	Monitoring and compliance will be against national standards and conditions. Councils may need additional monitoring data to facilitate this.	Y	The regional variation in conditions makes it difficult to build a national assessment of environmental performance.	N

Key: Y – Achieves, P – Partially Achieves, N – Does not Achieve

The proposed NES-PF meets both the first and second order criteria. The proposal is expected to provide greater environmental consistency across all forest sizes (from small scale foresters to corporate foresters), remove unwarranted planning variation and deliver an anticipated net benefit (in terms of environmental and economic performance). The introduction of national rules will also assist with monitoring and compliance, although there are likely to be some additional costs in site assessment and monitoring. Assessing the usefulness and priorities for existing monitoring will assist in mitigating these costs to the extent possible.

The variable treatment of forestry activities currently (the status quo) comes through in the criteria assessment. While areas of environmental under-performance will be progressively addressed through plan reviews at a district and regional level, variable outcomes are likely to remain a feature of the system. The different approaches taken by councils to forestry (and the heavy reliance upon generic land use rules) means that the rules to address specific risks associated with forestry activities are not always targeted as effectively as they could be. Monitoring against local standards and conditions also makes it difficult to track national trends.

Assessment of the Net Benefits of Implementing an NES-PF

As discussed previously, MPI has commissioned a number of independent assessments to build a detailed picture of how the adoption of the proposed NES-PF would contribute to

environmental outcomes, operational certainty and planning system costs. In bringing together this material it is important to recognise the nature and limitations of the data. Specifically:

- Assessing the extent and value of environmental benefits (such as increased biodiversity protection and avoided wilding spread) mainly involves indicative values and qualitative assessments. Reviewers have been able to indicate the direction (positive or negative) of the potential impacts of the proposal, with results an order of magnitude rather than an absolute;
- Qualitative assessments provided by subject matter experts, including ecologists and planners, who have provided opinion on the proposed rules and the expected benefits of its introduction;
- The independent advice received through the final stages of the drafting process has meant, in some cases, slightly different versions of the proposed rules were reviewed as some changes were made to address concerns or to clarify intent as advice was received;
- Assumptions have been made about the status quo over time (e.g. to what extent variation and stringency in district and regional planning rules would increase);
- A partial CBA analysis has been prepared to quantify those costs and benefits that can be financially valued. Some factors are problematic to value such as investment certainty and environmental benefits. No value for environmental benefits has been included in the NZIER CBA making this a partial CBA. There were also some limitations given the national aggregate rather than regional assessment of differences between the status quo and the proposed NES-PF; and
- There is uncertainty over the extent to which councils would use their ability to be more stringent (under the proposed NES-PF), and also the extent to which plan advocacy costs will decline.

Given these constraints the assessment of the net benefit is a compilation of the quantification of financial values where available (shown in the partial CBA), the assessment of the environmental effectiveness and expert advice.

Assessment of the Quantifiable Costs and Benefits of the Proposed NES-PF

NZIER was contracted to update the partial cost-benefit analysis completed in 2014, in preparation for the consultation round. The updated analysis incorporates changes to the NES proposal, feedback on the previous assessment and further work by MPI that affected a few of the main elements underpinning their previous model.

NZIER concluded that the quantifiable costs and benefits are finely balanced, with the benefits from increased certainty and reduced planning costs, marginally exceeding the costs associated with monitoring, preparing additional consents, and not replanting setbacks. Based on the results of the central scenario (Table 3), implementing the proposed NES-PF has a positive benefit cost ratio of 1.06 (using an 8% discount rate).

Table 3: Results in the Central Scenario

Discount rate	6%	8%	10%
Benefit cost ratio	1.08	1.06	1.03

Source: MHW and NZIER

NZIER undertook sensitivity analysis on the central scenario, which involved reducing the plan advocacy benefits (scenario 1) and reducing consent and in-house costs to forestry companies (scenario 2). Applying these scenarios, the benefit cost ratio ranges from 0.93 through to 1.07.

As noted previously, the work by Scion, and supported by Boffa Miskell, indicates that the inclusion of environmental costs and benefits would be expected to raise the ratio.

A summary of the costs and benefits identified by NZIER are contained in Appendix Three. Their principal findings are described below:

- Plan advocacy savings marginally outweigh compliance costs as consents under the status quo (without the proposed NES-PF) are expected to rise over the thirty-year planning horizon to meet the expected consent levels under the proposed NES-PF;
- There will be a 'certainty' benefit both with regard to rules and environmental practice. While this is difficult to quantify, NZIER has estimated the value by reference to the effort various parties have put into the proposed NES-PF;
- Increased consistency can be expected to reduce the cost of each consent (particularly for larger companies). As consents become more standardised the time spent on the process reduces;
- There will be an opportunity cost in not replanting setbacks; and
- The cost of monitoring conditions will rise.

NZIER emphasised that the figures should be considered as an order of magnitude calculation, rather than as a definitive measure of costs and benefits.

Environmental Outcomes

Boffa Miskell (2016) was commissioned to assess the effectiveness of the proposed rules in managing the environmental effects of forestry activities. This was a critical assessment related to the purpose of the Act which requires that physical and natural resources be sustainably managed. Part of the Boffa Miskell assessment also included considering whether the permitted activities in the proposed NES-PF would result in significant adverse effects on the environment after conditions had been taken into account. This is another statutory test as an NES must not allow an activity to be permitted where, after management conditions are applied, there is a significant adverse environmental effect¹².

The reviewers examined how the environmental effects associated with plantation forestry are currently managed by district and regional councils (drawing on a representative sample of councils across nine regions). The results were then used to compare how those effects were treated under the proposed NES-PF rules and the added benefit from 'voluntary' industry practices (represented by the Environmental Code of Practice). Their assessment was that the proposed NES-PF was more effective in avoiding or minimising adverse environmental effects from the eight activities than the status quo. The reviewers further concluded that this overall approach effectively ensured no significant adverse effects would result from permitted activities.

In 2015 MPI contracted Scion to assess the impacts of the proposed NES-PF on key environmental factors, specifically - wilding spread, erosion and sedimentation, freshwater and terrestrial biodiversity and quality. Indicative economic value assessments were prepared for each of these areas, to identify the magnitude and direction of costs and benefits. Scion concluded that the three areas studied would produce positive environmental benefits compared to the status quo.

¹² Section 43A(3) of the Resource Management Act 1991

Scion found that the proposed NES-PF would:

- Be beneficial in limiting future wilding spread from afforestation (particularly from the plantings of smaller foresters);
- Increase consistency in management practices around harvesting (reducing the potential for erosion); and
- Provide additional protection for water bodies and sensitive biodiversity.

This work was undertaken to supplement the partial cost benefit analysis undertaken by NZIER in 2014. While it is highly problematic to quantify the magnitude of the environmental benefit, Scion did assess the net impact was positive across the three assessment areas, and would raise the current benefit-cost ratio. This is consistent with Boffa Miskell's (2016) qualitative scientific assessment of rule effectiveness.

The use of genetically modified tree stock

The proposed NES-PF released for consultation included a permitted activity condition to allow the use of genetically modified (GM) tree stock that has been approved for release under the Hazardous Substances and New Organisms Act 1996 (HSNO). This was strongly opposed in submissions, with over 16 000 submissions opposing this aspect specifically.

Improved Consistency and Operational Efficiency

Adderley Head¹³, was contracted to provide a high level assessment of the proposed NES-PF rules, to determine whether the proposed conditions and standards would achieve the objective of improving certainty and efficiency for foresters. The assessment also considered whether the proposed permitted activity conditions could be readily operationalised by forestry practitioners (to maximise the benefits from the proposal).

The principal conclusion reached was that the introduction of the proposed NES-PF would reduce the planning and operational uncertainty that currently exists. While certain districts and regions would see an increase in regulatory requirements, the overall compliance burden would be more acceptable, with day to day operations being managed through conditions rather than triggering a resource consent.

¹³ Adderley Head, 2016

Other Impacts and Risks

Permitted activity

While the extent to which the proposed NES-PF would increase the level of permitted activities over the status quo will vary across districts and regions, on average, more activities are permitted. Revised rules in the proposed NES-PF recognise the need to balance increased appropriate levels of permitted activity with other planning controls for similar activities for other purposes.

In response to submissions, the permitted activity conditions have been more tightly confined to the forestry specific scope of the NES-PF, with flexibility for council rules to better allow for local protection of areas in accord with s 6 of the act. This will prevent the proposed NES-PF from undermining wider controls for similar activities outside of the scope of the proposed NES-PF.

Permitted Activity Monitoring

Councils charge for monitoring activities associated with activities that require consent. However, most councils' compliance monitoring focuses on ensuring activities that require a consent are not being carried out without a consent; this includes monitoring of permitted activities. There is currently no provision to charge for the monitoring of permitted activities.

The RLAB includes provision for councils to charge in these situations. In the absence of such a provision, the costs of monitoring activity that is unlawfully carried out as a permitted activity cannot be recouped and could impact, to a degree, the monitoring of increased permitted activities under the NES-PF. The extent of this cost and the level of risk associated with different monitoring options cannot be assessed until confirmed NES-PF rules are available and a monitoring and evaluation plan and implementation options developed.

Feedback on experiences with other national instruments, and from submissions and subject matter experts, has identified that a properly resourced implementation plan, and effective long term monitoring and evaluation, is critical to realising the anticipated national and local environmental, economic and social benefits of the proposed NES-PF.

CONSULTATION AND ENGAGEMENT

The recommendation to proceed with a NES-PF is the culmination of eight years of work, initially led by the MfE (2009 to 2012) and subsequently by MPI (since 2013). Throughout this process MfE and MPI have drawn on the expertise of a working group comprised of industry, council and environmental stakeholders, to test proposals and to identify good management practices for inclusion in the proposed NES-PF. The members of the working group have brought to the process technical experience in forestry operations, environmental management and the Act processes.

From 2013 – 2016, MPI undertook targeted consultation with councils, industry, eNGOs and iwi. This involved sector-based workshops, field trips, meetings and attendance at forums. Through this targeted engagement MPI was able to test stakeholder thinking on proposals and address areas of concern. A clear message from this stage of engagement was the need to prepare guidance and educational support material, prior to implementing national provisions (as a way of supporting the transition process).

MPI released a consultation document on the revised NES-PF proposal in June 2015. During two months of consultation, MPI held 18 public meetings and hui around the country. When consultation closed in mid-August 2015, 18 732 formal submissions were received, the majority of which were template submissions; 356 unique submissions were received from councils, iwi, eNGOs, industry and stakeholder groups.

To better understand concerns in submissions and how the proposal will affect them, MPI officials have met with councils, forestry sector representatives, and eNGOs. Pragmatic solutions to concerns have been identified through this process. Amendments have been tested with these groups to ensure changes do not result in any unforeseen outcomes.

MPI contacted iwi authorities and a few representative organisations offering to engage with them as the rules revised as a result of submissions. An offer was also extended for iwi to identify their interest in participating in future planning for implementation, and the development of a monitoring and evaluation plan. Particular emphasis was given to contacting those iwi with Accords. There has not been a strong response, however further communication will occur once Ministers have made a decision on the proposed NES-PF.

MPI has continued to test issues with a Stakeholder Working Group (SWG), and has kept affected parties informed through presentations and attendance at forums. MPI has also been closely engaging with a number of government agencies, who have a policy or statutory role in land management, conservation, water quality management or heritage protection.

Feedback from stakeholders has been encouraging. Many stakeholders, particularly councils, have acknowledged that the amendments to the proposed NES-PF have largely addressed the concerns they raised through consultation. There are some residual concerns, however we consider the revised proposal adequately addresses issues raised through consultation.

All submissions have been published along with a high level summary of key points raised. Subject to ministerial approval, a more detailed Summary of Submissions will be released¹⁴.

CONCLUSIONS AND RECOMMENDATIONS

There is a need for national regulatory consistency in plantation forestry to achieve consistent environmental outcomes, and to address costs and inefficiency created through unwarranted variation in council rules. While some variation in rules is justified and desirable, there is significant ongoing divergence between plans that cannot be justified by unique local site-specific factors.

The recommended approach is to implement the proposed NES-PF and codify existing good management practice. Assessments of costs and benefits, and the likely environmental outcomes, demonstrate this approach will deliver clear net benefits when compared to the status quo.

A consistent planning framework for eight key forestry activities will provide more certainty and consistency for councils, foresters and interested community groups. There are also greater

¹⁴ Required by the Act in accord with s 44(2)(b)(ii).

positive environmental outcomes through consistent management of the environmental effects associated with plantation forestry activity.

A robust implementation plan, and on-going monitoring and evaluation is proposed to maximise the anticipated benefits, and allow refinements over time to the proposed NES-PF and its supporting tools, guidance and training. These refinement will reflect the ongoing developments in forestry practices and lessons learnt.

IMPLEMENTATION PLAN

The proposed NES-PF is a sector-based national instrument that encompasses a comprehensive range of technical, regulatory and good practice elements. A comprehensive implementation approach will need to provide the level of guidance and support necessary to transition to new cost-effective ways of operating.

Purpose

The purpose of the proposed implementation approach will be to:

- Ensure councils embed the proposed NES-PF in their Act practices, and administer and monitor compliance with the standard in a nationally consistent and efficient manner;
- Provide stakeholders and iwi with the tools and knowledge to administer, monitor and comply with the NES-PF efficiently and effectively; and
- Ensure appropriate governance, skills and processes centrally, regionally and locally to manage and monitor the implementation and effectiveness of the proposed NES-PF.

Gazettal and Commencement

If approved by Cabinet, drafting instructions for the proposed NES-PF will be presented to the Parliamentary Council Office (PCO). Drafting is expected to take approximately four months, with an exposure draft released in the fourth quarter of 2016 and finalised by the end of March 2017. It is proposed that the Governor-General make the necessary changes by Order in Council at the beginning of the second quarter of 2017, at which time the standard would be gazetted with commencement in the third quarter of 2017.

Implementation Planning and Approach

MPI has commenced implementation planning. A plan detailing the implementation strategy, approach and activities will be finalised in the third quarter of 2016. The approach will take account of lessons learnt from implementation of other National Direction instruments, particularly NESs. MPI will engage a group of iwi and stakeholders with relevant technical expertise to support the development and roll-out of the implementation plan. MPI will also engage broadly with stakeholders and iwi impacted by the introduction of the proposed NES-PF, including Local Government New Zealand, to capture implementation needs and expectations, and factor these into the approach.

The aim will be to collaboratively develop implementation materials, guidance and training programmes that can be easily understood and accessed, particularly by foresters and councils.

Communication and Training

A communication plan will be developed to raise awareness of the changes being introduced by the proposed NES-PF, with targeted guidance and training materials developed to upskill those directly impacted. This guidance and training will aim to encourage and support

voluntary compliance by the sector and upskill those within councils to administer the standard.

Risks

The success of the proposed NES-PF will hinge on a well-designed and delivered implementation plan. MPI will commit the resources necessary to plan and support a national roll-out. Implementation will not be without some risk. An initial implementation risk assessment is shown below. MPI will actively identify and manage further risks as they arise.

#	Risk	Likelihood	Consequence	Mitigation
1	If there is a delay in the drafting of the proposed NES-PF then the implementation timeframe may be delayed	Medium	Medium	<ul style="list-style-type: none"> Commence implementation planning based on the draft material noting that there may be some 'minor' changes during drafting of the standard. Keep in close contact with PCO to identify and accommodate areas that may affect the implementation approaches.
2	If stakeholders require significant support during the implementation of the proposed NES-PF then the resources required to support implementation may exceed estimates	Medium	Medium	<ul style="list-style-type: none"> Leverage MPI's network of regional staff to support implementation. Leverage MfE's network of regional staff to support implementation. Contract specialist support to assist with peak implementation demands.
3	If there is resistance to the introduction of the proposed NES-PF then this may cause significant engagement effort on the part of the implementation team and possibly detract from the effectiveness of implementation	Low	Medium	<ul style="list-style-type: none"> Simplify the key messages of the benefits of the proposed NES-PF. Ensure a comprehensive communications and engagement plan is developed and actioned to encourage support for the introduction of the proposed NES-PF. Continue with targeted stakeholder engagement throughout the drafting of the standard to encourage support. Be prepared to leverage MPI's and MfE's network of regional staff to support implementation. An exposure draft would give a real understanding of the proposed NES-PF, facilitating awareness of what is needed for implementation.
4	If there is any challenge to the introduction of the proposed NES-PF or any of its elements then this may delay implementation	Medium	High	<ul style="list-style-type: none"> Continue with targeted stakeholder engagement throughout the drafting of the standard to identify and resolve the issue. Seek to identify and isolate the specific elements relevant to the challenge for resolution and continue to implement remaining elements.

MONITORING AND EVALUATION

Monitoring and evaluation planning

A monitoring and evaluation plan, and delivery programme will be developed with councils, the forestry sector and other government agencies once a confirmed policy approach is approved.

Targeted monitoring and evaluation will assess:

- The effectiveness of NES-PF implementation by councils, foresters and forestry contractors during the transition to full implementation and on-going delivery; and
- The effectiveness of the NES-PF in meeting its objectives with respect to:
 - environmental outcomes; and
 - consistency and certainty for those involved in forestry.

MPI will coordinate a structured process to identify and confirm:

- A prioritised set of performance indicators and measures;
- The information needed to support those indicators and measures; and
- Responsibility for information collection, analysis and reporting of monitoring and evaluation programme results.

Information from expert assessments of the proposed NES-PF will provide valuable input to measures and priorities.

In many cases responsibility for delivering monitoring and evaluation will rest with councils, however, there may be existing programmes run by sector groups or other government agencies that can contribute to monitoring and evaluation. An example is MfE's national monitoring of the Act activities through the National Monitoring System which captures high level information on implementation and compliance. However, new consistent measures and supporting information will be needed particularly locally.

A gap analysis will identify critical new information needs. This will allow any costs associated with new indicators and measures, and the related information collection, management and analysis to be assessed. There would be overlap between the proposed NES-PF and existing regional indicators and information needs. However, the level of variation in current forestry related rules, and the appropriateness of existing monitoring sites mean the extent of that overlap is unclear.

The results of monitoring and evaluation will allow improvements over time to, for example, guidance and training for consistent implementation and interpretation of rules, compliance monitoring priorities, and the proposed NES-PF rules themselves.

Reviewing the NES-PF

The timeframe needed to monitor implementation will be shorter than what is required to evaluate the effectiveness of the proposed NES-PF in achieving its environmental and sector related outcomes. Feasible review timeframes, including triggers for out-of-cycle reviews and suggested focuses for review, will be included in the monitoring and evaluation plan.

An initial review of the effectiveness of implementation is proposed for no later than three years after *Gazettal* with subsequent reviews every five years. This should allow time to

transition to the proposed NES-PF and identify solutions to any issues arising during implementation to ensure:

- The uptake of good forestry practices are being achieved and advances adopted;
- The effectiveness and currency of the supporting risk assessment tools;
- The effectiveness of integration across wider council responsibilities, including those under other national instruments;
- The consistency of implementation across councils including the application of stringency; and
- Communication of the outcomes from the NES-PF.

The first main evaluations of the effectiveness of the proposed NES-PF is likely to be part of the first five year review. It may be feasible to assess the quality of information and data collection to support evaluation in the first three year review. However, it is unlikely that three years will provide a useful time series of information with which to assess, for example, changes or trends in associated with planning and consent processes, and particularly changes to the quality of environmental outcomes achieved from consistent activity based rules.

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Appendix one: The Problem Definition: Supporting Details on the Problem and its Impact

District and regional council plans set out how the effects of different land use activities are to be managed. A degree of variation between districts and regions is to be expected and is desirable to properly reflect local biodiversity, climatic and terrain conditions, and the community's cultural and historic heritage values. However, recent environmental and planning assessments have supported industry and stakeholder concerns that there are instances of unwarranted variation in the policy approach, conditions and standards used by councils. This variation includes the thresholds for requiring consents, as well as the level of consent triggered by those thresholds¹⁵. The assessments compared council planning conditions and consent thresholds. There was a degree of variation across most key areas of forestry activity such as setback distances, culverts and earthworks that could not be explained by the environmental conditions within the district or region. In some cases these differences result in less effective environmental conditions¹⁶. A few second generation plans now in force have shown a trend towards increasing divergence in the conditions that they are adopting¹⁷.

This divergent trend reflects the different approaches that councils have adopted to policy development, plan design and compliance since the introduction of the Resource Management Act in 1991. The Act is an enabling piece of legislation and councils have developed their own distinct approaches to managing district and regional resource issues. This has seen planning regimes which vary from purely outcome-based systems through to prescriptive standards and consent conditions. While councils regularly cooperate on matters, and work to common goals, the manner in which they respond to issues reflects their individual systems and autonomous decision making processes. Consequently, there is likely to be a continuing divergence in the management of forestry activities, without some form of National Direction.

The implications of district and regional variation in the management of forestry activities can be seen at several levels - variable environmental outcomes, operational uncertainty for forestry operations, higher planning review and engagement costs, and lower investment confidence. A detailed assessment of these points is provided in the course of this, and previous sections in this report. The magnitude of these effects, and how National Direction can improve environmental and operational performance, has been gauged through assessments, stakeholder feedback and submissions. While a proportion of this feedback has been descriptive rather than quantified, it is possible to indicate the magnitude of these issues, and the direction with or without National Direction. A summary of this information is provided in Table 1 below.

¹⁵ Boffa Miskell, 2016, Brown and Company Planning Group, 2016, Pendly, 2014, Brown and Pemberton 2010

¹⁶ Boffa Miskell, 2016

¹⁷ Brown and Company Planning Group, 2016; Boffa Miskell, 2016

**Table 1: Significance of District and Regional Variation in Forestry Planning Conditions
(A Qualitative Appraisal of Costs)**

	Current Planning Environment	With National Direction	Without National Direction
Environmental Outcomes (represented by ecosystem services such as sedimentation, erosion and wilding spread)	Issues are handled on a district or regional basis, with the potential for variation in the management of risks, performance standards (strongly prescriptive through to outcome based) and environmental outcomes	National standards would introduce consistent risk management practices, supported by technical codes and practices	Potential for increased variation in standards and outcomes
	The use of the most appropriate management practices can be constrained at a district or regional level, with minor to significant environmental effects for catchments or localities	Net benefit	Little or no change
Operational Uncertainty (in terms of management practices, staff training and long term investment and management uncertainty)	Foresters need to be aware of district and regional differences in management conditions and planning conditions can change through the crop cycle (with plan reviews)	Management practices can be standardised and foresters will have greater certainty in crop investment and management	Operational and investment uncertainty would remain
	Moderate management costs but significant financial risks around the long-term value of the crop and investment	Net benefit	No change
Plan reviews and engagement costs	Plan development, and the re-litigation of issues across districts and regions is resource intensive (in time and financial resources), for councils, foresters, iwi, eNGOs and other stakeholders	National standards are expected to reduce plan development and advocacy costs for all stakeholders	Stakeholders will continue to submit on each individual plan, and work through the plan and environment court process
	Moderate cost for councils and foresters. Specific cases can have significant costs for individuals, companies and councils	Net benefit	No change

Inconsistent Environmental Outcomes

The principal issue that arises with councils adopting different rules and approaches to forest management is the potential for inconsistent environmental outcomes, particularly if the local rules are not carefully targeted to the anticipated environmental risks. This means foresters in neighbouring districts and regions will frequently be working to different methodologies, thresholds and standards when addressing similar environmental effects and risks, including in areas with similar geophysical characteristics. While industry voluntary codes and practices ensure good environmental practices are followed, the different approaches taken by councils to the management of environmental effects (and the associated risk assessment), mean that outcomes can vary. Also, foresters may not have the flexibility to use techniques that could minimise effects. This is of concern given a peak in harvesting activity by smaller-scale forest owners expected the next 20 years.

The case studies below (Boxes 2 and 3) illustrate the need for consistency in managing environmental risks, and the importance of focusing planning rules and conditions on the anticipated effects of forestry activities, to avoid uncertain environmental outcomes. The current variation in conditions means that foresters cannot always employ the most appropriate techniques for managing activity risks. This can occur particularly where plans have rigid prescriptions for assessing risk and determining the practices to be followed. This can prevent

Box 1: Case Study – protecting fish spawning habitats

Councils' techniques to manage in-stream activities when fish are spawning vary considerably around the country. The best environmental outcome will result if fish are not disturbed while they are spawning. This requires avoiding work that disturbs streambeds when fish are spawning. However, only some councils have requirements or information that mean a forester can readily find out which streams to avoid and when. Some councils have no rules directly related to fish spawning, whereas others have rules that constrain activities, but not always at the right time.

For example, MPI is aware of one regional council that has rules for managing trout and inanga spawning habitat. One particular rule requires that if a stream is known to have trout spawning in it, all in-stream forestry activity [including operation of machinery in the bed of a river or cable logging across the bed of a river] may not occur between 1 May and 30 September without a resource consent. In comparison, another council places controls on forestry activities to protect the spawning of trout and other fish species only in wetland habitats.

Box 2: Case Study – managing erosion and sedimentation risk

Forestry as a land use generally has a positive effect on land; reducing and controlling erosion, moderating flood flows and providing habitat for a wide variety of species. However, harvesting and the associated earthworks do disturb the ground which can have an adverse environmental impact; specifically, ground disturbance can cause soil erosion that affects soil productivity and results in adverse effects on water quality when sediment reaches streams.

Councils use a range of methods to manage erosion and its impacts. Some methods focus on outcomes only (e.g. maximum suspended sediment levels) and give little indication of how best to avoid effects. In those instances, the emphasis is on penalising non-compliance once an adverse environmental effect has already occurred. Other rules are prescriptive and allow little room for innovation. This can result in a good forestry operator being unable to use a technique best suited to their land that would minimise erosion and any subsequent sedimentation.

One technique that invariably leads to better environmental outcomes is for the forest harvester to develop and follow a harvest plan. All the large companies do this, but small woodlot owners do not always realise the value of having thought through all the environmental risks before starting work. Only a few councils currently require a harvest plan to be prepared.

the tailoring of responses to reflect local geology, climate and biodiversity conditions.

Another form of planning variation is where some councils have specific rules covering an activity, while others rely up on general land use conditions to manage environmental risks. This can create difficulties for foresters if the general rules limit (or constrain) the use of the most appropriate mitigation tools for a specific locality. Boffa Miskell (2016) highlighted this situation in terms of replanting and afforestation, where a number of councils do not directly address important aspects of these activities (in areas such as Hawke's Bay and Wellington)¹⁸.

¹⁸ Boffa Miskell, 2016

Introducing a national regulatory framework for managing the adverse effects of forestry activities (based on good management practices) has the potential to achieve significant environmental gains in terms of avoided erosion and stream sedimentation, reduced wilding spread, and enhanced terrestrial and aquatic biodiversity. Scion (2015) modelled these benefits in respect of the proposed NES-PF and found positive environmental benefits when compared to the status quo. The adoption of more nationally consistent forestry rules and conditions also has the ability to reduce the financial burden councils' face in undertaking reviews of their plans, and the costs incurred by communities, eNGOs and industry in submitting on these documents.

The level of planning knowledge of some foresters with smaller plantations, for example those with a single-age stand of trees is an area of particular concern that can be addressed through National Direction. While many of these smaller foresters are familiar with planning conditions, a proportion of owners have not previously engaged with councils, consultants or industry bodies. In this situation, there would be advantages in having standard national conditions that could be communicated to all foresters.

Operational Uncertainty

A further dimension to this problem is the operational uncertainty that forestry companies and contractors face when working across districts and regions with different planning controls and conditions. Operational uncertainty has three principal elements:

- Changes to planning conditions through the forestry cycle can add uncertainty and inefficiency to management practices and to expected returns (through plan reviews, periodic changes to operational plans, advocacy and litigation costs);
- Complying with different rule sets across district and regional boundaries creates a more complex operating environment and imposes additional costs (in terms of identifying all the rules applicable to forestry, training crews in different standards, and procedures for the same activity); and
- Increasing variation (divergence) between council planning controls has created uncertainty over the future direction of land use controls.

Compared to other land uses, forest management has a long term investment horizon, with radiata pine typically managed over a rotation of 26 to 32 years. During this period forest owners are likely to face at least three reviews of district and regional plans, along with periodic changes to operational plans. This potential for change brings both operational and investment risks, particularly if there are significant changes to management procedures and the ability to harvest. Cross-boundary variation in planning conditions is a particular issue for the forestry sector given a significant level of inter-district and inter-region ownership. For example, more than 300 forest owners (whose land accounts for more than 80% of the national plantation estate) have forests across more than two districts. Around 200 of these owners manage forests in two or more regions. A further aspect is that the contracting workforce (e.g. planters, roading contractors, harvesting crews, etc) also tend to operate across a number of districts.

Throughout most regions, understanding the full suite of rules that govern forestry means identifying and understanding relevant content across two or three plans including general conditions that are frequently extensive and complex, with combinations of zones, overlays and mapped features, and rules that vary by zone or overlap. In many situations these are not

specifically identified as applicable to forestry¹⁹. An investigation into variation between rules and good management practices for earthworks and culverts in forestry found very few matching rules between neighbouring jurisdictions. The results indicated little coming together of rules over the (at that time) 22 years of council planning for these activities²⁰.

The effects of operational uncertainty can be seen at a number of levels, with implications for the efficiency of forest management and harvesting operations; the level of resources devoted to council planning processes and the additional staff training required to meet different district and regional standards. Longer term, operational uncertainty can affect the valuation and returns for forestry holdings, as investors may discount assets where there is a likelihood of operational constraints that will affect the harvestable volume and the costs of extraction. The submission process reinforced these points. The submission feedback²¹ emphasised that:

- Forestry companies, small scale foresters, iwi, eNGOs and stakeholders are devoting significant time and resources into submitting on individual plans and working through the full planning process. While the costs have varied across the industry (and stakeholders), there are examples of significant individual and company input on specific plans;
- Management practices are having to be tailored to the planning requirements of individual districts and regions. This requires a higher level of training and oversight than would occur with national standards (for staff and managers);
- Operational inefficiencies are occurring in districts and regions where the rules and conditions are not tailored to the environmental effects of forestry activities (i.e. general rules), or are overly prescribed. This can cause additional operational costs, with little or no environmental benefit. In the case of prescribed conditions, the inability to tailor practices to the catchment can raise costs, while preventing the most appropriate practices being used; and
- Uncertainty over the future management of forestry crops has a tangible bearing on investment attitudes and on the valuation of properties.

As noted earlier in this paper, the intent of the Act is to provide locally relevant rules that consider the needs of the community and site specific environmental factors. The proposed NES-PF would provide for such circumstances, but would address variation that went beyond this purpose.

By contrast, the following table (Table 2) from Boffa Miskell, 2016 sets out examples of permitted activity thresholds for selected forestry rules. The analysis looked at the provisions across nine regional councils (and the corresponding district council rules), including both first- and second- generation plans. The level of variation identified in this work was assessed as unwarranted. The differences in rules appear 'relatively trivial with variation not relating to any site-specific environmental sensitivities'²². Other reports also identify significant variation in rules that could not be justified²³.

¹⁹ Boffa Miskell, 2016

²⁰ Pendly 2014

²¹ More details are available in a report summarising submissions which is prepared for public release subject to ministerial approval.

Individual submissions, redacted where required have already been released to the public along with a summary of key points raised. Refer to the later Consultation and Engagement section.

²² Boffa Miskell, 2016

²³ Pendly, 2014

Table 2: Permitted activity threshold provisions for nine regional councils of New Zealand

Region	Riparian Setbacks	Earthworks slope constraint threshold	Permitted discharge standard	Extent of Earthworks permitted	Cut height	face
Hawkes Bay	5 m	45 degrees	No significant change in colour/ clarity of adjacent water body after reasonable mixing	2,000 m ³ per annum	Nil	
*Hastings D.C.						
Northland	5 m	Nil	50g/m ³ suspended solids in receiving water at or up to 20 m below discharge point	Nil	Nil	
*Fair North D.C.						
Bay of Plenty	5 – 40 m	35 degrees	No conspicuous change in colour/clarity of any off-site receiving water	Nil	2.5 m	
*Rotorua District Plan	25 m			500 m ³ per 'activity'		
Gisborne	Nil	Nil	No conspicuous change in colour/clarity of surface water	50 m ³ in any 3 month period	0.5 m	
Horizons	5 – 10 m	Nil	Specific visual standards for nominated receiving waterbodies	100 m ² per property per annum		
Wellington	Nil	Nil	No discharge to any waterbody being managed in its natural state	1,000 m ³ per ha on erosion-prone land	1.5 m / 200 m per annum	
Canterbury	5-10 m	Nil	50g/m ³ in discharge (unless already elevated in receiving environment, in which case use visual clarity standard)	500 m ² or 10% of area per annum	0.5 m	
Otago	Nil	Nil	No conspicuous change in colour/clarity of receiving water; or noticeable local sedimentation <i>Avoid sediment entering water body</i>	Nil	Nil	
*Queenstown Lakes District Plan	7 m (restricted earthworks)			2500 m ³ / 1000 m ³ per annum per site	1 m	
Tasman	10 – 20 m	35 degrees	Threshold for visual clarity in receiving water at set distance below discharge	100- 300 linear metres per annum	Nil	

The impact of this type of unwarranted variation (and the costs incurred) can be illustrated by looking at the case of riparian setback distances. If a council proposes extending the setback from a river by five metres this has the effect of reducing the growing area by 10 metres (across the two sides of the river). For every kilometre of river length under forest, this means one hectare with a potential harvest on average of 450-500 metric tonnes per hectare lost (valued at \$16,000 - \$65 000 on harvest)²⁴. A number of stakeholders have raised examples of where councils have proposed, or are proposing to increase setback distances to the upper end of the range in the table.

According to research by NZIER (2014 and 2016), this cross-boundary ownership results in additional costs due to the time taken to understand and comply with the operational requirements in different jurisdictions, and delays in adapting to non-standard approaches. Ground crews operating over multiple districts also incur additional training costs. The current situation is seen as creating a high level of complexity and significant inefficiencies.

A further cost for not only the forestry sector, but for iwi and stakeholders, including eNGOs, is the time and financial expense involved in plan reviews, appeals and litigation. NZIER (2014 and 2016) concluded that significant costs are incurred by forestry companies participating in this process, particularly when they are involved in multiple plans and expert legal advice is required. A particular area of concern is where similar issues have to be re-litigated across the country, in multiple reviews. This was also highlighted in submissions.

²⁴ Sources: NZ Plantation forestry Industry Facts and Figures 2011/2012

Appendix two: Comparison of the National Policy Statement and Ministerial Directed Plan Change against First and Second Order Criteria

Option	First-order criteria		Second-order criteria		
	Delivers consistency	Improves certainty	Implementation	Efficiency	Monitor impact
National Policy Statement	P	P	P	N	P
	National objectives & policies likely to create a more consistent approach. Cannot exclude ongoing unwarranted variation.	Certainty may increase. Different local interpretations will mean ongoing uncertainty about planning and environmental outcomes. Ongoing plan reviews would maintain uncertainty and re-litigation of issues.	NPSs have long lead times to allow councils to incorporate policies into plans through review process. Would require separate implementation approach in each council.	Development of policy statement by central government plus development of plan rules within each council likely to result in significant implementation costs.	Monitoring the impacts of an NPS against the status quo in each council area would be onerous.
Ministerial Directed Plan Change	Y	Y	N	N	Y
	Would achieve some consistency across councils but differing council interpretations and drafting may lead to variation between plans.	Can improve operational certainty and certainty of environmental outcomes, depending on how directed plan changes are implemented.	Implementation via Schedule 1 process with each individual council may be onerous.	Ministerial directed plan changes are not likely to be a cost-effective option to direct and implement the plan changes required to address the problem.	Monitoring how plan changes are implemented is possible.
National Planning Template	Y	Y	N	Y	Y
	A national planning template that allowed mandatory content to be prescribed within its structure would remove unwarranted variation and introduce consistent national planning rules.	Would improve certainty about the controls applied to forestry activities. Controls reflecting good practice would increase certainty of environmental outcomes. Nationally coordinated review is more consistent.	Barriers to timely implementation. The tool is not currently available and the timeframes to develop, pass and implement it are uncertain. If implemented, compliance could be monitored.	Costs and benefits might be similar to a NES, as it is also a mechanism to prescribe national planning rules. There is less certainty around these costs and benefits given the stage of development of the proposal.	Impact of a national planning template for forestry activities could potentially be monitored in several ways. Councils might need to gather data to facilitate this.
National Environmental Standard	Y	Y	Y	Y	Y
	Would remove unwarranted variation through introduction of a single set of prescriptive national planning rules for	Mechanism expressly to provide for standards to maintain a healthy environment. Would improve certainty about controls applied to forestry activities. Will avoid re-	Councils will need to change plans as part of other routine changes to recognise the Proposed Standard but provision of rules eases implementation	Single set of activity based rules and general conditions with stringency for local site specific needs. Benefits of Proposed Standard are expected to outweigh	Impacts of Proposed Standard compared with the status quo can be monitored in a number of ways. Councils may already assess aspects but may need to

	forestry activities.	litigation of issues, and achieve more certain environmental impacts. Nationally coordinated review provides consistency.	process. Government can monitor whether an NES is put into effect and it can be enforced.	costs according to independent experts commissioned to review the proposed rules and a cost benefit analysis.	gather additional data or develop additional analytical tools to facilitate this.
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Key: Y = achieves, P = partial, N = does not achieve

Appendix three:

Summary of benefits

Stakeholders/resource	Explanation	Benefits
Environmental benefits	Retention of sediment and reduced soil erosion during harvesting	Unquantified benefit
	Improved biodiversity and in stream habitat values during harvesting	Unquantified benefit but expected to be less than the soil erosion and sediment benefit
	Improved mitigation of flood effects	Unquantified benefit. Expected to be less than the biodiversity and in stream habitat benefit
Tāngata whenua	Unknown	Unsure whether a benefit or cost
Large foresters	Benefit from reduction in plan advocacy costs	\$384,000 in first year, increases in later years to \$479,000 (year 5)
Small foresters	Benefit from reduction in plan advocacy costs	\$61,000 per annum
Regional councils	Benefit from reduction in plan costs	\$128,000 per annum
District councils	Benefit from reduction in plan costs	\$112,500 per annum
NGOs	Benefit from reduction in plan advocacy costs	\$40,000 per annum
Government	Reduction in plan costs	\$40,000 per annum
Certainty	Increased certainty for stakeholders	\$363,000 in first year
Total benefit	Over 30 years (PV 8%)	\$12,356,000
Note (1) Numbers rounded		

Source: MWH and NZIER

Summary of costs

Stakeholders/resource	Explanation	Costs
Large foresters		
Consents	Consents are required more frequently	\$543,000 in first year. Decreases over time as status quo consents increase. Also consents become slightly cheaper.
Council annual charges	Increased monitoring	\$57,700 in first year. Reduces slightly each year
In house compliance	Increased compliance monitoring costs	\$67,000 in first year. Reduces slightly each year
Permitted activity costs	Increases further as more conditions are applied	\$19,000 in first year. Reduces slightly each year
Small foresters		
Consents	Increased costs as more consents required	\$168,000 in first year. Reduces with consents and familiarity with the consent process
Council annual charges	Increased monitoring by councils	\$23,000 in first year. Reduces with consents and familiarity with the consent process
Compliance cost	More documentation required	\$30,000 per annum
Permitted activity costs	Increases further as more conditions are applied	\$9,000 in first year. Reduces with consents and familiarity with the consent process

Stakeholders/resource	Explanation	Costs
Regional council costs		
Plans	Some plan changes required	\$80,000 for the first three years
Permitted activity	More documentation required	\$48,000 per annum
Training	Some further training needed	\$77,000 in first year only
District councils		
Plans	Some plan changes required	\$50,000 for the first three years
Permitted activity	More documentation required	\$18,000 per annum
Training	Some further training needed	\$48,000 in first year only
NGOs		
	Increased monitoring of consents	\$10,000 per annum
Government		
Plan advocacy	Increased monitoring of consents	\$5,000 per annum
Implementation costs	NES costs	\$100,000 in first year, \$75,000 in two subsequent years
Wider costs		
Opportunity cost of setbacks	No replanting within 5 metres of stream	\$281,000 per annum
Total costs	Over 30 years (PV 8%)	\$11,700,000
Note (1) Numbers rounded		

Source: MWH and NZIER