



New Zealand's Biological Heritage – Ngā Koiora Tuku Iho

New Zealand is undertaking a major strategic re-alignment of its science and research activities under national priority areas (Challenges). One such Challenge is New Zealand's Biological Heritage.

New Zealanders value highly our biological heritage – the natural, production and urban environments in which we live, work and recreate. These environments underpin our economy through primary industries and tourism, are integral to our sense of national identity, and have important cultural and recreational significance. However, elements of our environment are under increasing pressure. Our Challenge's science will transform the way that we respond to that pressure. Our aim is to protect and manage our **native biodiversity**, improve our **biosecurity**, and enhance **ecosystem resilience** to global threats and pressures.

Our Goals

With our partners we will:

1

Protect and restore: secure threatened species and resilient ecosystems

2

Eliminate threats: weeds, pests, mammal predators, and pathogens

3

Detect and eradicate: zero impacts from biosecurity incursions

4

Restore healthy freshwater: wai taonga and mahinga kai

5

Track our progress: A bioheritage scorecard for Aotearoa

Science Programmes

1 Programme 1: Real-time bioheritage assessment

Solutions for decision makers to have accurate, comprehensive information at their fingertips.

2 Programme 2: Reducing risks and threats

Reducing incursion and establishment by foreign invader species; improving pest management by scaling-up pest and weed control at landscape scales.

3 Programme 3: Sustaining resilient ecosystems

Enhancing and restoring resilience of vulnerable ecosystems; preventing biodiversity loss, mitigating effects of global change.



Research Projects

- 1
 - > Mātauranga Māori characterisation of the biota of Aotearoa
 - > Application of genomics and metagenomics to fast-track risk-based analysis of novel pathogens
 - > Environmental DNA (eDNA) and molecular tools for assessment, monitoring & biosecurity needs
 - > Assessing groundwater health in response to land use change with cryptic macrofauna and microbes
 - > Conservation genomics for ecosystem restoration

- 2
 - > Citizen surveillance to strengthen NZ's biosecurity system: preventing unwanted pests and diseases from crossing our borders
 - > Biosecurity network interventions: identifying pathways of pest and disease spread in NZ
 - > Māori solutions to mitigate biosecurity threats to NZ's taonga species
 - > Novel technologies to combat invasive wasps and small mammal predators in perpetuity
 - > Understanding societal attitudes to novel pest technologies
 - > Protecting kauri ecosystems by stopping kauri dieback and trialling community-based control

- 3
 - > Preventing and managing tipping points: reversing state change in ecosystems
 - > Re-igniting healthy resilience in degraded streams and waterways
 - > Connecting biodiversity across production landscapes
 - > Customary approaches and practices for building cultural and ecological resilience in ecosystems

