

Integrated Surveillance

An integrated approach for solutions and research to support better biosecurity and biodiversity management.

Key People

Waitangi Wood, Ngatirua, Ngāti Awa, Ngāti Kahu, Ngāpuhi Nui Tonu; Independent
Cecilia Arienti-Latham, Manaaki Whenua – Landcare Research



Examination of leaves affected by myrtle rust.

Background

‘Surveillance’ comprises the system of tools and techniques that enable us to track and anticipate impacts on ecosystem health by monitoring biodiversity, pathogens and invasive species that affect taonga and our native environment.

Our research theme is focused on better surveillance responses and investment, achieved through alignment between mātauranga Māori and western knowledge. For this purpose, we have engaged with tangata Māori, kaitiaki and rangatira from 12 hapū/traditional iwi (Biodiversity Management Areas - BMAs), who are affected by myrtle rust and kauri dieback.

In utilising mātauranga Māori, we are leading discussions on data sovereignty and custody, and how to acquire, utilise, protect, and share surveillance data and information with the aim to improve biosecurity across Aotearoa New Zealand.

“Surveillance for plant pathogens means the tools and mechanisms we use to find disease in taonga species: the tools that enable us to both find the pathogen and monitor how far it has spread.”

Cecilia Arienti-Latham

Highlights:

- Mana whenua are informing the way in which we co-design biodiversity and biosecurity data collection. This is being used to support the development of metadata and protocols that will inform cultural licence.
- The Integrated Intelligence Platform (IIP) has been developed to address data sovereignty and custody challenges. This will be tested and socialised with mana whenua from engaged BMAs and Ngā Rākau Taketake researchers, with the intent to deploy to the wider community in July 2023.
- ‘Tohu’ are a combination of intergenerational hapū/traditional iwi observations used to communicate with both their spiritual and physical world. Tohu provide the mātauranga that informs research aimed at determining and understanding the wellness and/or illness of taonga and the presence and/or absence of target plant pathogens.
- Sovereignty of the naturescape is recognized through using BMAs to anchor data and information to its place of origin. Using this framework, we have been able to centralise research activities and hapū and traditional/iwi relationships in our engagement, prioritise resource and research effort, and co-design better management strategies for hapu/traditional iwi.
- We have had in-depth discussions about surveillance zones (sections of the forest where surveillance for plant pathogens needs to be prioritized) with mana whenua from Ngatirua and Patuharakeke, demonstrating the use of the Proof of Absence model and Risk Maps informed by Dr Nari Williams’ research (HPE:PA Epidemiology).