

# Kia Toitu He Kauri

Kauri Dieback Tangata Whenua Roopu Cultural Impact Assessment

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## 1. PURPOSE

The purpose of this report is to:

- UNDERSTAND the kauri dieback disease, generally by REVIEWING the current documentation and research outcomes and successfully communicating technical material to kaumatua and kuia so that it is understood;
- IDENTIFY the relevant policies of the Joint Agency Response;
- IDENTIFY the values and relationship tangata whenua hold with kauri;
- IDENTIFY the actual and potential effects of the kauri dieback disease and the Joint Agency Response policies on tangata whenua and their relationship with kauri;
- Where ADVERSE EFFECTS on tangata whenua or their values are identified, ASSESS the significance of the effects;
- AGREE RECOMMENDATIONS on how the Joint Agency Response can counteract any identified adverse effects; and
- PRESENT FINDINGS to the Tangata Whenua Roopu.

## 2. INTRODUCTION

### 2.1 BACKGROUND

This Cultural Effects Assessment has been requested by the Tangata Whenua Roopu of the Joint Agency Response for Kauri Dieback. The objective of the Tangata Whenua Roopu is to assist in the enhancement of the health of kauri. This report, prepared by Repo Consultancy Ltd, is therefore intended to inform the Joint Agency Response.

### 2.2 CULTURAL EFFECTS ASSESSMENTS

A Cultural Effects Assessment (CEA), otherwise known as a Cultural Impact Assessment (CIA), expresses information relative to practices and beliefs of a particular culture or ethnic group/s and how such practices may be impacted upon by an activity or policy.

Information is obtained through scoping existing publications and data, hui and wananga and ethnographic interviews. Knowledgeable informants including traditional cultural practitioners, provide information verifying information gathered.

While there are well recognised tools and processes for assessing effects on most bio-physical matters there are few recognised tools for undertaking assessments on the cultural wellbeing of Tangata Whenua. In recent years a template was produced by a collective of Tai Tokerau Natural Resource Managers based on templates produced by Huakina Development Trust, Ngatiwai Trust Board and Ngati Raukawa ki te Tonga. Repo Consultancy has been utilising and further developing the template, particularly for CEA written for the legislative frameworks of the RMA Act 1991. This CEA is based upon such CEAs.

## 2.3 LIMITATIONS

There are many whanau, hapu and iwi within the kauri distribution area and due to limited timeframes and resourcing each could not be consulted with during the development of this report. Instead the recommendations will be informed by the cultural paradigms relative to the key informants to this body of work.

## 2.4 METHODOLOGY

### **Review of Initial Tangata Whenua Hui**

In June 2009, seven initial engagement hui were held throughout the kauri catchment area, to introduce tangata whenua to the presence of PTA and the then known effects it had on kauri. Discussions at the hui have been encapsulated in the Kauri Dieback (*Phytophthora taxon Agathis*) Joint Agency Response: Tangata Whenua Hui Summary Report. The key themes from the Summary Report have been included in the body of this CEA.

### **Kaumatua Interviews**

Kaumatua are held in high regard in our communities. The CEA requires a matauranga Tangata whenua and historical context and it was determined that kaumatua would provide this context for this project. The TWR recommended kaumatua that could provide the depth of Tangata whenua knowledge required to inform the CEA.

Repo Consultancy or the TWR representatives facilitated initial contact with the kaumatua. A brief was provided to the respondents and kaumatua confirmed that the information given during interviews could be used in the production of the CEA.

Kaumatua from throughout the kauri region provided a rich abundance of historical information and guidance on management of kauri based on matauranga Tangata whenua. There was a significant response from Te Tai Tokerau. Throughout the CEA, to ensure integrity in relating the interviews they have been recorded remaining unabridged.

### **Reviews by the Tangata Whenua Roopu**

Numerous discussions with members of the Tangata Whenua Roopu have been held during the development of this CEA, particularly at the TWR meetings. A draft of this CEA was also provided to the TWR for their input. Their comments have been incorporated into this CEA.

### 3. UNDERSTANDING THE KAURI DIEBACK DISEASE

#### 3.1 KAURI DIEBACK

In 2008, a fungi like disease called Phytopthera Taxon Agathis (PTA), commonly known as kauri dieback was isolated and identified. This disease is specific to New Zealand. Investigations since 2008 have shown that kauri dieback can cause 100% mortality in kauri of all ages. Microscopic spores in the soil infect kauri roots and damage the tissues that carry nutrients within the tree. It therefore visibly affects the kauri by bleeding lesions at the base of the tree, defoliation, yellowing, fanning, dead branches and 'stag heads'. See image below taken in January 2010 by Dave Milner of Patuharakeke at Albany Scenic Reserve, Waitakere.



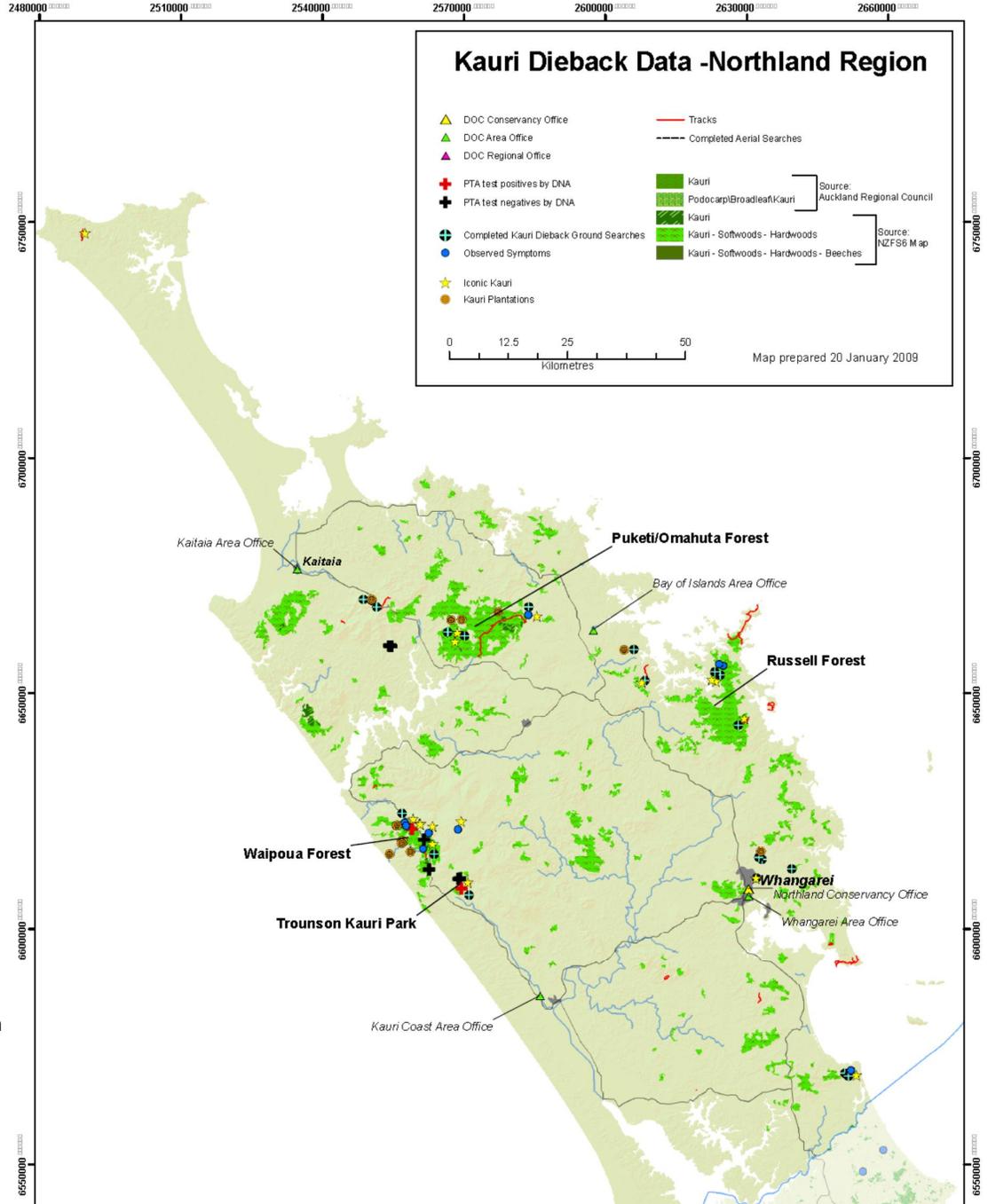
Scientists have been working to find control tools for the disease but there is no known treatment at this time.

As the disease appears to be soil and water borne it is recommended that human activity within close proximity to diseased trees is kept to a minimum as we are the major contributor to its spread. There is currently little known about the spread of the disease through groundwater and soil on animals including birds and pigs.

Its closest relative is a chestnut pathogen from Taiwan and it is generally believed to have been introduced from overseas.

Infected sites have been confirmed in the Waitakere Ranges Regional Park, Trounson Park, Waipoua Forest and Aotea (Great Barrier Island). Observed symptoms have also been identified in Puketi/Omahuta Forest, Russell Forest and Mangawhai.

See below for results from a survey by the Department of Conservation of the Northland region.



Kauri Dieback Tangata Whenua

## 4. THE RELEVANT POLICIES OF THE JOINT AGENCY RESPONSE

### 4.1 THE JOINT AGENCY RESPONSE

On identification of the disease, both Tangata whenua and government agencies recognized that undertaking a structured process to address these issues was a critical next step. The Joint Agency Response is a pragmatic response to preventing the spread of kauri dieback. The collaboration is comprised of representatives from the Department of Conservation, the Ministry of Agriculture and Forestry's Biosecurity New Zealand, Northern Regional Council, Environment Bay of Plenty, Auckland Regional Council, Environment Waikato and Tangata Whenua who represent whanau, hapu, and iwi with kauri on the lands they are responsible for.

The Tangata Whenua Roopu was formed after a series of seven independently facilitated initial hui with tangata whenua, in 2009, held to advise the government on initial responses to Kauri Dieback. The Programme recognized that Mana Whenua have a unique relationship with kauri and kauri forests, subsequently formally recognised in the Kauri Dieback Charter, which edifies Tangata Whenua as '*essential to the future management of kauri*'.

In 2010 the TWR saw the need for the production of two Cultural Effects Assessments (CEA) to inform the future management of kauri including, the content and roll-out out of the Long-term Management Plan and aiding in the development of a better integrated and effective long-term partnership response. The first produced was the Te Rororoa Effects Assessment with an objective of drilling down into the detail of one hapu which would potentially be severely impacted by the disease. This report is the second CEA with the objective of providing a view across the kauri catchment. The kauri catchment area encompasses Te Tai Tokerau, through to Kawhia, in the south-west, and Katikati, in the south-east (see picture below for distribution).



[http://www.conifers.org/ar/Agathis\\_austr](http://www.conifers.org/ar/Agathis_austr) 1

## 4.2 THE POLICY FRAMEWORK

This section outlines the policy framework of the joint agency response by which the cultural effects will be measured. The joint agency has developed policies such as the Partnership Charter, the Long Term Management Plan and the Tangata Whenua Roopu Terms of Reference. Also each agency within the Joint Response has relevant policies such as the Conservation Act and the Resource Management Act. For the sake of simplicity we have drawn on the Partnership Charter policies. This document provides a framework for the parties to work together as a Partnership to combat the adverse effects of kauri dieback (*Phytophthora taxon Agathis* - PTA) on kauri forests and kauri trees in New Zealand. All agencies and the Tangata Whenua Roopu are signatories to this agreement.

The following policies will be assessed in Section 5:

The overall outcome sought from becoming engaged in protecting kauri from PTA is:

***“To maintain and enhance the mauri and health of kauri to ensure its special place for all New Zealanders now and into the future”.***

This recognises that kauri is a unique taonga of tangata whenua and an iconic species important to all New Zealanders and is ecologically vital to the forests of northern New Zealand.

The Charter also refers to the Tangata Whenua Roopu. The following statements, from the Charter, have the following policies regarding engagement with tangata whenua:

***“The Tāngata Whenua Roopu has been established to facilitate tāngata whenua partnership participation in the programme. They will be represented as a full partner on the Leadership Team and represent tāngata whenua interests on other programme groups.”***

***“The Partnership will value and incorporate innovation, learning and continuous improvement, sound science, and mātauranga Māori.”***

***“Costs, benefits and risks (including desired social, cultural and environmental effects) will be rigorously reviewed to ensure best use of limited resources.”***

***“The parties acknowledge that Kauri is a taonga tuku iho of tangata whenua and that the tangata whenua holding mana whenua are the kaitiaki of that kauri and its eco-system. Kauri were created by the Atua Tane Mahuta to clothe and protect Papatuanuku, are integral to the functioning mauri of Tane’s domain and are related by whakapapa to tangata whenua as a tuakana. All parties recognise that the cultural concerns and priorities of tangata whenua and the agencies may differ and strive to ensure that the imperatives of both worldviews will be accommodated.”***

## 5. THE VALUES AND RELATIONSHIP TANGATA WHENUA HOLD WITH KAURI

### 5.1 WHAKAPAPA

According to Royal (T, 1999) whakapapa is an analytical tool employed by Tangata whenua to understand the nature of phenomena; its origin; connections and relationships to other phenomena; describing trends in phenomena; locating phenomena and extrapolating and predicting future phenomena. He describes Maturanga Maori as a knowledge tradition that grew out of ancient Polynesia. It is created by Tangata whenua according to a world view. The Tangata whenua world view, the paradigm out of which all Tangata whenua culture was created is known as 'Te Ao Marama'. This 'Te Ao Marama' world view arises out of cosmological whakapapa or genealogies which are metaphorical of the creation of the world and the psyche of the human being. It represents, among other things, the philosophical framework within which Tangata whenua history, both in the mythological Hawaiki period and in the Aotearoa period, was played out. As the Hawaiki period proceeded, so the world view developed and evolved but within the constant presence of Ranginui (the sky) and Papatuanuku (the earth). These figures represent the foundations of Maturanga Maori.

Tangata whenua and other plants and animals are the descendents of Atua. Tangata whenua were not superior to other beings, and inherently lived a paradox of being one with the natural environment. Kauri were viewed as part of the link to Tangata whenua linking everything and Atua. Tangata whenua concepts are interconnected through a whakapapa (genealogical structure) that links, te taha wairua (spiritual) and te taha kikokiko (physical).<sup>1</sup>

In the case of kauri and the use of whakapapa as an analytical tool for assessing the cultural effects of kauri dieback we can draw from the karakia that describes basic whakapapa from Rangī and Papa to Te Ao Marama.

*Ko Rangī  
Ko Papa  
ka puta*

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<sup>1</sup> H.Jahnke and J. Taiapa, 'Tangata whenua Research, in C.Davidson and M.Tolich, eds, *SoCEAI Science Research in NZ: Many Paths to Understanding, Auckland, 1999,P.41*

Ko Rongo  
ko Tane Mahuta  
ko Tangaroa  
ko Tumatauenga  
ko Haumietiketike  
ko Tawhirimatea  
tokona te rangi ki runga  
ko Papa ki raro  
ka puta te ira tangata  
ki te whei ao  
ki te ao marama  
Tihei wa mauri ora

The kauri is particularly relevant in creation as described by Dr Patu Hohepa of the separation of Rangi and Papa and the personification of the kauri of Tane.

*...Discussions amongst the children recounted the light observed from under the armpit of Ranginui when he moved. The children of that time and many generations discussed the light seen briefly by Ranginui's movement. Several Tane were given life, and in the time of Tane Te Waiora, he decided with his brother Rangi Hapaingia that they would separate Ranginui and Papatuanuku. Tane Te Waiora fearing that his father may become aware of his intent told his brother Rangi Hapaingia 'too work out and disregard the protest of our parents, but beware because if our father decides he will turn to stone, then we will be trapped and then the other children who don't agree, will kill us'.*

*When Ranginui knew that Tane Te Waiora was trying to separate him from Papatuanuku, he started an incantation. Tane Te Waiora called on his other brothers to provide a counter incantation, but Tane Te Waiora found that even when he was on his back, and tried to push with his feet, it didn't work trying to pry Ranginui and Papatuanuku apart, and he couldn't shift them. So he asked his other brother Rangi Hapaingia, 'you will have to help me with this, bend your back, put your hands and legs down, I will go under you and put*

*my shoulders on the ground and I will push with my feet against your chest. And if we can get them apart so that the link between them is gone, then they will be separated.'*

*While they were doing this, the other children were tasked with going around continuing their incantation and unsettling and disturbing the parents. Pillars grew from both, and Rangi Hapaingia as he was pushed by Tane Te Waiora, who by this time was turned upside down with his head and arms imbedded and with his feet in the air, hooked onto the body of Rangi Hapaingia, this continued for some time and then the separation occurred. Tane Te Waiora told Rangi Hapaingia to keep moving up, until Rangi Hapaingia floated free in the sky.*

*Above the tikitiki of Ranginui, there was Io, who lived above in the empty space above Ranginui. Tane personified as kauri. Head and arms in the ground, his feet up in the air still holding the separation with his brother Paia or Te Ika nui O Te Rangi. Kauri provides the link between heaven and earth.<sup>2</sup> Preventing the world collapsing and the light being extinguished.*

According to the account above, Kauri personifies Tane. His existence, maintains balance, preventing the sky from falling, the world collapsing and light being extinguished. This example demonstrates the importance of the kauri to tangata whenua.

A second well known story relating to the whakapapa of kauri is its close relationship to the whale. Hori Parata gave an account of the kauri tree and the whale,

*The Legend of the Kauri and the Whale: You see the kauri and the whale are brothers. Long ago the whale said to the kauri. "Kauri! Come with me to the sea, which is fresh and cool." "No!" said the kauri. "You may like the sea but I prefer to stand here with my feet in the soil." The whale agreed and they then exchanged their skins. So that is why the bark of the kauri is thin and flaky like the whale. And the kauri has gumming like oil is like the mimiha or ambergris found inside the sperm whale.*

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<sup>2</sup> Key Informant – Pat Hohepa, Nau Epiha (2011)

## 5.2 KAITIAKITANGA

Tangata whenua have depended on the environment for long periods of time for the provision of a variety of limited resources. They have therefore developed interdependence on the environment, a stake in conserving and in some cases enhancing the environment. Practices for the conservation of resources are grounded in a series of rules of thumb which are arrived at through a trial and error process over a long historical time period. This implies that their knowledge base is indefinite and their implementation involves an intimate relationship with the belief system.<sup>3</sup>

Traditionally, tangata whenua have an established and reciprocal relationship with kauri and their forests. Tangata whenua are part of the natural environment, having an equal standing with all things that are imbued with hihiri, the energy of life<sup>4</sup>. There is an expectation that people are as accountable as other species for ensuring that balance in the environment remains undiminished.

Tangata whenua belong to the land and are nurtured and sustained by the land in the same way that Papatuanuku (Mother Earth) nourishes her children. Therefore, Tangata whenua maintain that they have both a physical and spiritual relationship with the land.<sup>5</sup> In essence the land and the connection to tangata Whenua is an outward and visible representation of something that is deeply spiritual. It is a source of nourishment to the inner person, rather than only to their physical needs. The person's identity belongs there, their sense of awareness, their sense of mana, indeed their very life originates there.<sup>6</sup>

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<sup>3</sup> Indigenous knowledge for Biodiversity Conservation

<sup>4</sup> Tangata whenua Marsden

<sup>5</sup> Ranginui Walker, *Ka Whawhai Tonu Matou: Struggle Without End*, Auckland, 2004, pp13-14,

<sup>6</sup> Bishop Manuhua Bennett, in New Zealand Planning Council, *he Matapuna: a source: some Tangata whenua perspectives*, Wellington, 1979, pp.78-9

### 5.3 CUSTOMARY RELATIONSHIP

For many centuries tangata whenua have developed their resource use, management and working techniques in order to operate and maintain their kaitiakitanga systems collectively. A basic fundament has been, and still is, that we share a gift relationship with the forest. The forest provides gifts to those with the job of hunting and gathering; the hunters and gatherers gift the resources to tohunga, whanau, puhi depending upon the resource and its purpose; and the resource is returned, gifted, back to the forest in different forms such as talismens, cooked offerings, etc (Henare, 2011). This gift relationship has been one of the most impacted tikanga of tangata whenua since colonization.

Another fundament of resource use is the set of agreements among families and communities to equitably distribute rights and duties within the production system. Despite the immense variety of practices and customs related to customary resource management the collectivity seeks to balance benefits and burdens with social justice.

Few can imagine the majesty of the Aotearoa forests including kauri forests pre-European settlement. Stories and paintings from both settlers and narratives of kaumatua, allude to the density and age of our forests, this excerpt from stories inspired by Hone Mohi Tawhai, demonstrates the awesome presence of kauri forests;

*'...These trees reached an elevation of two to three hundred feet. Many of them were sixty feet in girth and built up in tremendous columns for eighty feet without a branch. Their trunks were tan-coloured and curiously dimple, as the bark continually peeled and fell to the ground in small hard flakes. Here and there on these huge pillars the gum exuded, pearly and plastic, and crept slowly earthwards. There was no undergrowth of any size but the handsome umbrella fern spread its tender carpet along the aisles, rejoicing in the shadow, which preserved a continuous moisture at its roots. Such was the kauri forest.'*<sup>7</sup>

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<sup>7</sup> Satchell W. 1971 The Land of the Lost (edited and introduced by Kendrick Smithyman), Auckland University Press, Oxford University Press, Wright and Carman Ltd, Trentham

In this section we list the known uses of kauri to begin to consider the impacts of not being able to access kauri due to kauri dieback. Here is a list below in no particular order, of customary uses found during the course of this project. Some descriptions of uses are repeated as different accounts have been provided.

**Smoke Marker**      When Kupe left he burnt the kauri so that others could see (marker) as he wanted an area that was marked for where they needed to land.

**Wai kauri**            Soot doesn't burn hot but burns black so can understand how may have been used as pigment or paint. When the first Tangata whenua arrived in Aotearoa they had to find alternative plants or trees that would provide them with the black pigment, used in ta moko. This black pigment was rendered charcoal and cinders and the final product was determined by the tree source used. Aotearoa's first Ta Moko Artists experimented with different organic, sources, both animal and vegetable. By the end of the nineteenth century, the living practitioners continued with the tried and trusted: awheto, kauri and kapia. The awheto or hotete, was only used for the body as it was not considered black enough for the face. The ultimate black, was 'te wai kauri'. Kapia or kauri come from the kauri tree: the terms 'awe kapia' and 'awe kauri' refer to that source.<sup>8</sup> Kauri ash dye was used for Moko, which indicated a tohunga or portraying status or expertise<sup>9</sup>. This was a taonga jealously guarded and kept as a family treasure. To make this colouring for the face a different raw material was acquired. A resinous, opaque substance found only in fallen kauri and, farther south, in kahikatea trees, scraped out and collected, then fired in the rua ngarahu.

**Waka Taua**            Kauri is second only to the totara (Hetaraka, 2011) in terms of value by Tangata whenua within the research area. Any timber is used for carving in more recent years kauri has been used for waka as there are still large specimens to use. The picture below shows Ngatokimatawhaorua gifted from Te Kapotai and is now currently residing at Waitangi Grounds.

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<sup>8</sup> book source

<sup>9</sup> iphone

Only one per year over last 100 years has been felled; are only designated after reaching higher than the tuahu of a whare; would dig down around roots on southern side and cut every second until the tree lay down as a rangatira (LeNoel, 2011); karakia, plant trees where the head falls (Hetaraka, 2011);

“No te atua so belong to the people so should not sell unless planted by you” (Anonymous, 2011)

These were sourced from standing Kauri. Waka taua were the biggest, ranging from 9 to over 30 metres long. Vessels holding up to 100 people were observed by James Cook during his voyages in the 18th century, while other commentators observed equally substantial waka in the 19th century. Waka taua were also the most ornately adorned and carved. They were sometimes referred to as waka pītau, which describes the perforated, spiral carving that supports the carved figurehead in the tauihu (prow).

The historian Hoani Nahe recalled two Ngāti Maru waka taua – *Otuiti* and *Okunui* – in the late 1800s, which he described as the largest he had ever seen. They could hold five ranks of men from the bows to the stern where three men would sit, two of them alternating with paddlers as they became tired. Hulls often consisted of three sections held together by a haumi (mortise and tenon joint) and lashed in place.<sup>10</sup>

Trees were chosen for their strength and length. A selected tree became taunahatia (bespoke for use) and a clearing was made around it. Such a tree might remain standing for years, and in some cases a karakia (incantation) would be said to prevent it being knocked over by Tāwhirimātea, the god of the winds.

Before felling, several aspects needed consideration – the location, the probable fall direction, any obstacles that could break the fall, and the practicality of moving the fallen tree. A tohunga would then say incantations to remove tapu (religious restriction) and propitiate Tāne, god of the forest. Once the tree was felled, tapu was reinstated.

Named for its use by taua (war parties), the canoe often transported warriors on military expeditions. It was therefore associated with the consequences of war – death and destruction. Waka taua sometimes returned the mortal remains of men slain in battle to their tribal home. This endowed the vessel with a spiritual status that endures to this day; many tribes have specific rituals to determine the use of their waka taua.

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<sup>10</sup> vans, Jeff. *Waka taua: the Tangata whenua war canoe*. Auckland: Reed, 2000.



sourced from [Hoterene Tipene 1](#)

**Kai** During the expedition of Hineamaru and her parents Torongare and Hauhaua they stopped in the hills at Whakatere and were gifted food from the top of the kauri (Hohepa, 2011).

**Kauri** Nearly all of the Key Informants talked of chewing gum or knowing that their Kaumatua chewed gum. “Kai I te toto o te kauri, kaha ki te kai I nga kauri (Tipene, 2011)” - gum, by using a pocket knife but was outlawed. kauri gum – got own and kept it (Anonymous, 2011) (although some accounts in *Medicinal Herbs of the Tangata whenua* state that others were offered as gifts to others.

<b>Fire starter</b>	Hardened gum on the ground used for starting fire, others stated that they never burn anything you eat (Tipene, 2011) so did not use gum a fire starter. Kaumatua remember that Kauri gum was best used as an incendiary for burning fires.
<b>Swamp Kauri</b>	Determine the significance of swamp kauri to harvest, where has it traditionally been taken from. PTA is still prevalent in this kauri.

From the list above it is clear that the loss of kauri impacts on the community wellbeing of Tangata whenua. It must also be noted that the kauri supports at least 80 different native species whose customary use has not been assessed within the body of this report.

In conclusion, traditional links with other whanau and hapu have been established through the mythology, trading, gifting and common day use of kauri. For example, choosing a kauri for waka, or whakairo (carvings) allows for a reconnection with culture and the spiritual connection between the land and other people. The selection continues to be informed by waananga, tikanga and karakia. The teachings include our connection to Papatuanuku, Tane Mahuta, Tangaroa, Tawhirimatea and other Atua. It edifies our connection as people to our natural environment and strengthens our identity as mana i te whenua.

## 6. THE ACTUAL AND POTENTIAL EFFECTS OF KAURI DIEBACK AND THE JOINT AGENCY RESPONSE POLICIES ON TANGATA WHENUA AND THEIR RELATIONSHIP WITH KAURI

This section focuses on the generic cultural effects of what is currently known about kauri dieback and the policies developed by the joint agency response. Effects identified through research of kauri dieback documentation and interviews with kaumatua and kuia have been grouped with the policies from the Partnership Charter. This method is taken to identify for each of the agencies how each effect relates to their overarching leadership agreement. Section 7 will measure the significance of each cultural effect identified.

6.1 TO MAINTAIN AND ENHANCE THE MAURI AND HEALTH OF KAURI TO ENSURE ITS SPECIAL PLACE FOR ALL NEW ZEALANDERS NOW AND INTO THE FUTURE

To maintain and enhance	the mauri of kauri	the health of kauri
<p><b>to ensure its special place for all New Zealanders now and into the future</b></p>	<p>The kauri is known to have at least 150 different species residing upon or nearby. The mauri of the kauri is dependent on the mauri of the other species around it, the soil, air, and all things within the Ngahere as well as all things which are impacted by or place an impact on the kauri. Without the kauri to nestle in, grow with and engage the special place for NZers will be lost. Tangata whenua are the only people in Aotearoa who have the ability to assess and give advice on how to enhance the mauri of kauri.</p> <p>It is also reasonable to consider that the moisture content of the soil is not right. Recommendations to improve the water content required for healthy kauri are similar to those of the section above.</p> <p>Several kaumatua discussed the importance of the right quality of air for the kauri to thrive. A concern is for the kauri that have roads through their forests and the impact that the emissions from cars is having on kauri (and water too).</p>	<p>One kaumatua confirmed that a certain type of canopy is required to create the soil type required by kauri. It is reasonable to think that there is an element missing in the soil which is ideal for kauri health due to human impacts on the soil of kauri in sick areas e.g. compaction, roading, loss of biodiversity of the forest, etc.</p>

	<p>Kauri like sunlight and in some areas kauri may have infringements from accessing appropriate sunlight.</p> <p>Kauri ngahere have undergone considerable degradation of biodiversity which is likely a cause of the ill health of kauri making more vulnerable to fatalities caused by kauri dieback. The Joint Agency Response must afford the ngahere the opportunity to 'right itself'. Epidemics are part of nature, and ultimately strengthen the system. Kaumatua believe that this interference by humans prevents the ngahere from being able to complete this process.<sup>11</sup></p> <p>If the measure of length of life is based on "Tane Mahuta" then one can assume that it is reasonable to say that a kauri in the right conditions could live to around or at least 2000 years. Clearly there are many kauri that have died from the disease kauri dieback.</p> <p>Traditionally some of the vectors (pigs) have been used to sustain communities, the way in which these vectors are managed needs to be made with tangata whenua. Research priorities must give effect to the matauranga of tangata whenua.</p>	<p>Another account from kaumatua related to the use of kunikuni to spread indigenous antifungal matter. In the past his neighbor had been having trouble with their orchard crop. One year his kunikuni got into the property and dug up the ground all over the place. The next year the neighbours crop was prosperous.</p> <p>One idea suggested by kaumatua is to improve the involvement of other stakeholders such as commercial growers or the New Zealand Gardening Association. It is considered that if kauri are dying then nursery owners will be working to find a cure so that their business can continue.</p>
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<sup>11</sup> Key Informant: Tipene, Prime and Epiha

6.2 THE TĀNGATA WHENUA ROOPU HAS BEEN ESTABLISHED TO FACILITATE TĀNGATA WHENUA PARTNERSHIP PARTICIPATION IN THE PROGRAMME. THEY WILL BE REPRESENTED AS A FULL PARTNER ON THE LEADERSHIP TEAM AND REPRESENT TĀNGATA WHENUA INTERESTS ON OTHER PROGRAMME GROUPS

TWR facilitate tangata whenua	The kauri dieback joint agency response programme
<p><b>partnership</b></p>	<p>In summary, those that have given feedback on “partnership” within the response stated that they felt that partnership should be demonstrated by an equitable number of representatives on the Lead Team, however others were happy to have the nominated Lead Team representatives be there due to their current lack of resources to volunteer their time to contribute at this level.</p> <p>The issue of a lack of equitable resourcing in the response is significant according to feedback received. It is noted that the policy states that the TWR shall facilitate the partnership and they too have a lack of funding to provide more than two representatives to be on the Lead Team.</p> <p>It shall also be noted that any field work undertaken must ensure partnership engagement with hapu and the fern root level.</p>
<p><b>participation</b></p>	<p>Similarly the issue of participation is weighted between voluntarily carrying out ones kaitiakitanga responsibilities and the joint agency response and New Zealanders valuing the contribution that tangata whenua give to the programme.</p> <p>It must also be acknowledged that this is a new type of engagement that the Joint Agency Response has designed and implemented and that participation to date has been by a majority representation of the kauri catchment.</p> <p>However if equitable resourcing on a value contribution basis is not addressed the Joint Agency Response may suffer loses in representation over the coming years.</p>

<p><b>full partner on Lead Team</b></p>	<p>Refer to comments made in the “partnership” box above.</p> <p>Also it must be noted that the Lead Team representation is supported by staff within their own organisations so that they may be fully informed to make decisions at this level. The TWR nominated Lead Team members do not have the same support. Even the administrative support for TWR available by MAF has not always been clear.</p>
<p><b>represent interests on other groups</b></p>	<p>The TWR have representatives within each level of the programme such as Planning and Intelligence, Logistics etc. Again the issue of fair resourcing for those nominated representatives, who must prepare, engage and report back to the TWR has been raised.</p> <p>Another issue raised is that the technical group is often scientifically focussed with one representative for Mātauranga Māori. This is an inequitable issue that may need to be addressed as the results of the TWR work unfolds.</p>

### 6.3 THE PARTNERSHIP WILL VALUE AND INCORPORATE INNOVATION, LEARNING AND CONTINUOUS IMPROVEMENT, SOUND SCIENCE, AND MĀTAURANGA MĀORI

A working definition of Mātauranga Māori:

‘Mātauranga Māori’ is a modern term for a body of knowledge that was brought to these islands by Polynesian ancestors of present-day Māori. Here this body of knowledge grew according to life in Aotearoa and Te Wai Pounamu. Despite an initial period of change and growth, the arrival of European populations in the 18th, 19th and 20th centuries brought major impacts to the life of this knowledge, endangering it many and substantial ways. All, however, was not lost as new knowledge was created through the encounter with the European and through the experience of the creation of the new nation called New Zealand. Important fragments and portions – notably the Māori language - remain today. These fragments and portions are catalysing a new creative period in Māori history and culture and in the life of the New Zealand nation.” (Royal, 2006)

The Partnership will	value	incorporate
<p><b>Matauranga Maori</b></p>	<p>“If value were to be measured by the amount of money spent on western science as opposed to the amount of money spent on Matauranga Maori what would be the value attributed to Matauranga Maori? 10%? 5%?”</p>	<p>There is a proposed monitoring programme with a focus on cultural indicators derived from Matauranga Maori however we must ensure that there are always other opportunities whereby these knowledge systems are included.</p> <p>The kahui kaumatua could also be an avenue for incorporating MM.</p> <p>includes a range of perspectives on the nature of knowledge and knowing</p> <p>MM is in a state of rediscovery</p>

6.4 ALL PARTIES RECOGNISE THAT THE CULTURAL CONCERNS AND PRIORITIES OF TANGATA WHENUA AND THE AGENCIES MAY DIFFER AND STRIVE TO ENSURE THAT THE IMPERATIVES OF BOTH WORLDVIEWS WILL BE ACCOMMODATED

<b>All parties</b>	<b>strive to ensure accommodation of</b>
<b>Imperatives of Maori worldview</b>	<p>Te Reo me ona Tikanga Maori</p> <p>Whakapapa – collectivism of tangata whenua and nature, holistic outlook</p> <p>Karakia – ceremonial appropriateness</p> <p>Hau – gift relationship with nature</p> <p>Rangatiratanga – engagement with rangatira and hapu</p> <p>Kaitiakitanga – guardianship responsibilities of tangata whenua put to practise</p>

6.5 COSTS, BENEFITS AND RISKS (INCLUDING DESIRED SOCIAL, CULTURAL AND ENVIRONMENTAL EFFECTS) WILL BE RIGOROUSLY REVIEWED TO ENSURE BEST USE OF LIMITED RESOURCES

To ensure best use of limited resources, rigorous review of	desired cultural effects	desired environmental effects
Costs/benefits/risks	Assessment should include in-kind time given by TWR and other tangata whenua not only \$\$ spent by JAR	Some suggestions from kaumatua were that an assessment be made of healthy areas and the ahuatanga of Papatuanuku and that this be re-created in sick areas. Recommendations have been made on how this can be done.

7. THE SIGNIFICANCE OF ADVERSE EFFECTS

Effects in resource management can be either positive or negative, temporary, permanent, present and/or future, cumulative, high probability and low probability with high impact. By assessing how kauri dieback impacts on cultural values as expressed above we may demonstrate the level of significance of the effect. Refer to the table below:

Effects	+	-	Temporary	Permanent	Past	Present	Future	Cumulative	High Probability	Low Probability
Wellbeings										High Impact
Env										

Economic										
Social										
Cultural										

As expressed by the table above the measure of adverse effects can be confirmed as significant.

## 8. RECOMMENDATIONS ON HOW THE JOINT AGENCY RESPONSE CAN COUNTERACT ANY IDENTIFIED ADVERSE EFFECTS

As Tangata whenua are interdependent on the whole forest, the way in which introduced disease or infection is managed becomes an integral role for Tangata whenua. Assuring longevity of the forests are paramount to ensuring the future of their own existence, not only as a medicinal, food or resource but as their right to their spiritual connection with Atua.

Tangata whenua must maintain links to kauri and kauri forests as described above. The cultural paradigm may have changed, however tangata whenua are still reliant on being in the forest and sharing their traditions with their future generations. Kauri forests are essential to intergenerational cohesion. Kaumatua we spoke to edified the importance of being able to take their children into the forest to share their experiences and links to their land, their culture and forests. <sup>12</sup>

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<sup>12</sup> Key Informant, Prime

The following is a table of recommendations based on the effects outlined in the sections above:

POLICY	EFFECTS	RECOMMENDATIONS
<p>6.1 To maintain and enhance the mauri and health of kauri to ensure its special place for all NZers now and into the future</p>	<ol style="list-style-type: none"> <li>1. The kauri is known to have at least 150 different species residing upon or nearby. The mauri of the kauri is dependent on the mauri of the other species around it, the soil, air, and all things within the Ngahere as well as all things which are impacted by or place an impact on the kauri. Without the kauri to nestle in, grow with and engage the special place for NZers will be lost. Tangata whenua are the only people in Aotearoa who have the ability to assess and give advice on how to enhance the mauri of kauri.</li> <li>2. It is also reasonable to consider that the moisture content of the soil is not right.</li> <li>3. Several kaumatua discussed the importance of the right quality of air for</li> </ol>	<ol style="list-style-type: none"> <li>1. Tangata whenua designed mauri enhancement programme implemented</li> <li>2. That tangata whenua carry out a research project focusing on other mechanisms to ensure the appropriate water content for healthy kauri growth.</li> <li>3. Improve the air quality required for healthy kauri such as by less vehicle access through areas where sick kauri are to lessen the stress on them</li> <li>4. Improve sunlight access required for healthy kauri.</li> <li>5. Afford the ngahere the opportunity to 'right itself' by enhancing biodiversity of kauri ngahere.</li> <li>6. Increase the length of life of kauri by establishing recommendation 1.</li> <li>7. Research priorities must give effect to the matauranga of tangata whenua, including ensuring that any impacts on native flora and fauna and or taonga species are assessed by tangata whenua</li> <li>8. Assist with healthy canopy growth and enhance soils around kauri such as by carrying out a research project focusing on re-inoculating the soil by using for</li> </ol>

	<p>the kauri to thrive. A concern is for the kauri that have roads through their forests and the impact that the emissions from cars is having on kauri (and water too).</p> <ol style="list-style-type: none"> <li>4. Kauri like sunlight and in some areas kauri may have infringements from accessing appropriate sunlight.</li> <li>5. Kauri ngahere have undergone considerable degradation of biodiversity which is likely a cause of the ill health of kauri making more vulnerable to fatalities caused by kauri dieback. The Joint Agency Response must afford the ngahere the opportunity to 'right itself'. Epidemics are part of nature, and ultimately strengthen the system. Kaumatua believe that this interference by humans prevents the ngahere from being able to complete this process.<sup>13</sup></li> <li>6. If the measure of length of life is based on "Tane Mahuta" then one can assume that it is reasonable to say that a kauri in the right conditions could live to around or at least 2000 years. Clearly there are many kauri that have died from the disease kauri dieback.</li> </ol>	<p>example micro-fungi farms to recreate the litter in healthy zones or the development of vermicast to potentise the rongoa enhancing the health of the kauri and reducing the stress and/or a research project to develop/use a rongoa spray consisting of an indigenous anti-fungal such as manuka or horopito</p> <ol style="list-style-type: none"> <li>9. Tangata whenua led research into use of kunikuni to improve soil.</li> <li>10. Begin communications with kauri commercial growers and the New Zealand Gardening Association.</li> <li>11.</li> </ol>
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<sup>13</sup> Key Informant: Tipene, Prime and Epiha

	<p>7. Traditionally some of the vectors (pigs) have been used to sustain communities, the way in which these vectors are managed needs to be made with tangata whenua. Research priorities must give effect to the matauranga of tangata whenua.</p> <p>8. One kaumatua confirmed that a certain type of canopy is required to create the soil type required by kauri. It is reasonable to think that there is an element missing in the soil which is ideal for kauri health due to human impacts on the soil of kauri in sick areas e.g. compaction, roading, loss of biodiversity of the forest, etc.</p> <p>9. Another account from kaumatua related to the use of kunikuni to spread indigenous antifungal matter. In the past his neighbor had been having trouble with their orchard crop. One year his kunikuni got into the property and dug up the ground all over the place. The next year the neighbours crop was prosperous.</p>	
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	<p>10. One idea suggested by kaumatua is to improve the involvement of other stakeholders such as commercial growers or the New Zealand Gardening Association. It is considered that if kauri are dying then nursery owners will be working to find a cure so that their business can continue.</p>	
<p>6.2 the tāngata whenua roopu has been established to facilitate tāngata whenua partnership participation in the programme. They will be represented as a full partner on the leadership team and represent tāngata whenua interests on other programme groups</p>	<ol style="list-style-type: none"> <li>1. In summary, those that have given feedback on “partnership” within the response stated that they felt that partnership should be demonstrated by an equitable number of representatives on the Lead Team, however others were happy to have the nominated Lead Team representatives be there due to their current lack of resources to volunteer their time to contribute at this level.</li> <li>2. The issue of a lack of equitable resourcing in the response is significant according to feedback received. It is noted that the policy states that the TWR shall facilitate the partnership and they too have a lack of funding to provide more than two representatives to be on the Lead Team.</li> </ol>	<ol style="list-style-type: none"> <li>1. The TWR shall discuss the need for an equitable number of representatives on the Lead Team and make an appropriate recommendation.</li> <li>2. The TWR to establish a Funding Committee to generate income contributions to the response and the Lead Team to reassess remuneration for tangata whenua participants in the programme.</li> </ol>

	<ol style="list-style-type: none"> <li>3. It shall also be noted that any field work undertaken must ensure partnership engagement with hapu and the fern root level. Similarly the issue of participation is weighted between voluntarily carrying out ones kaitiakitanga responsibilities and the joint agency response and New Zealanders valuing the contribution that tangata whenua give to the programme.</li> <li>4. It must also be acknowledged that this is a new type of engagement that the Joint Agency Response has designed and implemented and that participation to date has been by a majority representation of the kauri catchment.</li> <li>5. However if equitable resourcing on a value contribution basis is not addressed the Joint Agency Response may suffer loses in representation over the coming years. Also it must be noted that the Lead Team representation is supported by staff within their own organisations so that they may be fully informed to make decisions at this level. The TWR nominated Lead Team members do not have the same support. Even the administrative support for TWR available by MAF has not always been clear. The TWR have representatives within each level of the programme such as Planning and Intelligence, Logistics etc. Again the</li> </ol>	<ol style="list-style-type: none"> <li>3. Establish an engagement policy to guide field workers and managers on working with mana I te whenua; that Tangata whenua are provided the opportunity to remain current with new technology and information relevant to their role as Mana I Te Whenua; continued building of the capacity of tangata whenua to monitor and take part in surveillance of sites; and the continued “exercise of protection, use, enhancement and access” to kauri forests by tangata whenua;</li> <li>4. The TWR to discuss options for appropriate support for nominated work stream people such as a contracted administrative support position</li> <li>5. That the TWR continually consider options for Matauranga Maori to inform the response such as regular wananga with technicians and kaumatua.</li> </ol>
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	<p>issue of fair resourcing for those nominated representatives, who must prepare, engage and report back to the TWR has been raised.</p> <p>6. Another issue raised is that the technical group is often scientifically focussed with one representative for Maturanga Maori. This is an inequitable issue that may need to be addressed as the results of the TWR work unfolds.</p>	
<p>6.3 the partnership will value and incorporate innovation, learning and continuous improvement, sound science, and mātauranga māori</p>	<ol style="list-style-type: none"> <li>1. "If value were to be measured by the amount of money spent on western science as opposed to the amount of money spent on Maturanga Maori what would be the value attributed to Maturanga Maori? 10%? 5%?"</li> <li>2. There is a proposed monitoring programme with a focus on cultural indicators derived from Maturanga Maori however we must ensure that there are always other opportunities whereby these knowledge systems are included.</li> <li>3. The kahui kaumatua could also be an avenue for incorporating MM.</li> <li>4. includes a range of perspectives on the nature of knowledge and knowing</li> </ol>	<ol style="list-style-type: none"> <li>1. That the TWR consider assessing the value percentage according to resource split amongst innovation, learning, improvement, science and Maturanga Maori.</li> <li>2. That appropriate resourcing is set aside for Maturanga Maori projects that add value to the programme.</li> <li>3. That the kahui kaumatua are able to provide Maturanga Maori to the programme.</li> <li>4. That the JAR acknowledge that Maturanga Maori includes a range of perspectives and that they continue to improve their understanding of the responsibilities of tangata whenua in the management of kauri ngahere.</li> <li>5. That the JAR acknowledge that Maturanga Maori is in a state of</li> </ol>

	5. MM is in a state of rediscovery	constant evolution.
6.4 all parties recognise that the cultural concerns and priorities of tangata whenua and the agencies may differ and strive to ensure that the imperatives of both worldviews will be accommodated	<ol style="list-style-type: none"> <li>1. Te Reo me ona Tikanga Maori</li> <li>2. Whakapapa – collectivism of tangata whenua and nature, holistic outlook</li> <li>3. Karakia – ceremonial appropriateness</li> <li>4. Hau – gift relationship with nature</li> <li>5. Rangatiratanga – engagement with rangatira and hapu</li> <li>6. Kaitiakitanga – guardianship responsibilities of tangata whenua put to practice</li> </ol>	<ol style="list-style-type: none"> <li>1. Te Reo me ona Tikanga Maori is able to be utilised at all opportunities within the programme.</li> <li>2. Whakapapa – collectivism of tangata whenua and nature and the holistic outlook for management is accommodated.</li> <li>3. Karakia – ceremonial appropriateness including Tohi, Takutaku e.g. karakia (prayer) plays an important part in removing or changing the forest environment and ensuring the safety of people working in the kauri ngahere.</li> <li>4. Hau – gift relationship with nature that tangata whenua have is accommodated at all times.</li> <li>5. Rangatiratanga – engagement with rangatira and hapu is carried out and policy outlining how this is done is available for workers within the programme.</li> <li>6. Kaitiakitanga – guardianship responsibilities of tangata whenua put to practice is accommodated at all times such as when any tangata whenua choose to utilise rahui the Joint Agency Response</li> </ol>

		shall support this decision.
6.5 costs, benefits and risks (including desired social, cultural and environmental effects) will be rigorously reviewed to ensure best use of limited resources	<ol style="list-style-type: none"> <li>1. Assessment should include in-kind time given by TWR and other tangata whenua not only \$\$ spent by JAR</li> <li>2. Some suggestions from kaumatua were that an assessment be made of healthy areas and the ahuatanga of Papatuanuku and that this be re-created in sick areas. Recommendations have been made on how this can be done.</li> </ol>	<ol style="list-style-type: none"> <li>1. Assessment should include in-kind time given by TWR and other tangata whenua not only \$\$ spent by JAR</li> <li>2. That an assessment be made of healthy areas and the ahuatanga of Papatuanuku and that this be re-created in sick areas.</li> </ol>

Tangata whenua have differing issues and views in managing kauri, and have considered highly commercial stands, which have the disease, to areas which are less frequented and are potentially PTA free. The management of kauri throughout the kauri rohe, continues to vary from hapu to hapu, iwi to iwi, as hapu and iwi enter into settlement agreements or have asserted their role as kaitiaki, using crown statutes such as the Local Government Act (2002) to engender their relationship with crown agencies. Tangata whenua, are expectant that they maintain their right as kaitiaki and their relationship with the environment which includes the values, knowledge, customary law and practice relating to the use, control, development, maintenance, preservation, regulation and management of the natural environment of an identified rohe and the indigenous and/or taonga species of flora and fauna that inhabit that rohe.<sup>14</sup>

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<sup>14</sup> Wai 262, The flora and fauna and cultural intellectual property claim – Statement of Issues

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