



## BACKGROUND

The BioHeritage Challenge is leading the strategic research investment programme funded by the Ministry of Business, Innovation and Employment, known as Ngā Rākau Taketake – Saving our Iconic Trees.

Kauri dieback is threatening Aotearoa New Zealand's taonga (treasured) kauri with extinction, and myrtle rust is threatening many iconic native species as well as plants important to primary industries. More knowledge is urgently needed to underpin future approaches and tools to fight the two pathogens.

The focus of Ngā Rākau Taketake is to accelerate kauri dieback and myrtle rust related research by Government agencies, councils, research providers, Māori and interest groups to develop new knowledge and tools needed to empower New Zealanders to protect and restore our ngahere for future generations.

The name Ngā Rākau Taketake (NRT) reflects the historical connections Māori and other New Zealanders have with our kauri and myrtle plants and trees. Taketake refers to the permanence of that relationship. This programme aims to protect and restore that relationship and connection with te taiao (the environment) and our taonga (treasures).

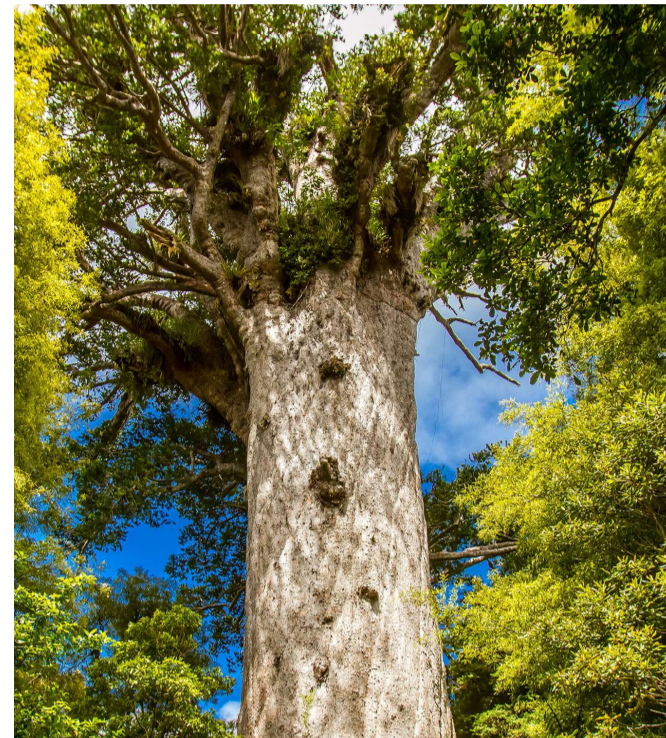
## VISION MĀTAURANGA

Ngā Rākau Taketake embraces te ao Māori (the Māori world) throughout our research and activities. This is embodied in our core values and our commitment to respectful relationships. Our research is co-designed and co-led with Māori researchers and/or iwi, hapū, or whānau and many, if not most, of our projects have mātauranga Māori embedded in their work.



## AN INNOVATION SYSTEM APPROACH

The Challenge visualises New Zealand's science and innovation system as being underpinned by an innovation pathway. This pathway approach to research interweaves knowledges, including mātauranga Māori, from new discoveries and innovations through to novel ways to use this knowledge – for greater impact and benefit for Aotearoa. The innovation system allows for a diversity of contributions from a wide range of individuals and institutions; what we call a national partnership.



## CREATING IMPACT

NRT investments are aimed at creating impact in three key areas; Whakamana – Empower, Tiaki – Protect and Whakahou – Restore, with a focus on seven research themes to achieve impact and our aim.

**Impact 1:**  
**Whakamana • Empower**

New Zealanders value our biological heritage, understand how it is changing, and how they are inspired to take action to protect it

**Theme 1: Oranga**  
We enable mātauranga Māori based solutions for kauri dieback and myrtle rust.

**Theme 2: Mobilising for Action**  
We empower New Zealanders by understanding human dimensions of wellbeing and peoples' connections with the ngahere.

**Impact 2:**  
**Tiaki • Protect**

New Zealand's biosecurity system is world class

**Theme 3: Risk Assessment / Ecosystem Impact**  
We understand what is most at risk and the impacts of kauri dieback and myrtle rust to better manage and respond.

**Theme 4: Integrated Surveillance:**  
We have a hapū-centric surveillance framework that focuses on the holistic health of the forest.

**Theme 5: Control Protect Cure**  
We have new science, knowledge and tools for the detection and management of kauri dieback and myrtle rust.

**Impact 3:**  
**Whakahou • Restore**

New Zealand's natural and production ecosystems are resilient and thriving

**Theme 6: Host, Pathogen and Environment**  
We understand the role of environmental factors on kauri dieback and myrtle rust expression and severity, and the plant pathogen genomes.

**Theme 7: Conservation and Restoration**  
We enable communities to conserve and restore susceptible plant species to survive myrtle rust and kauri dieback.