Cover Sheet: National *Phytophthora agacthidicida* Pest Management Plan

Advising agencies	Ministry for Primary Industries
Decision sought	Approval to progress a National *Phytophthora agathidicida* Pest Management Plan (the NPMP) and commence drafting the NPMP Order in Council. Approval to commence drafting amendments to the Biosecurity (Infringement Offences) Regulations 2010 to give effect to the NPMP.
Proposing Ministers	Minister for Biosecurity

Summary: Problem and Proposed Approach

Problem Definition

A disease is threatening kauri trees which are indigenous to Aotearoa New Zealand, a taonga and ecological keystone species.

The *Phytophthora agathidicida* (*Pa*) pathogen , known commonly as causing “kauri dieback disease”, was identified in 2006. The fungus-like pathogen can infect kauri at all stages of development and kills most, if not all, trees that it infects. There is no known cure nor long term treatment for the disease, once contracted. In 2008, *Pa* was declared an ”unwanted organism” under the Biosecurity Act 1993 (the Biosecurity Act) and in 2018 kauri was classified as a”‘threatened species”.

Current efforts at containing *Pa* are helpful but are ultimately insufficient. Regional and district councils, mana whenua, central government agencies and community groups have enlisted a range of mitigation tactics – including public education, hygiene station installation and localised earthworks controls. Despite this, *Pa* has continued to spread, with its distribution having more than doubled in the Waitākere Ranges over a 5-year period, with the proportion of the ranges with detected *Pa* infections growing from 8% to 19% between 2011 and 2016.

A 2013 independent review of the Kauri Dieback Programme and a subsequent investigation recommended “a nationally consistent approach”, supported by long term programme funding. Both the review and the investigation identified an “over-reliance on voluntary compliance” as a key problem. Without consistently applied risk mitigation measures on the movement of plant material, people, equipment, and animals within and between regions in the northern North Island, where kauri naturally grows, infection will continue to spread.

Summary of Preferred Option or Conclusion (if no preferred option)

The preferred approach to managing *Pa* is to put in place a national pest management plan by Order in Council under the Biosecurity Act. This is because the NPMP regulatory tool provides a nationally consistent regulatory framework, tools and powers to ensure specific actions are taken to manage the pathogen, in this case PA, across regions and land tenures.

A NPMP has the best chance of bringing about the desired outcome as it would:

- provide powers available under the Biosecurity Act to set specific rules to manage PA. Breach of these rules could result in prosecution.
- establish a comprehensive national framework for managing PA, with clear objectives and success measures.
- designate the Biosecurity New Zealand (Biosecurity NZ) business unit of the Ministry for Primary Industries (MPI) as the management agency to deliver these objectives.
- ensure that decision-making by central and regional government on kauri protection recognises and gives effect to Te Tiriti o Waitangi
- ensure that the funding model (central and regional government) is based on a clear regulatory framework and is sufficient to sustain operations in the mid-to-long term.

The NPMP would be based on a comprehensive proposal which was developed through extensive consultation with mana whenua, recreational forest users, businesses that work with / near kauri, landowners and regional and central government. A NPMP proposal was submitted to the Minister for Biosecurity by the Kauri Dieback Governance Group in 2019 and revised and resubmitted once implementation funding was committed in Budget 2021 by its successor, the Kauri Protection Governance Group. This proposal builds on the lessons learned from a decade long collective response to *Pa* (known now as the Kauri Protection Programme, or previously, the Kauri Dieback Programme)

The NPMP would contain rules that target disease vectors, both human and animal, to contain the spread of *Pa* and to allow time to develop effective long term treatments for the disease. This would include:

- requiring individuals to take specific hygiene actions when there is potential for them to come in contact with kauri plants, trees or forests (e.g. cleaning footwear/equipment/vehicle tyres);
- restricting the movement of stock, or release of animals, into kauri forests;
- requiring risk and earthworks management plans when living or operating in the vicinity of at-risk or infected kauri.

A National *Pa* Pest Management Plan will be the recommended option in the Cabinet paper, consistent with the 2017 government announcement[1] that a NPMP will be developed, the Minister of Biosecurity's 2019 agreement to progress work on the NPMP proposal and the 2020 Labour Manifesto promise to fund and implement a NPMP.

An operational plan for the implementation of a National *Pa* Pest Management Plan is being developed and will support a smooth transition to the new regulatory approach.

[1] https://www.beehive.govt.nz/release/stronger-action-protect-iconic-kauri

Section B: Summary Impacts: Benefits and costs

Who are the main expected beneficiaries and what is the nature of the expected benefit?

Monetised and non-monetised benefits

Kauri trees have immense value in te ao Māori, intrinsic value to all New Zealanders and are ecologically dominant in many of the forests where they are found. Without much stronger intervention kauri (and potentially other species which rely on kauri) could become extinct, with profound consequences for the forests, ecosystems and communities, particularly iwi/hapū communities, of northern New Zealand.

Protecting kauri from *Pa* has many benefits, as discussed in the table below.

Group	Impact of kauri protection
Tangata whenua	• Kauri trees are taonga, holding significant cultural and spiritual value to Māori. Kauri are descendants of the atua Tāne-mahuta 'god of the forest' and are connected to Māori through whakapapa (genealogy) as ancestors.. • For iwi (such as Te Roroa), the health and welfare (mauri) of kauri forests are inextricably linked with the health and wellbeing of their people. • Kauri are used for traditional medicine (e.g. kauri gum for burns) and customs (e.g. kauri soot in traditional tattooing).
Indigenous ecosystems and species	• Kauri are a 'keystone species' and ecosystem engineers[2], with northern kauri supporting eighteen additional species on average. The loss of kauri could lead to the loss of additional endemic species and changes in plant community structure. • Kauri leaf litter enriches the surrounding soil mitigating the effects of long periods of drought, which is likely to increase due to climate change. • Due to their size, age (they often live over 1,500 years) and the time it takes for them to fall, kauri sequester an average amount of 525 tonnes per hectare of forest[3]. – This is equivalent to $27,285 of carbon sequestration for every hectare kauri forest (NZTA social cost of carbon)[4],It has been estimated that Kauri extinction would result in a loss of around $330 million worth of carbon emission mitigation.

[2] Ecosystem engineers are species that modify and/or create a habitat. As a 'keystone species' in this habitat, the loss of kauri would lead to disproportionate change to the ecosystems they create / enable

[3] Average taken from Deloitte (2019) National Pest Management Plan for Kauri Dieback Disease Cost Benefit Analysis, this may be a low estimate, as a Tane's Tree Trust technical article estimates mature kauri forests can sequester as much as 2,805 tonnes of Carbon per hectre.

[4] Waka Kotahi New Zealand Transport Agency (2016) *Monetised Benefits and Cost Manual* website: /https://www.nzta.govt.nz/assets/resources/monetised-benefits-and-costs-manual/Monetised-benefits-and-costs-manual.pdf

Group	Impact of kauri protection (cont)
Tourism and the Economy	• The tourism industry benefits from healthy kauri forests. The Lonely Planet travel guide lists two kauri trees in their top three New Zealand-wide attractions (Te Matua Ngahere and Tane Mahuta walks). • The 'Kauri Coast' (stretching from Brynderwyn to Hokianga in Northland) attracts visitors northwards, to the many hikes within the Waipoua Forest and the Matakohe Kauri Museum. This kauri tourism trade benefits the Northland economy. • Kauri trees also feature in international representations of Aotearoa New Zealand landscapes, such as Fangorn Forest in the Lord of the Rings films. • Aotearoa New Zealand's 'clean green' image and '100% Pure New Zealand' branding is central to our international reputation. A Ministry for the Environment study found that if New Zealand's environment was perceived as being degraded, for example through the loss of kauri species, it would result in fewer tourists[5]. • Tourism has, and will continue to be be affected, by the COVID-19 context however given the long-life of kauri trees and forests, protection now marks an investment in future tourism opportunities.
The New Zealand Public	• New Zealanders treasure outdoor activities, such as tramping and camping, within native forests. • Time spent within our unique natural environment is culturally valued, tied to our sense of identity, and has health and wellbeing benefits which would be negatively impacted by the further degradation and/or loss of kauri.
The Crown	• Protection of taonga is an obligation under Te Tiriti o Waitangi, as kauri is regarded by Māori as a taonga species, its protection is required in order for the Crown to meet its obligations. • Protection of indigenous species is a commitment under the United Nations Convention on Biological Diversity, the Aotearoa New Zealand Biodiversity Strategy and specific legislation including the National Parks Act 1980, Conservation Act 1987, and Reserves Act 1977. • To implement the National *Pa* Pest Management Plan, Budget 2021 allocated $28m over the next four years, with a commitment to an additional $4m in year five ($32m in total).

[5] Ministry for the Environment (2001) *Valuing New Zealand's Clean Green Image*, website: https://environment.govt.nz/assets/Publications/Files/clean-green-aug01-final.pdf,

Where do the costs fall?
Monetised and non-monetised costs; for example, to local government or regulated parties
Most of the monetised costs fall to the Crown and local government. This is because the benefits fall to either the Crown or the public as a 'public good'. Over a five year period, $32m of crown funding has been committed to the implementation of the NPMP. Budget 2021 has allocated $8m for each of the first three years and $4m has allocated to forth (with an additional $4m has committed for the fifth year, for future allocation). This funding has been assigned to the MPI budget, as MPI will be the management agency responsible for delivering the plan. The function within MPI will be known as the Kauri Protection Agency (KPA), which will be a business unit established within Biosecurity New Zealand. There will be ongoing monetised compliance costs for some individuals, businesses, and organisations, particularly where similar requirements or voluntary uptake of best practice was not already in place. The extent of this change will vary based on: regional factors (i.e. Regional Pest Management Plan contents, Unitary and District Plan provisions), the exposure and will of individual organisations to comply voluntarily to best practice standards (such as Plant Pass nursery standards) and the proximity of working and living environments to kauri plants, trees or roots. This will be tempered by a risk management approach to compliance and tools made available by the KPA. Non-monetised costs and compliance impacts are discussed in the table below..

Owner/user group	Impact of requirements and enforcement

Landowners of kauri forest land, including:
 	
• private landowners
• farmers
• the Crown
• Māori landowners
• territorial and local authorities
	• Some landowners will need to invest time to understand and meet their new obligations. This includes:
	  ○ regular checks to determine whether their trees show symptoms of the disease, the results of which to be reported to the management agency;
	  ○ ensuring public tracks on their land comply with requirements; and
	  ○ keeping stock away from kauri forest areas when so directed.
	• Additional costs associated with greater care and hygiene practices when undertaking earthworks within designated kauri forests and in implementing track upgrades or maintenance.
	• Breach of any rule is an offence and landowners and other groups are subject to prosecution if they do not comply. Infringements fees/fines may also be issued for non-compliance with infringement offences (e.g. not carrying out hygiene measures when walking off-track in kauri forests). Enforcement will be carried out by authorised persons, determined by the Kauri Protection Agency. This will largely be employees of local government and designated mana whenua groups.

Recreational users of kauri forests, including: • residents • visitors • community groups (including scouts and tramping clubs) using kauri forests recreationally or for conservation purposes	• Moderate impact when using public tracks – to clean footwear and/or equipment at cleaning stations is not an onerous task. • High impact when off-track – the onus is on the individual to know how to clean equipment and when to do so. Management agency to provide clear information to mitigate risk. • Infringements fees/fines may also be issued for non-compliance with infringement offences (e.g. the use of hygiene stations when present at track entrances). • The National *Pa* Pest Management Plan will be unable to compel people to close tracks though it will require open tracks to meet required standards. This may indirectly lead to the closure of some tracks, which would have a high impact on recreational users.

Owner/user group	Impact of requirements and enforcement (cont)
Hunters using kauri forests for hunting, including: • recreational hunters • contracted hunters culling wild animals and pests • subsistence hunters	• While the release of game animals is largely prohibited, the practice continues and is ongoing challenge for the Department of Conservation (that administers large sections of kauri forest land). Additional powers (that are applicable to a range of species and on both public and private land) along with increased enforcement within kauri forests will mean that hunters will need to find alternative hunting sites if a kauri forest ceases to have an animal population that can sustain hunting activities. As alternative hunting sites are available, and the majority of hunting activity is of a recreational nature, we consider there is low or no financial costs associated with compliance. • Moderate impact when using public tracks – to clean footwear and/or equipment at cleaning stations is not an onerous task. • High impact when off-track – the onus is on the individual to know how to clean equipment and when to do so. The Kauri Protection Agency will provide clear information to mitigate risk. • Infringements fees/fines may also be issued for non-compliance with infringement offences (use of hygiene stations on track and hygiene measures off track). • Prosecution under the Act will be used for ongoing, egregious and/or multiple breaches of the rules (failing to comply with directions).
Businesses operating commercial activities in kauri forests, including: • logging operations • mining operation • transport and roading contractors • nursery and gardening industry	• Moderate impact when using public tracks – to clean footwear and/or equipment at cleaning stations is not an onerous task. • High impact when off-track – onus is on employees to know how to clean equipment and when to do so. • Businesses intending to carry out earthworks may incur additional costs, if measures are not already applied voluntarily or due to regional plan requirements. • Some cost for businesses is anticipated if hygiene protocol takes time away from commercial activities or reduces productivity/profit. The Kauri Protection Agency will provide guidance on how to meet requirements with minimal disruption, but the financial cost of compliance lies with businesses. • Nurseries who do not adhere to a similar voluntary standard may incur costs to meet the requirements set out in the NPMP rules requiring specific on-site practices and for additional testing and surveillance. • Infringements fees/fines may also be issued for non-compliance with infringement offences (i.e. use of hygiene stations on track and hygiene measures off-track). • Prosecutions under the Biosecurity Act will be used for ongoing, egregious and/or multiple breaches of the rules (failing to comply with directions).

What are the likely risks and unintended impacts? How significant are they and how will they be minimised or mitigated?

Non-compliance may be unintentional or difficult to enforce at some kauri sites

Entry into forests will remain largely unsupervised, which means the public will need to be familiar and comply with the requirements to achieve the desired outcome. To encourage compliance, the Kauri Protection Agency will develop a communication strategy, with guidance and input from the proposed Kauri Protection Governance Group. Mana whenua are also likely to take a strong compliance and communication role. The communication strategy will be developed prior to the NPMP entering into force. The communication strategy will include printed material, newspaper advertising, a roadshow, and updated online material, which will be available across government and stakeholder channels.

Signage will also be erected or updated in areas where the public regularly enter kauri forests or in areas of high risk. The signage will detail requirements and the potential cost of non-compliance.

The intention is that the enforcement of the rules will be based on a risk management approach. This means resources will be focused on:

a. protecting areas that are at the highest risk of being infected by the disease;
b. protecting trees of particularly special value (e.g. ecological value, cultural value, genetic value etc.); and
c. ensuring best practice is applied to activities that carry the highest risk of spreading PA.

Baseline testing is underway to ensure that risk judgements have scientific backing and can be adapted over time. Communication, education and compliance strategies will be adjusted in line with these insights.

Positive results from the National *Pa* Pest Management Plan may not be immediately evident or meet with stakeholders' expectations

The negative effects of PA-caused disease can take a long time to surface in older trees, and little is known about the disease's latency. It is believed that outward symptomology (e.g. trunk lesions, yellowing leaves, thinning canopies) could take decades to present. Though concrete efforts have been made to map kauri locations and the disease's status throughout Aotearoa New Zealand, we have not mapped all trees. *Pa* infected trees and forests will therefore continue to surface as physical symptoms from long-term infections become visible, and as testing continues on previously uninvestigated sites – meaning new discoveries of *Pa* infections are likely to continue for the next ten to twenty years. This could present an inaccurate view of the NPMP's efficacy and undermine the morale of partners, the public and the media.

Efforts are being made to have better baseline measures of the current spread of *Pa* (including the randomised testing of kauri within forest sites) which should give a more accurate picture of how many sites are currently infected. This will allow the Kauri Protection Agency to manage expectations about how many additional infected sites could surface, as testing is expanded. Central coordination and collation of surveillance data will better inform future operations plans and science on where best to target interventions. Even with current diagnositc limitations, the NPMP mechanism is an important tool to constrain the propagation of the disease, as unmeasured spread prevention still provides protection to kauri trees.

Te Tiriti o Waitangi could be seen as not being honoured or Māori may perceive their rangatiratanga over land is not as strong as it should be

The National *Pa* Pest Management Plan was developed in collaboration with tangata whenua through a Tangata Whenua Roopu[6], extensive and meaningful consultation with mana whenua from kauri lands and at marae through more informal "cup of tea" conversations. The proposal was drafted by the Kauri Dieback Governance Group, which included members from Te Roroa and the Tangata Whenua Roopu. An analysis is underway to identify MPI's commitments in te Tiriti settlement legislation relevant to areas with naturally occurring kauri. The proposal has also been assessed to ensure the continued access to kauri for cultural purposes has not been limited (e.g. for cultural harvest).

A significant portion of the funding for the implementation of the National *Pa* Pest Management Plan in the first year is being prioritised for mana whenua-led activities. This is to ensure on-the-ground operations provide for their kaitiakitanga of kauri lands and partnership-led decision making.

Governance and advisory structures (including the proposed Kauri Protection Programme Governance Group, a Rangatira Group and Operations Advisory Group) will involve membership from hapū/iwi in kauri lands, and will provide input to the Kauri Protection Agency's strategic decision making. Mātauranga Māori incorporation is a key aim of the programme. An independent review of the state of pathogen and disease knowledge undertaken by the Bio-Protection Research Centre in 2016 identified that mātauranga Māori integration was an area for improvement.

Section C: Evidence certainty and quality assurance

Agency rating of evidence certainty?
How confident are you of the evidence base?
Certainty of the problem Globally, introduced soil-borne diseases, such as PA, are degrading indigenous forests and ecosystems. Research has found that when *Pa* is injected into the stems of kauri seedlings, it kills all the seedlings within 4-6 weeks[7]. When the disease is inoculated into soil, the pathogen kills all of the young kauri within 10-12 weeks[8]. These tests have occurred in controlled environments separate from natural kauri forests. Similar testing on older trees is not ethical and has not been done. We do not currently have data on the location and condition of all kauri within Aotearoa New Zealand. However, extensive work conducted by the previous kauri dieback programme partners, and the Auckland Council in particular, indicates that *Pa* continues to

[6] Membership was made up of hapū and iwi with mana whenua over kauri forest stands and Māori kauri forest landowners

[7] Horner IJ, Hough EG and Zydenbos SM (2014). Pathogenicity of four *Phytophthora* species on kauri: in vitro and glasshouse trials. *New Zealand Plant Protection*, 67: 54-59

[8] Horner IJ, Hough EG and Zydenbos SM (2014). Pathogenicity of four *Phytophthora* species on kauri: in vitro and glasshouse trials. *New Zealand Plant Protection*, 67: 54-59

spread despite current efforts. The Waitākere Ranges Regional Park now represents the most heavily infected area currently recorded in Aotearoa New Zealand, with *Pa* distribution rates rising from 7.9% of the ranges infected (and a further 2.7% possibly infected) in 2011 to 18.95% of the area infected (and a further 4.65% possibly infected) in 2016[9]. This is despite overall awareness of the disease increasing from 31% to 67% of participants surveyed over the same period.[10] In 2013, an independent review of the Kauri Dieback Programme highlighted an over-reliance on voluntary compliance as an area for program improvement.

Supporting, coordinating and commissioning research (including baseline studies and surveillance) will be a key objective of the incoming Kauri Protection Agency . These studies will assist in understanding the efficacy of the increased education campaigns and compliance measures and will provide the basis for administering treatments (or potential cures) as the science develops.

Certainty of *Pa* vectors

According to the 2016 independent review of kauri disease knowledge, human activities to do with nursery transfers (contaminated soils), recreation, track building and maintenance are the single biggest vectors in the spread of PA.

Human movements

International research has found that diffusion of soil-borne diseases often occurs through animal or human foot traffic. For example, *Phytophthora ramorum* (Sudden Oak Death) occurs more commonly in the soil of heavily used Californian hiking tracks than in soils from adjacent off-track areas[11]. Approximately half of those that used tracks through infected areas were found to have the pathogen on their shoes when leaving the forest[12]. In Britain, three invasive *Phytophthora* species were found in soil taken from forest tracks, and from soil taken from boots that had walked those tracks[13]. Human movement has also been implicated in pathogen spread locally. An Auckland Council investigation into the Waitākere Ranges found "the highest risk vector for kauri dieback disease movement into new distinct locations is soil disturbance associated with human activity e.g. visitor tracks, baitlines and informal routes".[5]

Earthworks and road maintenance

Use, construction and maintenance (i.e. the movement of equipment, soil and vehicles) on the Waipoua Forest Road (State Highway 12) is viewed as responsible for the spread of PA. An MPI investigation describes the road as "an infected artery running through some of the most prime stands of kauri",[14] which makes it a historical and ongoing disease vector.

Animal movements

9 Auckland Council (2017) Kauri Dieback Report: An investigation into the distribution of kauri dieback, and implications for its future management, within the Waitākare Ranges Regional Park Version 2: Update June 2017.

10 Colmar Brunton (2016) Kauri Dieback Survey Report. Report commissioned by MPI.

11 Cushman, J H & Meetenmeyer (2008) Multi-scale patterns of human activity and the incidence of an exotic forest pathogen, Journal of Ecology: 766–776

12 Davidson JM, Wickland AC, Patterson HA, Falk KR & Rizzo DM (2005) Transmission of Phytophthora ramorum in mixed-evergreen forest in California. Phytopathology 95:587–596.

13 Elliott M, Schlenzig A, Harris Cm, Meagher TR & Green S (2015). An improved method for qPCR detection of three Phytophthora spp. in forest and woodland soils in northern Britain. Forest Pathology 45: 537-539.

14 Ministry for Primary Industries (2017)*The Introduction and Spread of Kauri Dieback Disease in New Zealand Did Historic Forestry Operations Play a Role?* Prepared on behalf of the Kauri Dieback Programme

Anything that has the potential to transport soil has the potential to vector PA. Feral pigs, as ground dwelling animals that forage on the forest floor, are viewed nationally and internationally as high-risk vectors of *Phytophthora* pathogens. Pigs also spread *Pa* through foraging and ingestion of infected roots. The negative impact of feral pigs on biodiversity, including vectoring of plant pathogens, has been confirmed within the Waitākere forest, where *Pa* is present[15].

The growing, selling and moving of kauri

A large-scale analysis of *Phytophthora* infestations in Europe demonstrated widespread infection of nurseries with *Phytophthora* species, representing a significant biosecurity threat of onwards propagation[16]. Nurseries have also been implicated in the spread of *Pa* with four infected kauri plantation sites within the Waitākere forest being (almost certainly) introduced via contaminated seedlings brought to the sites from the Northland nursery. The spread of Sudden Oak Death has been managed by the implementation of regulatory solutions which target hygiene within nurseries. New Zealand Plant Producer Incorporated has developed nursery standards for kauri, which recognise the risk nursery practices can pose.

To be completed by quality assurers:

Quality Assurance Reviewing Agency:
Quality Assurance Assessment:
Reviewer Comments and Recommendations:

[15] Bassett IE, Horner IJ, Hough EG, Wolber FM, Egeter B, Stanley MC, Krull CR. 2017. Ingestion of infected roots by feral pigs provides a minor vector pathway for kauri dieback disease Phytophthora agathidicida. Forestry: An International Journal of Forestry Research. 90(5) 640-648.

[16] Jung T et al. (2015). Widespread Phytophthora infestations in European nurseries put forest, seminatural and horticultural ecosystems at high risk of Phytophthora diseases. Forest Pathology. doi: 10.1111/efp.12239

Section 1: General information

1.1 Purpose

The Ministry for Primary Industries is solely responsible for the analysis and advice set out in this Regulatory Impact Statement, except as otherwise explicitly indicated. This analysis and advice has been produced for the purpose of informing the final decisions to proceed with a policy change to be taken by the Minister for Biosecurity.

1.2 Key Limitations or Constraints on Anlaysis

There are four key areas where there have been constraints and/or limitations: decisions made to date, options available under the Biosecurity Act, the limited scientific knowledge, and different approaches to assessing cultural harm.

Decisions made to date

Current decision-making is constrained by the key decisions made to date, specifically:

- the Minister of Biosecurity accepted a proposal for a national pest management plan that targets PA, from the Kauri Dieback Governance Group in 2019.
- Budget 2021 allocated $28million for the first four years of the NPMP and committed to a further $4million in the fifth year.

These decisions have been based on what was determined to be an appropriate response to the threat of PA, informed by:

- an independent review of the Kauri Dieback Programme in 2013 and subsequent investigation recommended a nationally consistent approach;
- a 2015 independent report recommended an NPMP to the Kauri Dieback Governance Group, when considered against a regionally led approach or a nationally led approach whereby Biosecurity Act powers were utilised individually;
- Auckland Council commissioned research, which found increased spread within the Waitākere Ranges;
- the results of public surveys and targeted research on current behaviours and potential interventions, commissioned by the Kauri Dieback Programme;
- the decision by the Minister of Biosecurity in 2017 to proceed with a National Pest Management Plan (initiating NPMP proposal development);
  three rounds of public consultation, spanning mid 2018 to early 2019, found strong support for the implementation of a NPMP; and
- a draft Cost Benefit Analysis prepared in 2019, which found both the ‘NPMP (light funding)’ and ‘NPMP’ scenarios to be Net Present Value (NPV) positive ($334.4m and $546.8m respectively), and recommended that a Plan be implemented over the alternatives considered (‘Status Quo’ and ‘Forest Closures’). This analysis assumed a higher level of funding than was announced in Budget 2021 and a new CBA is being prepared.

Constraint under the Biosecurity Act 1993

The Biosecurity Act 1993 (the Biosecurity Act) allows for the development of national pest management plans, which enable targeted enforcement of pest spread mitigations, however there are limitations on the powers provided for this purpose and the process

for developing an NPMP (largely undertaken prior to seeking Cabinet approval to draft the Order in Council) is extensive and resource heavy.

In regard to Biosecurity Act limitations, the NPMP mechanism precludes:

- control over the movement of people (though it can control the movement and condition of objects, including clothing, vehicles or equipment) and
- the closure of forests (though it can set prosecutable minimum standards on the state of tracks and roads).

The Biosecurity Act also sets out six steps to develop an NPMP (found in section 61- 66) which requires that an extensive proposal be developed and consulted prior to Plan enactment. In pursuit of this approach, the kauri dieback program partners and government officials have conducted (and are constrained by) the work and momentum that has been built for this approach over four years of work towards the implementation of a National *Pa* Pest management Plan.

Constraints on science availability

PA was only correctly identified and named as a species in 2006. Considerable work has been done since then to locate infected kauri trees to determine the nature of the effects of the disease and possible treatments and mitigations. There is evidence of factors being linked to disease spread (e.g. the movement of people, animals and plants) and there are commonly accepted practices for mitigating the harm caused by these vectors. However, there is no current research on the efficacy of specific mitigations on *Pa* caused disease, particularly given the slow pace of symptom appearance. There have also been some constraints regarding co-ordination and alignment of the science research and the operational response to the pathogen.

A nationally led NPMP programme will increase the data available to science providers and increase the co-ordination between science providers and operational activities, this will allow the most effective mitigation techniques to be determined and shared. New approaches and treatments will also be developed. The Kauri Protection Agency established under the National *Pa* Pest Management Plan will be key in leading the co-ordinated roll-out and adoption of those approaches and treatments, most likely through the annual operations plan and associated funding cycle.

Constraints on analysis of cultural harm

A significant limitation on the ability to determine the costs and benefits in assessing regulatory interventions for public benefit, and for a taonga species, is the difficulty in quantifying cultural harm in terms of monetary value. Unlike NPMP's that are implemented for industry benefit, in which the economic impact is measurable, the loss of individual trees of cultural value, or of a tree species for future generations, does not relate to measurable economic imapct. The submitted NPMP proposal (2019) recorded an objection raised by Tangata Whenua Roopu of viewing kauri: "…within a profit or loss lens…". The Roopu's view was kauri "… just is and it needs protecting". The NPMP proposal, and this analysis, therefore relies heavily on quantitative measurements of value and harm – with special mention of kauri's role as taonga and as an ecologically important species.

1.3 Responsible Manager (signature and date):

Alan McKenzie

Kauri Protection Team

Biosecurity New Zealand

Ministry for Primary Industries

28 October 2021

Section 2: Problem definition and objectives

2.1 What is the current state within which action is proposed?

Location and scale of the problem

PA is a fungus-like organism, that lives in soil and infects kauri roots, effectively starving the tree to death. While *Pa* can live in soil independent of kauri prescence, no other plant life have been determined to be susceptible to the pathogen, leading to its colloquial name 'kauri dieback disease'.

Kauri trees naturally occur only in the northern North Island north of latitude 38 degrees (i.e. Northland, Auckland, Bay of Plenty, and parts of Waikato), though kauri have been planted throughout Aotearoa New Zealand – meaning these are the areas most important for *Pa* spread prevention.

PA has been confirmed as being present throughout the upper North Island[17] including in: the Waitākere Ranges, on private land throughout Auckland and Northland, in the forest plantations of Omahuta, Glenbervie and Russell in Northland, on public land at Okura, Albany and Pakiri, in the Trounson Kauri Park Scenic Reserve and the Waipoua Forest in Northland, on Great Barrier Island, on the Coromandel Peninsula, at Hukarahi, and on private land near Whangapoua.

Action is being taken in response to PA

Many agencies and organisations have carried out response actions. Central government has mainly funded high-level scientific research and some physical mitigation measures (such as track closures, fences, and hygiene stations) on public conservation land. Regional councils have funded physical mitigation and public education measures.However, funding and enforcement is variable across regions and does not always reflect the risk posed. Coordination between partners has occurred via the Kauri Dieback Governance Group. Hapū/iwi have been active on their own lands, have implemented rāhui over kauri forests, and been engaging as conservation partners and contractors with regional and central government. Te Roroa and the mana whenua representatives composing the Tangata Whenua Roopū were full members on the Kauri Dieback Governance Group.

[17] Aerial surveillance completed in 2018 over three million hectares identified 450 kauri sites with potential infections.

As noted earlier, current activities are helpful but insufficient. Kauri remains at risk of succumbing to the disease. *Pa* distribution rates more than doubled in the Waitākere Ranges over a five year period, from 8% of the ranges being infected in 2011 to 19% in 2016. There has been no consistent regulation on movement of plant material, people, equipment, and animals between and across kauri regions.

Current actions addressing the risk posed by *Pa* are discussed below.

Government led action

Three government agencies lead activities to protect kauri from PA: Biosecurity New Zealand business unit of the Ministry for Primary Industries; the Department of Conservation (DOC); and the Ministry of Business, Innovation and Employment (MBIE), through the National Science Challenge.

Since 2009/10, the government has spent or committed about $90 million to protect kauri, primarily to DOC for physical mitigation activities on conservation managed land and to MBIE to fund research in aid of scientific solutions to protect kauri.

Biosecurity New Zealand

Since 2009, Biosecurity New Zealand has led the Kauri Dieback Programme – now the Kauri Protection Programme (KPP) – in partnership with DOC; Auckland Council; the Waikato, Northland and Bay of Plenty regional councils; Te Roroa (tangata whenua for the Waipoua Forest Sanctuary); and Tangata Whenua Roopu (a body representing hapū/iwi with an interest in kauri forests). These partners formed the Kauri Dieback Governance Group who submitted the proposal for the National *Pa* Pest Management Plan to the Minister of Biosecurity.

Limited funding in recent years has meant Biosecurity New Zealand has been unable to provide financial support to partners and community groups for physical mitigation activity. Instead, Biosecurity New Zealand has focussed on:

- identifying ways to convert the research undertaken to date into the most effective actions on the ground to mitigate the spread of PA;
- engaging with partners and stakeholders;
- providing information and education; and
- using social media to maintain public awareness of the disease and actions that can be taken to reduce pathogen spread.

Department of Conservation (DOC)

DOC has received funding to undertake multiple initiatives, including:

- closing more than 40 public tracks;
- mitigating priority tracks against human spread of PA;
- establishing track design specifications;
- improving hygiene station design;
- undertaking some wild animal control; and
- working to achieve behaviour change by forest users.

The current baseline funding is used for ongoing maintenance of tracks and hygiene stations.

DOC also administers Jobs for Nature funding, which aims to “help revitalise communities through nature-based employment and stimulate the economy post COVID-19” (Budget 2020). This funding includes $3.5million for Te Roroa Commercial Development Company, a collaboration between iwi groups to protect kauri from PA,

and includes prevention, mitigation, education, behaviour change, treatment, restoration, and surveillance.

As a manager of land on which kauri trees are present, DOC has an ongoing responsibility to protect kauri on public conservation land.

Ministry for Business, Innovation and Employment (MBIE)

MBIE administers the Strategic Science Investment Fund, which supports long-term science investment. This has directed $29.5 million to *Pa* and kauri protection research since the 2018/19 financial year.

This funding includes $8.75m, anounced in November 2018 by the Minister for Research, Science and Innovation for kauri research to be administered by the National Science Challenge through Biological Heritage. This was followed by the Budget 2019 allocation of $20.75m for kauri research. Projects so far include testing phosphite injection treatment, identifying how kauri roots attract the pathogen and seeking mātauranga approaches to *Pa*.

Local government

Regional councils covering the natural range of kauri have committed funds to protect kauri in their regions. Within the current Long Term council plans, Northland Regional Council has committed $7.2 million, Waikato Regional Council has committed $4.57 million, Bay of Plenty Regional Council has committed $100,000 and Auckland Council has committed $106.5 million. Auckland's regional and local park network makes the Council the second largest kauri forest manager in Aotearoa New Zealand (the first being the Department of Conservation).

Other councils are working with landowners in their regions on a range of activities, including:

- managing regional parks and tracks;
- surveillance and soil-sampling;
- constructing stock-proof fencing;
- engaging with stakeholders to develop risk management plans or to approve mitigations;
- managing relationship with key groups, such as pig hunters; and
- engaging track ambassadors over summer to commmuicate to recreational forest goers how they can mitigate *Pa* spread.

Regional councils support a National *Pa* Pest Management Plan. In August 2019, a letter expressing disappointment in the delay of funding and implementing of a kauri NPMP was sent to the Minister of Biosecurity and Minister of Conservation, co-signed by representatives of all four regional councils involved in the kauri programme.

Non-government led action

Tangata whenua

Hapū/iwi, as substantial landowners and as kaitiaki of their ancestral homelands, have been managing the spread of *Pa* on their lands and working with regional councils and DOC to this end. This has included individual and community action, including the application of mātauranga Māori solutions and the implementation of rāhui over kauri forests (such as the Te Kawerau ā Maki rāhui over the Waitākere Ranges).

Tangata whenua are strong advocates for increased protection for kauri and expect an active role in the management and application of future interventions.

Non-profit and community groups

Non-government organisations (including the Kauri Rescue Trust and Royal Forest and Bird Protection Society) and community projects (such as The Kauri Project and Coromandel Kauri Dieback Forum) play a number of roles including spreading awareness and information as well as administering physical interventions, surveillance and treatments. The Kauri Rescue project has led on education of land owners administering phosphite treatments. These groups are important to both *Pa* control and in building public support for containment measures.

Public opinion

For those who live in areas with kauri present, there is a vocal subset that has expressed strong support for more action on kauri protection and a general frustration that a national pest management plan has not yet been implemented. A 2019 Colmar Brunton[18] survey on public knowledge and perceptions noted a"'growing cynicism" of government intervention. If substantive regulatory action is not taken, this view could strengthen.

2.2 What regulatory system(s) are already in place?

The protection of kauri involves regulatory controls placed on it both on a national and regional level, though rules and application differ from area to area. Most of these controls are based on authority provided by the Biosecurity Act and district plans under the Resource Management Act 1991, as detailed below.

The Biosecurity Act

Unwanted Organism Status

PA was classed as an "unwanted organism" in 2008. An unwanted organism is one "capable or potentially capable of causing unwanted harm to any natural and physical resources or human health". This is identified by a Chief Technical Officer (CTO) as per section 164C of the Biosecurity Act. It means no one is allowed to "knowingly communicate, cause to be communicated, release, or cause to be released, or otherwise spread any pest or unwanted organism" except in specified circumstances. The owner or person in charge of a thing that has or may have that unwanted organism is not able to sell, propagate, or breed that thing without permission. If someone breaks these rules it is an offence.

The unwanted organism status also allows for the designation of "restricted places", which places limits on organisms or goods that can be removed or introduced without permission or without undergoing specified storage or treatment criteria.

To date, one restricted place notice has been issued to a nursery implicated in *Pa* spread. The notice included directions, such as to treat equipment, destroy infected plants, and steps to prevent the spread of the pathogen.

Controlled Area Notices

Controlled Area Notices (CANs) are issued by a Chief Technical Officer and require particular biosecurity related actions to be undertaken within a designated area. The current CANs issued for kauri forests require items (including footwear, hiking poles,

[18] Colmar Brunton (2019) *Kauri Dieback Programme research Phase 1 – research update survey*, report commissioned by MPI, unpublished

vehicles, animals, tools, etc.) to be free of visible soil when entering the designated areas. Monitoring and enforcement are carried out by persons authorised under the Biosecurity Act and employed by Auckland Council.

Controlled Area Notices (CANs) are in place in the Auckland region:

- on certain open tracks on the Waitākere Ranges (from 1 May 2018);
- in parts of the Hunua Ranges (from 1 May 2018);
- in Goldie Bush Scenic Reserve (from 18 October 2018).

Local Government regulatory controls

Regional councils (as listed below) have a number of provisions under regional pest management plans (under the Biosecurity Act), building covenants and district plans (under the Resource Management Act 1991), trespass notices (under the Local Government Act 2002) and controlled area notices.

The approach varies between regional councils and provisions relating to kauri are sometimes region-wide or forest specific. These provisions are discussed below.

Auckland Regional Pest Management Plan

The Auckland Regional Pest Management Plan has several restrictions in place regarding PA. It has rules surrounding the movement of untreated kauri plant material, soil, or goods contaminated with soil into, within, or out of high-risk controlled areas or three times the dripline of individual kauri trees (i.e. the approximate root spread of a kauri tree). It also mandated pest free accreditation for some commercial transport providers operating in the Hauraki Gulf Islands, along with a requirement to provide passengers with information on the pathogen and space for hygiene stations to be installed by the council.

Waikato Regional Pest Management Plan

The Waikato Regional Pest Management Plan has a rule relating to the control of *Pa* for the Hunua Ranges Pest Management Area. The rule states ‘No person shall knowingly communicate, cause to be communicated, release, or cause to be released, or otherwise spread *Phytophthora* taxon Agathis or material contaminated with *Phytophthora* taxon Agathis within the Hunua Ranges Pest Management Area’.

Bay of Plenty Regional Pest Management Plan

The Bay of Plenty Regional Pest Management Plan mentions the council’s commitment to working in partnership to protect against the spread of PA. The plan does not currently have rules specific to the pathogen, though a current review of the RPMP includes a proposal to include *Pa* as an Exclusion Pest – which would place the pathogen it under movement / propagation controls.

Northland Regional Pest Management Plan

The Northland Regional Pest Management Plan has rules aimed at limiting the spread of *Pa* and specifies the criteria for when an authorised person can designate a property as “high risk” in relation to confirmed or likely *Pa* spread. Once identified, an approved Kauri Dieback Management Plan must be prepared and implemented. The plan also specifies

that sightings of disease symptoms (or potential symptoms) must be reported to the council or an appropriate Management Agency.

Resource Management Act 1991

Thames-Coromandel District Plan

The Thames-Coromandel District Plan contains rules relating to mitigating the spread of *Pa* during earthworks. These stipulate that:

- Prospecting (searching for minerals to mine) is not permitted in a kauri hygiene zone.
- Exploration (the step after prospecting, conducting a more thorough search of a particular area) requires a Kauri Dieback Disease Risk Management Plan.
- When in a conservation, rural, and rural lifestyle zones all earthworks within a kauri hygiene zone are a restricted discretionary activity and require consent from the Council. In these areas the Council requires that a Kauri Dieback Disease Risk Management Plan must be prepared prior to engaging in earthworks activity.

Auckland Unitary Plan 2016

The Auckland Unitary Plan, established under the Resource Management Act 1991, includes provisions for the maintenance of indigenous biodiversity. This currently includes land disturbance provisions which state that, apart from a few listed exceptions, land disturbance activities (if conducted within 3 times the radius of the canopy drip line of a kauri tree) must contain the spread of *Pa* contaminated soil and organic material by adopting hygiene measures and transport controls. Requirements for the safe movement and disposal of general vegetation are also made, along with specifications for the safe removal of kauri deadwood.

Indigenous Vegetation Protection (Section 6)

The Resource Management Act (RMA) requires regional and district councils to protect “areas of significant indigenous vegetation and significant habitats of indigenous fauna”. Councils can therefore designate “Significant Natural Area” (SNA) within their jurisdiction, in which restrictions may be applied to the use of private and public land when the SNA is included in a plan. Many northern SNA’s include kauri. This is a complementary measure to *Pa* management, in the preservation of kauri.

2.3 What is the policy problem or opportunity?

The underlying problem we are seeking to address is the continued spread of *Pa* between kauri trees, forests and regions. This problem has persisted, despite the collective efforts of vested parties, due to the pathogens human and animal movement and a lack of a consistency in both approach and application of spread mitigation measures across kauri regions (including a reliance on voluntary actions on the part of individuals and businesses).

PA infection is fatal to kauri and there is currently no cure

For most, if not all, kauri plants and trees, the disease caused by *Pa* infection is fatal. Kauri seedlings have been found to die within 10 weeks of infection, though it can take up to decades for old growth trees to show symptoms and succumb. There are treatments to slow the effects of the disease within individual trees (such as phosphite injections), but there is currently no cure.

PA is easily transmitted by human behaviour

PA is able to be transported in as little as a pinhead of soil, with the introduction of *Pa* to new trees and forests largely driven by human activity. This includes every day movements of people, equipment and vehicles near kauri trees or forests, along with farming practices and the intentional or accidental release of animals into a wild state.

Current efforts are inconsistent and *Pa* has continued to spread

Despite efforts by regional councils, hapū/iwi, government, and community groups, *Pa* has continued to spread. Current approaches are regionally determined and rely heavily on voluntary uptake of spread mitigations, with a lack of consistency in focus and resource allocation across kauri lands. Given the ease at which the pathogen can be transported between forests and trees, high uptake of spread mitigation behaviours are required to halt further spread, by a wide array of individuals and businesses.

The consequence of continued spread is signifcant

If the spread within known infected forests continues, those forests will be irrevocably changed and their natural character lost. If healthy forests are not kept disease free, we are at risk of losing all kauri and the unique ecosystems that rely on them.

Kauri's status as a taonga species means that its active protection is required under Te Tiriti o Waitangi. The crown also has responsibilites towards biodiversity through indigenous biodiversity strategies, international agreements/instruments and legislation (e.g. the United Nations Convention on Biological Diversity and Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020).

The scale of harm incurred by *Pa* spread, and the resultant kauri loss, in terms ecological, cultural and spiritual wellbeing, necessitates a stronger, more consistent approach to achieving the required risk mitigation behaviour change.

2.4 What do stakeholders think about the problem?

Consultation, ocurring between from mid 2018 and early 2019, found strong support for a stronger response to PA. Over 57 meetings/hui were conducted and 227 formal submissions were received – including engagement with tangata whenua, recreational forest users, conservation groups, government agencies and businesses that work with or near kauri – indicating a highly invested public. Comments largely centered around

the practicalities of *Pa* spread prevention (i.e. suggestions on and critiques of operational matters) and wishes for ongoing involvement.

An overview of Māori and stakeholders' views provided through the consultation are discussed below.

Māori

Māori are deeply concerned by the continued spread of *Pa* and the threat that poses to kauri and te ao māori. Kauri protection is seen as a kaitiaki obligation that rests on mana whenua and the Crown. Mana whenua have administered rāhui over kauri forests and sought mātauranga and rongoā solution to forest health and pathogen spread. During consultation, a general frustration was expressed at the lack of progress made on the part of the Crown in meeting their obligations to kauri, an indigenous and taonga species. Māori expressed the expectation that they be included in the decision-making and implementation of the governments pursued approach.

Recreational users and the general public

Recreational users have a deep appreciation for kauri and the ecosystems they create, with a strong aversion to continued ecosystem degredation and potential kauri extinction as a result of *Pa* spread. In consultation, many recreational users were in favour of the pre-emptive closure of all tracks, until track upgrades could be made or until effective scientific treatments or transmission mitigations are found. Others were strongly opposed to closing kauri forests, speaking to the importance of maintaining high-quality opportunities for recreation and interaction with kauri forests, for health and wellbeing reasons (amongst others). Overall there was agreement that the threat of *Pa* was significant, and warranted a stronger government response, though views differs on the extent of which that should limit their recreational opportunities.

Hunters

Hunting, throughout kauri lands, is a treasured recreational and culturally important activity within New Zealand forests, including those that contain kauri. Hunters feel they play a role in halting *Pa* spread by reducing and controlling the numbers of animal vectors in these forests. In consultation, support for a stronger approach to *Pa* spread prevention was found, though hunters were generally opposed to blanket poisoning of animals that are used for recreational and subsistence hunting, as local people use hunted animals as a traditional food source. The wish to retain access to some kauri forests for the purpose of hunting was expressed.

Businesses

Some industrial and infrastructure groups expressed that *Pa* spread was something they took seriously and felt that they already had mitigation measures in place. Of these, stronger government action was supported as something that would acknowledge what was already being done to mitigate their vector risk, or level the playing field between themselves and those not already bearing the cost of compliance. For those that were not already applying consisted spread control procedures, the cost of making these changes was raised as a concern. Feedback was also that the current system (with inconsistent and changing provisions across regions) is confusing and it is difficult for businesses that cross regional boundaries to comply with.

Nurseries and plant producers, as an industry concerned with the growing of healthy plants and trees both are in support of and would benefit from less *Pa* being transmitted. Fears were expressed by smaller businesses that an option that required significant space or testing would be too financially burdensome. In these cases, ceasing to sell kauri may be the only option to avoid non-compliance.

Private landowners

Private land owners expressed a wish for more support in knowing how they could stop *Pa* spread on their properties. While many supported a stronger, more consistent, government approach, this was balanced against a wish not to lose control over how their land could be used. Comments were made that, if additional requirements were to become an obligation, that these be reasonable and that landowners be consulted prior to prescriptive rules on land use being applied. Controlling feral pigs was a particular concern for private landowners, as they saw them as high risk *Pa* transmission vectors.

2.5 What are the objectives sought in relation to the identified problem?

The overarching objective is to realise behaviour change that reduces and prevents *Pa* spread within forests and between sites – managing *Pa* where it has been detected and preventing its introduction where it has not.

PA vectors include: people movement (e.g. on footwear and clothing), equipment movement (e.g. on shovels), transportation movement (e.g. on four-wheel drives), plant movement (e.g. nurseries), soil movement (e.g. earthworks) and animal movement (e.g. feral pigs). The reduction of *Pa* spread therefore requires behaviours in relation to these vectors be changed, encouraged or disincentivised.

The behavioural outcomes required to meet the overarching objective are:

- consistently applied hygiene practices for clothing, equipment and transport when moving into and out of kauri forests;
- consistently applied hygiene, surveillance, testing and record keeping practices within nurseries and plant retailers;
- consistently applied hygiene practices and safe movement of potentially infected soil during earthworks conducted by commercial operators and property owners;
- consistently applied track and road designs that ensure kauri trees and roots are protected from potential vectors (including shoes);
- avoidance of animal release or the grazing of animals near at risk kauri;
- active consideration of, and reporting to, the management agency on potential *Pa* infections.

Key to these behavioural outcomes is the appropriate and proportionate use of education, direction and enforcement. Education and direction have been used to date and continue to be the focus of the partner agencies in kauri protection but the results have not met the required level of consistency to stop *Pa* spread.

In seeking these objectives and behavioural outcomes, there is the requirement to ensure kauri of special value are protected (e.g. cultural, genetic or ecological value)[19], forest health and resilience solutions are sought (to reduce the impact of *Pa* if present or

[19] Cultural value relates to trees that are of importance to Māori or New Zealanders (e.g. Tane Mahuta), ecological value relates to ecosytems that are fragile or unique (e.g. old growth forests) and genetic value relates to important genetic variability that has the potential to increase resilience or resistance to PA.

if introduced) and that scientific advancements and Māori knowledge, values and approaches to manage the pathogens effects and prevent its spread are actively employed.

Section 3: Option identification

3.1 What options are available to address the problem?

Option 1:Status Quo

Under this option *Pa* continues to be largely managed by efforts from programme partners including:

- Local hapū/iwi (represented by Tangata Whenua Roopū and Te Roroa)
- Regional and District Councils (with the implementation of Regional Pest Management Plans, Regional and District Plans, biodiversity advice and funding)
- MBIE (largely via the funding of science and research)
- DOC (working with hapū/iwi and landowners, public education, wild animal control and track maintenance/upgrades)
- MPI (national coordination).

However, feedback from expert reviews, investigations, data of disease spread and from consultation and surveys conducted has been that the status quo is not sufficient to manage the effects of *Pa* on kauri.

Option 2: A National Pest Management Plan

A NPMP is a regulatory mechanism that is generally used to coordinate and fund collective action within a pest-affected industry nationally. The potential objectives of a NPMP, which are set out in the National Policy Direction for Pest Management, can be summarised as: excluding, eradicating, containing and providing protection from a specified pest – in this case PA.

A NPMP:

- is implemented and managed by a management agency;
- sets clear rules for activities that exacerbate risk;
- enables the use of certain Biosecurity Act powers for the means of enforcing the plan; and
- provides a model for funding ongoing activities.

A NPMP management agency enables:

- consistency of direction across the programme (strategy, policy, procedures, standards, frameworks, guidance);
- development of knowledge and tools (both science and mātauranga);
- determining and administering cross-region protection and exclusion zones.
- coordination and collation of surveillance and monitoring data;
- cost efficiency gains due to economies of scale;
- national implementation of technological and science interventions / mitigations;
- national consistency of compliance activities;

- large scale education and awareness campaigns and coordination;
- strategic capability development and training administration; and
- efficiency in corporate functions (e.g. budgeting, reporting and fund distribution).

The enforceable rules in the NPMP:

- Provide disincentives for risky or negligent behaviours by recreational users of kauri forests.
- Establish industry 'best practice' that provides a level playing field for those already bearing the cost of voluntary compliance that is consistent across all kauri regions.
- Allows the management agency to establish clear responsibilities for landowners
- Places controls of movement of kauri plant material or soil contaminated equipment, clothing, transportation or animals into and out of areas where kauri is present.
- Enables the acquisition of information by the management agency for purpose of learning the current spread of PA.
- Enables monitoring of infections and behaviours to determine trends and to inform future mitigations.

For further description of the proposed Plan rules, see Appendix 1.

3.2 What criteria, in addition to monetary costs and benefits have been used to assess the likely impacts of the options under consideration?

Criteria for the appropriateness of options was determined based on extensive consultation, independent reviews of the status quo, analysis of available options, and an understanding of the physical and behavioural exacerbators of *Pa* spread and resultant disease. These are discussed below.

Consistent approach to *Pa* spread

Once *Pa* is established in an area, there is (currently) no way to eliminate it. This means individuals exhibiting poor practices in, around and between kauri forests and trees are likely to cause permanent and devasting effects. To mitigate the risk of spread, consistently practiced behaviour change by a large number of exacerbators is required. This can only occur if best practice is agreed on and applied in a consistent and transparent manner across regions and land tenures. The option chosen should therefore provide for consistency of approach.

The trade off for national consistency is less regional flexibility – however national regulatory mechanisms can be operationalised in a way that considers local contexts.

Partnership based

Kauri are a taonga species to Māori. The Treaty of Waitangi guarantees tino rangatiratanga (full authority) and kaitiakitanga (guardianship) over taonga (treasures) to Māori, meaning that the management of a pathogen that effects a taonga species must be done in partnership with Māori. A solution that provides for this partnership, along with partnership with local authorities and between responsible government agencies, is therefore required.

Appropriateness of tools

A number of mechanisms are available to regional and central government for the control of equipment, people, animals, business and property. It is important the regulatory tools employed to mitigate the spread of *Pa* are being used for their intended purpose, utilise proportionate compliance measures, target only those individuals or organisations that increase the risk of *Pa* spread and be able to be tailored to local contexts (without losing clarity in regard to obligations).

Cost effectiveness

Kauri are found throughout New Zealand but only naturally propagate in the upper North Island. Kauri are interacted with as part of recreational activities, commercial enterprises and as a feature of property owners' daily lives. An effective solution to the spread of *Pa* and the protection of PA-free forests of *Pa* will be one that leverages off pre-existing systems, reduces duplication of effort and capitalises on economies of scale.

3.3 What other options have been ruled out of scope, or not considered, and why?

Non-regulatory option

A 'Status Quo +', or non-regulatory option, was considered and discounted. This would have involved increased resourcing (i.e. education funding, best practice guidance, regional compliance personel) to allow for greater cross-region consistency within the current regulatory model, with greater utilisation of RPMP powers and Biosecurity Act powers.

This could have included standardised template for inclusion in Regional Pest Management Plan, additional Biosecurity Act controlled area notices (CAN) and restricted place notices (restricting actions within and around forests), and increased use of the power to issue notice of directions (NOD), to require specific actions to manage the biosecurity risk posed by PA.

This option was considered a potential solution as it could be implemented quickly, seeing results for kauri without having to undergo a regulatory process for a new legislative instrument (i.e. as some Biosecurity Act powers are already delegated to regional councils, the Director-General of MPI or to Chief Technical Officers, meaning the lead-in period for implementation would have been brief). However, this option was discounted as it was not believed to be a strong enough response to the risk of PA. The non-regulatory option could not; guarantee that consistency in regional approaches would be maintained long tem, did not include the oversight and accountability of a management body, did not require secured funding, and would not provide sufficient clarity of obligations on the public, land owners and businesses to support the widespread behaviour change required.

Forest Closure

The closure of forests containing kauri trees (whether has been *Pa* detected or not) to public access for the purpose of eliminating disease vectors was considered but discounted.

The blanket closure of forests poses a number of significant risks. For māori, the inability to access what is deeply culturally significant may be distressing. Closure may alienate New Zealanders from the environment they regard as their birthright. It would also

significantly affect local tourism industries that rely on kauri (particularly within Northland) and their potential path to COVID-19 recovery.

Further, the Biosecurity Act can only limit the movement of goods, not people. A NPMP cannot compel individuals or organisations to close a forest. A different piece of legislation could have been employed to close forests had it been considered a feasible option.

Ceasation of government action

Also discounted was the ceasing of action by central or local government altogether, with the reappropriation of exisiting funds elsewhere. Without the significant resources and regulatory powers of central and local government kauri would likely become extinct in their natural habitat. The loss of kauri trees would cause significant cultural and ecological harm. It would negatively impact the Crown-Māori relationship, public trust, and the viability of kauri-related tourism. Taking no action would likely be considered a breach of principles of the Treaty of WaitangiC.

Independent Management Agency

The Biosecurity Act requires the Minister to designate a management agency to implement the NPMP. During consultation many options for the management agency were considered, including a non-profit organisation and an independent Crown entity. A Crown affiliated entity was the preference for some hapū/iwi as they felt it would provide greater accountability to Treaty of Waitangi obligations. However, the establishment of an independent management agency would require a large portion of the available funds intended to be used for for the protection of kauri. The Minister for Biosecurity has decided that the management agency should sit within the Biosecurity New Zealand business unit of the Ministry for Primary Industries, with agency administrative costs coming from MPI’s baseline funding.

Section 4: Impact Analysis

	Status Quo	NPMP
Consistency	**0** Each regional council has different rules and differing enforcement appetites in regard to the control of PA. Provisions that relate to *Pa* are found across multiple Plan types (i.e. are spread across Pest Management, Unitary and District Plans).	**++** Clear national framework, objectives, measures and rules are established, with a central agency to oversee the implementation and enforcement of the rules, ensure funding and commitment over the medium-long term.
Appropriateness of tools	**0** Tools are limited and are being utilised differently between and within regions. Mechanisms are appropriate but not being used to their full extent or consistently.	**++** The NPMP mechanism was designed for the purpose of managing pests such as PA. NPMP rules can require widespread uptake of behaviours that reduce the likelihood of *Pa* spread, which extends across regions and land tenures.
Cost effectiveness	**0** Variable funding levels mean variable mitigations are in place. The majority of funds are being used to maintain existing mitigations. Duplications in reporting and planning are also incurred.	**0** Involves the set-up and ongoing cost of a management agency, but provides efficiencies in terms of economies of scale and effective cross-regional prioritisation of funding. More is spent initially, but kauri see greater benefit and cost efficiencies will accumulate over time.
Partnership based	**0** The Kauri Dieback Governance Group provided a mechanism for partnership based decision making.	**+** NPMP proposals require extensive consultation and input with Māori and explicit consideration of the Treaty of Waitingi in order to be established. The proposal developed has clear objectives and measures for engagement. An independent governance structure, with membership and co-chairs representing a Crown-Māori partnership, will provide guidance and strategic direction on the implementation of the NPMP.
Overall assessment	**0**	**++**

Key:

++	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
0	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

Section 5: Conclusions

5.1 What option, or combination of options is likely to best address the problem, meet the policy objectives and deliver the highest net benefits?

The national pest management plan option best addresses the objectives by providing a nationally consistent mechanism for controlling the spread of *Pa* while still allowing councils, hapū/iwi, community groups and not-for-profit organisations to take local action, and the public of Aotearoa New Zealand to remain connected to their natural environment.

The NPMP is able to specify enforceable rules unique to the pest, in this case PA, which provides clarity on the actions and behaviours that are required to manage the effects of the pathogen. This addresses the critique of the current systems "over-reliance on voluntary compliance" and provides certainty to those that have indicated that the current regulatory approach is unclear and inconsistent between regions. The 12 proposed rules (Appendix 1) reflect a science and risk-based approach to transmission control and will be updated in the case of mātauranga Maori, scientific and technological advances (with investment and adoption of these methods being built as a principal success measure within the NPMP proposal).

Three NPMP's have been implemented in Aotearoa New Zealand, to allow industry organisations to control pests (e.g. the successful control of Bovine Tuberculosis by TB Free NZ). The mechanism has enabled centralised leadership for a range of stakeholders via the designation of a management agency to represent their needs (e.g. Kiwifruit Vine Health working with Zespri, New Zealand Kiwifruit Growers Inc, beekeepers, pollen providers, nurseries and contractors, as well as MPI, in the fight against the kiwifruit disease PSA). It has therefore proven to be a successful means of ensuring collaborative approaches to highly impactful 'pests'.

This is particularly important for *Pa* as the pathogen is causing significant harm to a taonga species, meaning a treaty-anchored approach is required. This NPMP option enables such an approach due to; the intensive process of preparing a NPMP proposal which mandates roboust engagement with Māori, the capability and precedent for delegated enforcement (to industry members in the past and mana whenua in Plan impementation) and its allowance for strategic and operational partnership-based oversight (via the Kauri Protection Governance Group's strategic oversight over, and endorsement of, the annual Operational Plan).

Extensive consultation was conducted on this option, with feedback considered

Extensive consultation was undertaken in the development of the NPMP proposal. This included targeted engagement with Māori living in or coming from kauri land, in addition to analysis of the relevant treaty settlement legslation. Consultation rounds and content are described below.

<u>Round one: public consultation on the draft Kauri Protection Strategy</u>
Round one of consultation involved a week of hui in July of 2018, where the Kauri Protection Strategy was discussed at meetings in kauri land marae and community venues. Consultation was open for submissions for three weeks. The purpose of Round One was to seek suggestions for the future direction for kauri protection by identifying what has worked, where the gaps are, and what can be done differently. This feedback contributed to a refreshed strategy to address the risk posed by the disease and protect areas without PA.

Round two : further public consultation on the draft Kauri Protection Strategy
Consultation took place over two weeks, from late August 2018, occurring throughout kauri land marae and community venues. Submissions were accepted for three weeks and targeted all public, including national recreational organisations (e.g. Orienteering NZ, Walking Access Commission) and commercial organisations (Chorus, First Gas). This round collected feedback on the draft Kauri Protection Strategy and involved discussion on what the NPMP could cover (objective, management agency options, range and scope of powers).

Round three: targeted consultation on the draft Kauri Protection Strategy
At the conclusion of round two consultation a need was identified to continue speaking to mana whenua and communities in order to ensure mandated representatives for mana whenua had an opportunity for targeted consultation. Over a period of two weeks at the end of 2018, MPI met with Auckland mana whenua, Hauraki mana whenua, Waikato Tainui and the Resource Management Act leads of four runanga in the North (Ngati Kahu, Ngapuhi, Te Rarawa, Whangaroa).

Round four: public consultation on the NPMP proposal
The final round of consultation was on the content of the NPMP proposal and options for the Management Agency. There was four weeks of consultation beginning 18 February 2019. During this round there were over eighteen community-based hui which more than 400 people attended. By the close of consultation there were just over 110 written submissions in addition to the extensive verbal feedback received during meetings. Targeted meetings with stakeholders, such as mining and forestry industry representatives, were also conducted.

Groups which made written submissions included:

- Tangata whenua (e.g. Waiaua Marae Trust, Wharekawa Marae, the Māori Biosecurity Network)
- Recreational groups (e.g. Auckland Tramping Club, NZ Four Wheel Drive Association, New Zealand Pig Hunters Association)
- Conservation groups (e.g. Forest and Bird, Waikato Conservation Board, Waitākere Ranges Protection Society)
- Businesses and industry groups (e.g. Federated Farmers, New Zealand Plant Producers, Transpower)
- Central and regional government agencies (e.g. New Zealand Transport Agency, regional councils)

Round four also included distributing a nursery controls consultation document to plant producers, and track standard consultation targeted at track owners, users and maintainers, with numerous written submissions from businesses and vested parties received.

Round five: Minor proposal updates
Following the 2021 Budget Announcement, targeted conversations with the programme members took place in August and September 2021. Those conversations were to ensure the updated NPMP proposal captured the views and policy intent developed during the formal consultation rounds and that updated contexts were taken into account.

Overall consultation found support for a stronger approach to *Pa* management, and support for the NPMP as a mechanism to achieve this. Comments were largely on what the Plan should (or should not) include and how it should be implemented, with strong feedback that on-the-ground work and decision making should include mana whenua. Stakeholder feedback and treatment is summarised in Appendix 2. This consultation strongly informed the NPMP proposal submitted to the Minister of Biosecurity in 2019.

5.2 Summary table of costs and benefits of the preferred approach

Affected parties *(identify)*	**Comment**: *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks*	**Impact** *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts*	**Evidence certainty** *(High, medium or low)*
Additional costs of proposed approach compared to taking no action			
Regulated parties	Public may need to adjust recreational activities. Plant producers may need to adjust their hygiene, plant movement and testing practices. Earthworks companies may need to increase hygiene practices. Land-owners (including hapū/iwi) may need to upgrade fencing / tracks and exclude stock, if directed.	Highest number affected will be recreational users – where the impact will be low. For a small number of operators, the effect will be Medium – High.	High
Regulators	Cost of set up of the Management Agency (to be funded through MPI's basline). Ongoing implementation costs, costs of research and training, communication of new requirements, cost of surveillance and testing. This will vary overtime and will largely be funded through the budget allocation of $28m over the next four years.	Medium	High
Central and local government (and some stated owned enterprises)	DOC, NZTA, NZ Rail, Transpower and councils will have ongoing operational costs, including implementation of physical mitigations (such as hygiene stations), enforcement of rules, surveillance and education activities. Full costing of this is unknown and will be dependent on the Operational Plan	Medium	High

	put in place each year. Funding may be available from the budget allocation of $28m over the next four years.		
Total Monetised Cost	The crown has committed $32m over the next 5 years, though compliance costs have not been calculated.	Medium	Low
Non-monetised costs	A range of behaviour changes are required to comply with the NPMP though the highest volumes with be minor in nature.	Medium (for some) Low (for most)	High

Expected benefits of proposed approach compared to taking no action			
Regulated parties	The recreational forest users, tangata whenua, kauri-based tourism operators benefit from the protection of kauri for themselves and future generations. Businesses that are already implementing best practice will benefit from the levelling of the playing field.	Medium-high, but cumulative over time (i.e saving 1000+ year old trees / ancestors for generations to come)	Medium
Regulators	The crown has the potential to build the trust and confidence of the public, as taking environmental, conservation, cultural and physical wellbeing, as well as Treaty partnership, seriously. The successful implementation of an NPMP for a “public good” (rather than an “industry good”) could provide a blueprint for future biosecurity interventions which are not primarily economically based.	Medium	Medium
Central and local government	A management agency coordinating pest management efforts will provide better returns on investments in terms of the sharing of scientific insights and implementing of technologies, targeted support and funding for important regional council and conservation objectives.	Medium	High
Other parties			
Total Monetised Benefit	A cost benefit analysis performed by NZIER found that NPMP would have neutral – positive monetised	N/A	N/A

	benefit, but that this was difficult to accurately quantify.		
Non-monetised benefits	Significant non-monetised benefits are seen by kauri protection – including ecological, cultural and general wellbeing benefits.	Medium	High

5.3 What other impacts is this approach likely to have?

- *Other likely impacts which cannot be included in the table above, eg, because they cannot readily be assigned to a specific stakeholder group, or they cannot clearly be described as costs or benefits*
- *Potential risks and uncertainties*

No other substantive impacts have an been identified.

Section 6: Implementation and operation

6.1 How will the new arrangements work in practice?

The preferred option will be given effect through the making of a national pest management plan (by Order in Council). The NPMP will set the objectives and measures for *Pa* spread prevention and designate MPI to be the Kauri Protection Agency, that is, the management agency responsible for ensuring the NPMP is implemented.

Key to the implementation will be the support for people, businesses and organisations to follow the proposed rules. This will involve substantial communication and education. All of the proposed rules will be offences under the Biosecurity Act.

An amendment to the Biosecurity (Infringement Offences) Regulations 2010 is also proposed to enable two rules to be infringeable offences and to set the infringement fee.

The Kauri Protection Agency will be a team within the Biosecurity New Zealand business unit of MPI, and recruitment to fil the necessary roles has begun. An initial Operational Plan for 2021-22 is being developed and is expected be in effect in August 2021. The Operational Plan will allocate $8million in funding against actions consistent with the draft NPMP.

The draft Operations Plan for 2021-22 places an emphasis on:

1. Building capability and capacity in Māori to take a lead role in kauri protection.
2. Increasing the knowledge through baseline monitoring, surveillance, and remote sensing effort.
3. Building stronger links between research and operations – leveraging benefits.
4. Continuing on groundwork to restrict pathogen movement.

A governance group is being established for the Kauri Protection Programme of work. The group will be known as the ‘Kauri Protection Governance Group’ (KPGG), and will replace the previous ‘Kauri Dieback Governance Group’ that submitted the NPMP proposal but has since chosen to dissolve.

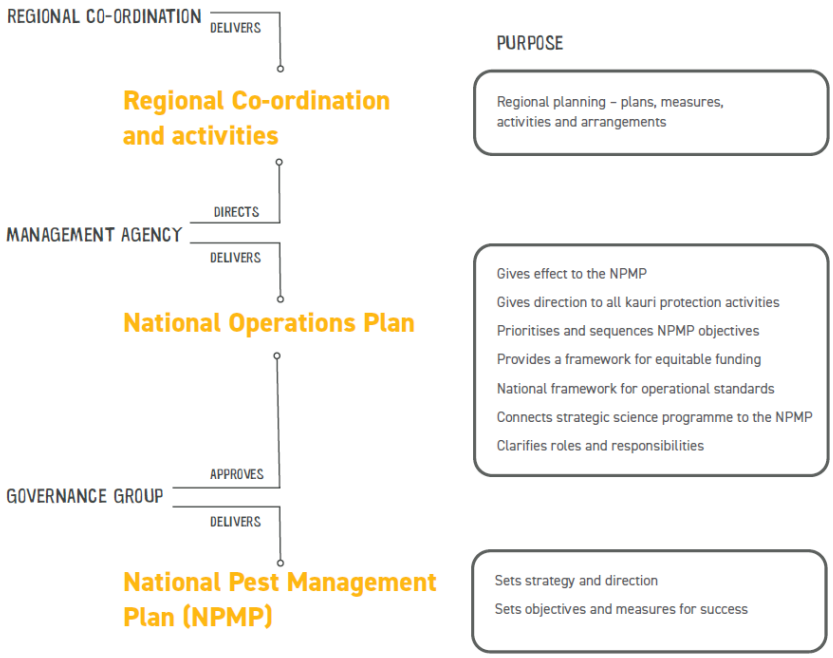
The KPGG will have a Māori co-chair from a hapū/iwi within kauri lands, a central government co-chair, members from DOC, regional councils and a science advisory function, amongst possible others. MPI will be an ex-officio member.

The Biosecurity Act does not require a governance group be established. However, it was assessed that a governance group could provide strategic oversight of the Kauri Protection Programme and valuable independent direction and endorsement (or otherwise) of Kauri Protection Agency planning and operations. A terms of reference for this group is being developed. The Kauri Protection Agency will report on all relevant activities to the KPGG, and the KPGG will provide strategic oversight of the broad kauri protection work, inclusive of (not limited to) the implementation of the NPMP.

In the past advisory groups (e.g. ecological science) and working groups (e.g. behavioural) have been established and included membership from programme partners and subject matter experts. Advice from these advisory groups has provided a scientific basis for decision making and the groups have also created and maintained a channel for connections with stakeholders at the working level. This function will be delivered through an Operational Advisory Group.

The Kauri Protection Agency will be responsible for the development of yearly operational plans which will involve significant co-ordination and delivery through hapū/iwi, regional and district councils, community groups and DOC. This will include compliance efforts by regionally based 'authorised persons' employed by DOC, regional or district councils, by designated hapū/iwi and community groups. There will be considerable emphasis placed on communication and education on the transmission pathways for *Pa* and behaviours that both exacerbate and reduce this risk. Targeted communication for hunters, landowners, plant producers, earthworks operators, recreational forest users, hapū/iwi, private landowners, and community groups will be part of this.

The following diagram provides an outline of the intended relationships between the different organisations.



For rules that involve the establishment of minimum standards for operation (i.e. a nursery/plant producer requirements and mimimum track standards), industry and council led initiatives have been considered and incorporated, where possible and appropriate to ensure alignment with existing requirements (e.g. “plant pass” assurance programs for kauri plants). This will help smooth the transition of the new requirements and will allow provide recognition of best practice efforts already in place. When the rules will come into effect is still being determined.

6.2 What are the implementation risks?

A key component of the NPMP approach is delivery through Kauri Protection Programme members. Part of the benefit of this approach is that each partner, to an extent, can adjust their approach to communication and enforcement to their local context. A risk is that this could result in differences in approach that could potentially undermine the benefit of a centralised program. Strong operational planning, with clear roles and responsibilities, and effective management agency guidance and support will be central to ensuring the Plan is flexible enough to adjust to varying context (e.g. urban, rural, coastal) without appearing inconsistent, unfair or non-transparent. Operational policies, memorandums of understanding, regular reporting to the management agency and the governance group and the fostering of a trust-based, collaborate and communicative culture are priorities for the implementation of the plan.

There is an assumption underlying the programme that transmission mitigation (which the rules focus on) will be complemented by the development of technological and scientific interventions, which could become the focus of future activities. This has been seen in the NPMP implemented for Bovine Tuberculosis, with the management agency actions slowing the spread and mitigating the damage caused, while scientific partners were simultaneously developed technology solutions (such as the widespread use of 1080, better aerial surveillance and possum population modelling). This allowed substantial gains in a relatively short period of time. Similarly, the *Pseudomonas syringae pv. actinidiae* (Psa) NPMP implemented to protect the kiwifruit industry prevented spread of the disease into the South Island, while intensive scientific research found effective biological control agents and an alternate model of production (i.e. a strain of gold kiwifruit that was tolerant to the disease). Therefore, the objectives and measures of success may change over the course of the plan, to account for new technologies, newly discovered areas of disease presence or transmission, and newly developed treatments and surveillance. In the circumstance of scientific stagnation or if, after monitoring, particular interventions are not seeing the hypothesized results, the Plan may need to adjust its approach – in which case amendments may be required. Amendments to NPMP will need follow the normal regulatory process, as the NPMP is a legal instrument (it will generally be the same process as making the NPMP i.e going through Cabinet process)

Section 7: Monitoring, evaluation and review

7.1 How will the impact of the new arrangements be monitored?

Performance measures are required to be included in an NPMP and to be reported on as part of the operational plan, which requires yearly review.

The following are the proposed performance measures in the plan:

A. No increase in the distribution of *Pa* across kauri forests (e.g. proportion of kauri forests that are PA-free or proportion of old growth and iconic trees (greater than 1.5m diameter at breast height) that have been infected.

B. The maintaince (or improvement) of kauri forest health in response to PA; (e.g ecological indicators of forest health).

C. Level of active engagement in the management of *Pa* (e.g. proportion of sampled public who self-report they are aware of *Pa* and are actively involved in managing the pathogen spread, proportion of hapū/iwi actively involved, number of individuals reporting to the Management Agency on risk management plans, engagement on social media).

D. Improved access to capability, knowledge and tools to support effective management of *Pa* (e.g. number of people trained, new tools /science implemented, mātauranga Māori adopted).

E. Extent to which operational activities have been effectively implemented to achieve NPMP objectives; e.g.
   - proportion of kauri trees observed with disease symptoms through aerial surveillance that have been ground truthed.
   - proportion of open tracks that meet an approved standard.
   - proportion of stock exclusion fencing completed (number of kilometres completed as a proportion of total number of kilometres planned).
   - number of new kauri forests plans approved.
   - number of zones or protection areas within which effective treatments and/or rongoā have been applied.

F. Level of compliance with NPMP requirement (e.g. proportion of people using track hygiene stations, number of warnings / infringements / prosecutions issued).

Baseline studies on forest health are underway currently to enable the effectiveness of mitigations to be understood. Surveys on compliance behaviours and public attitudes have been undertaken throughout the course of the response to *Pa* and have provide a basis for change over time. A number of the rules (e.g. risk management plan requirements) are new introductions for most regions, so the baseline measures will be zero.

Additional measures that relate to day-to-day administration of the management agency (e.g. financial, performance management) and the implementation model (e.g. effectiveness of regional coordination) will be set by the Kauri Protecion Agency with input from Kauri Protection Governance Group.

7.2 When and how will the new arrangements be reviewed?

The Biosecurity Act (s100(d)) requires national pest management plans to be reviewed at least every 10 years. A three yearly non-statutory review is included in the proposed plan as a result of consulation feedback. An Operational Plan is required to be reviewed annually and an updated version provided to the Minister.

The Biosecurity Act also provides for the Minister to review the whole or part of a plan if they have reason to believe that the plan, or part of the plan, is failing to achieve its objectives, or that relevant circumstances have changed since the plan commenced.

The introduction of new National Policy Direction (NPD) requirements, or perceived inconsistencies with the current NPD, would also trigger an early review.

Mana whenua are also setting up a Rangatira Group – this being a group of respected rangatira from kauri lands with a vested interest in the protection of the taonga species. This group would meet with the Minister of Biosecurity and Minister of Conservation twice a year. One outcome of this will be to ensure regular and scheduled engagement between mana whenua representatives and the Crown Ministers with oversight of the plan, to provide accountability and an opportunity for direct feedback.

Appendix 1: Proposed National Pest Management Rules*

Rule	High level description	Target	Intent	Principle location of enforcement	Offence type and authority*	Penalty*
1	Requirement to report potential kauri disease symptoms to the Management Agency	Land owners / occupiers	Identification of infected trees	New Zealand Wide	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
2	Requirement to provide information on the presence, condition, source, movement or distribution of kauri or potential *Pa* vectors to Management Agency, if requested, within specified parameters	Land owners / occupiers	Identification of infected trees	New Zealand Wide	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
3	Sets minimum hygiene, record keeping and testing standards for movers of Kauri plant material	Nurseries, community groups, hapū/iwi groups, government agecnies, science groups	Prevention of transmission - plant matter, soil and equipment vectors	New Zealand Wide	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
4	Requirement to produce, adhere to and report on *Pa* risk management plan, if requested by the management agency.	Land owners / occupiers	Prevention of transmission - transportation, equipment and people movement vectors	New Zealand Wide	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
5	Requirement for an earth works risk management plan be produced, adhered to and reported on, if earthworks are to be undertaken in a Kauri forest area.	Land owners / occupiers and construction / building companies and contractors	Prevention of transmission - transportation, equipment and people movement vectors	Kauri Forest Area	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
6	Restrictions on the movement of potentially infected soil / growing medium, kauri or plant material into areas of particular risk. Either directly or on potential vectors (e.g. soil on equipment, clothing etc).	General public, community groups, hapū/iwi groups, industries that operate within Kauri forests, land owners / occupiers, government agencies	Prevention of disease introduction into areas with special value	Kauri Protection Area	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
7	Stock must be excluded from land, when the Management Agency determines their presence risks *Pa* spread	Land owners / occupiers	Prevention of transmission - animal vectors	Kauri Forest Area	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
8	Restricts the release of animals into a Kauri Forest (or adjacent areas where it is reasonable to assume it could enter the Kauri forest).	General public, community groups, hapū/iwi groups, industries that operate within Kauri forests, land owners / occupiers, government agencies	Prevention of transmission - animal vectors	Kauri Forest Area	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
9	Individuals must clean items that come into contact with the ground when entering and exiting Kauri Forests	General public, community groups, hapū/iwi groups, industries that operate within Kauri forests, land owners / occupiers, government agencies	Prevention of transmission - transportation, equipment and people movement vectors	Kauri Forest Area	An infringement offence pursuant to s.165 of the Biosecurity Act 1993 i.e. an infringement offence in the Biosecurity (Infringement Offences) Regulations 2010	Between $300 - $1000, based on number of offences
10	Hygiene stations must be used when present	General public, community groups, hapū/iwi groups, industries that operate within Kauri forests, land owners / occupiers, government agencies	Prevention of transmission - transportation, clothing and equipment vectors	Kauri Forest Area	An infringement offence pursuant to s.165 of the Biosecurity Act 1993 i.e. an infringement offence in the Biosecurity (Infringement Offences) Regulations 2010	Between $300 - $1000, based on number of offences
11	Public tracks or roads that are in / through / adjacent to a kauri forest area must meet minimum standards	Land owners / occupiers (including the general public, government agencies and businesses)	Prevention of transmission - transportation, clothing and equipment vectors	Kauri Forest Area	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000
12	Establishment of "Kauri Protection Areas", requiring stock exclusion and restrictions of the movement potential *Pa* vectors.	General public, community groups, hapū/iwi groups, industries that operate within Kauri forests, land owners / occupiers, government agencies	Prevention of disease introduction into areas with special value	Kauri Forest Area	An offence under s 154N(18) Biosecurity Act 1993	**Individual**: a fine not exceeding $5,000 **Corporation**: Fine not exceeding $15,000

*offence types and fees subject to change based on discussions with Ministry of Justice

Appendix 2: Consultation Feedback and Treatment Summary

Topic	Feedback	Treatment	Group
The overall NPMP approach	Support for the NPMP approach was found across a range of stakeholders and submitters. Messaging surrounding this being the 'strongest tool available under the Biosecurity Act' was received well as reflected the view that preventing *Pa* spread was a priority for many.	This approach is being pursued and will be reflected in the Cabinet paper.	All
Māori involvement	Mana whenua of kauri lands expressed a strong interest in ongoing involvement in NPMP decision making and implementation.	The Kauri Protection Governance group structure (with a mana whenua co-chair and members) will have strategic oversight of the program and ensure the NPMP implementation is partnership led. Funding and resourcing of mana whenua to implement the Plan within their rohe has already begun, with partnership outcomes being a component of yearly operational planning and review.	Māori
Management Agency	Public consultation found support for a not-for-profit crown company option as the NPMP management agency, based on the belief that this option would see more action towards kauri protection. Some mana whenua, however, believed a government agency would be more accountable to Te Tiriti / Treaty obligations. The State Services Commission and The Treasury expressed concern that a not-for-profit crown company was not an appropriate option for administering NPMP funds.	It was determined that MPI best met the requirements of the Biosecurity Act 1993 as the appropriate management agency body – which includes a requirement of 'accountability to those providing the funds to implement the plan'. Governance structures have been established in a way that intends to hold the management agency to account on implementation efficiency and treaty obligations. In addition to yearly operational planning and 10 yearly review, as required by the Biosecurity Act, the management agency will also conduct a three yearly non-statutory review to ensure the Plan is on track to meet its objectives.	Māori, the general public, Government agencies
Cost of compliance	Some farmers, nurseries and track owners made comments on the cost of compliance and were in favour of compensation provisions for the cost of complying with new rules. Nurseries expressed concern that added costs would mean they may no longer be able to afford supplying kauri.	Compliance compensation, if included in the Plan, would take up a large portion of operational funding. It was determined compensation would be made available for the destruction of property only. The cost of compliance has been considered by MPI and determined that it is reasonable and proportionate. Regional advisors will be on hand to give advice on how best to achieve compliance, with the first year to focus on education activity over enforcement. The nursery provisions in the Plan were developed in conjunction with the New Zealand Plant Producer Incorporated 'Plant Pass' in mind, meaning they align closely with voluntary industry standards. Developing cheaper diagnostic tests for end-of-batch testing is a potential operational solution that will also be explored.	Businesses, landowners
Hunting and Animal vectors	Concerns about pest species as animal vectors of *Pa* were raised, along with concerns that off-track hunting of these animals is spreading PA	Prohibition of the release of animal into kauri forest areas is a provision under the Plan, along with the requirement for hygiene measures for ground touching items that are entering kauri forests (i.e. shoes and hunting equipment).	General public, conservation groups
Hygiene station use	A consistent theme in consultation was the call for stronger action against hygiene station avoidance.	Making hygiene station avoidance an infringement offence has been determined as the most effective means of gaining behavioural change within forest users, allowing consequences to be instantaneous and to enable enforcement that does not overburden the court system. This was included as an option in the circulated consultation document for the final round of public consultation.	General public, conservation groups
Kauri Protection Areas	While support was found for the idea Kauri Protection Areas, landowners wanted to be consulted if their land was being considered for this purpose and expressed concern that restrictions would affect their enjoyment of their land (particularly in regard to earthworks)	The requirement to consult has been built into the NPMP rule for determining a Kauri Protection Area. Earthworks requirements apply to private land, however these apply only to those earthworks using heavy machinery, and are still permitted provided hygiene measures are applied as per an approved Earthworks Risk Management Plan.	Land owners (including Māori landowners)