

**MISSION:** To reverse the decline of New Zealand Biological Heritage, through a Engaging and influencing Te Pae Tawhiti national partnership to deliver a step change in research innovation, globally leading technologies and community and sector action.

| Impacts | New Zealanders value our biological heritage, understand how it is changing, and are inspired to take action to protect it<br>By 2024, a majority of New Zealanders value our biological heritage, & are enabled to actively contribute to positive change |  | New Zealand's biosecurity system is world class<br>By 2024, New Zealand's biosecurity system is fit for purpose |  |  | New Zealand's natural and production ecosystems are resilient and thriving<br>By 2024, we understand social and ecological linkages in natural and production ecosystems, and will be designing technical, policy and governance frameworks to ensure our ecosystems are resilient to current & future threats |  |
|---------|--|--|---|--|--|--|--|
|---------|--|--|---|--|--|--|--|

| Strategic Outcomes | <b>SO1: We report progress using a biological heritage scorecard for Aotearoa</b> |  | <b>SO2: We empower New Zealanders to demand and enact environmental stewardship and kaitiakitanga</b> |  | <b>SO3: We anticipate both emerging &amp; latent biosecurity risks, and avoid new or recurring invasions</b> | <b>SO4: We have state-of-the-art biosecurity surveillance systems</b> | <b>SO5: We deploy novel tools, technologies &amp; strategies for control or eradication of biotic threats</b> | <b>SO6: We quantify social-ecological linkages for use in managing, protecting and restoring ecosystems</b> | <b>SO7: We enable people to build biological heritage resilience with the right policy and governance instruments</b> |
|--------------------|---|--|---|--|--|---|---|---|---|
|--------------------|---|--|---|--|--|---|---|---|---|

| 2024 Goals | We know what & how to measure                   |  | Local communities develop & realise BioHeritage aspirations  |  | Participation: Mana whenua & key participants active in risk ID | Much earlier detection & real-time monitoring of system changes                   | Virtual Biosecurity Hub for Aotearoa being used for 'fast fail' projects co-designed with mana whenua   |  | Diverse, successful, & practical pathways to regeneration identified | Capability to reverse the decline lifted and sustained                   |
|------------|---|--|--|--|---|---|---|--|--|--|
|            | Influential, adaptive scorecards empower people |  | There is legislative and socio-cultural licence supporting the tools, frameworks & tikanga protocols developed elsewhere in BioH |  | Values: Biosecurity risks prioritised through Te Ao Māori lens  | Surveillance systems co-designed with Māori; communities involved in surveillance | 2-3 new tools for border biosecurity pests and/or vertebrate & invertebrate legacy pests developed & used and deployment 'at scale' accelerated |  | Connections between people and nature valued & characterised         | Mana whenua enabled and resourced to participate as partner              |
|            | Local scorecards are catalysts for action       |  |  |  | Impact: Dynamic and adaptable biosecurity risk analysis         | New tools for surveillance developed & used                                       | PF2050 supported through partnerships   |  |  | New governance architecture for biological heritage resilience developed |

| Critical Steps – the pathway to impact | 2023 | Scorecards scaled nationwide & report against national bioheritage indicator set & vision     | Barriers to undertaking biological stewardship are measured empirically                        | At least one industry body has agreed in principle to adopt framework |  | One tech tested against target species                           | Non-fence option for preventing small mammal predator movements is available      | Methods that support effective collective action are being used         | Different leadership models have emerged and are being used   |
|--|------|---|--|---|--|--|---|---|---|
|  | 2022 | Impact of sector-specific Scorecards evaluated & Scorecards improved                          | 'Levers' for mobilising environmental stewardship are identified and tested.                   | Co-designed risk assessment framework is being implemented            |  | Technology consultation completed                                | Novel tool or approach has been developed to target introduced predators          | Ecosystem regeneration exemplars developed and showcased                | New policies developed based on the models  |
|  | 2021 | Case study co-designers/investors in three major sectors engaged & their Scorecards developed | A multi-layered, spatially explicit model of complex social-ecological feedbacks is developed. | Stakeholders and champions actively testing framework                 | New GIS technology for large-scale biosecurity surveillance identified and piloted with partners | Simulations demonstrate potential of tech                        | Agreed steps that incorporate tūturu Māori input for a novel tool are established | Adaptive approaches to scale-up ecosystem regeneration developed        | Models of treaty-based governance across Aotearoa compared for success in delivery of transformative outcomes |
|  | 2020 | National 100-year bioheritage vision and bicultural indicator set developed                   | The model is parameterised for at least one specific social-ecological system                  | Knowledge gaps prioritised and align with stakeholders                |  | Invert pest and technology identified through stakeholder survey | Artificial Intelligence in Pest Control working group has held its first workshop | Barriers to enhancing the success of restoration initiatives identified | System co-design principles developed   |

|   |  |  |   |  |  |   |
|---|--|--|---|--|--|---|
| <b>Champions &amp; Influencers</b><br>Developing a network of BioHeritage Champions | <b>Early Career Network Ngā Pi Ka Rere</b><br>Grow/build capability & capacity in BioH ECs | <b>Māori Rōpū (Te Aho Mātauranga)</b><br>Grow & build capability & capacity emerging Māori Leaders | <b>Biosecurity Hub</b><br>Streamline and collaboratively develop fast-fail approaches to combat pathogens and pests | <b>Crazy Ambitious Think Tank</b><br>High-impact think pieces to support research excellence | <b>Measuring Impact</b><br>Critical reflections and impact measurement | <b>Data Connectivity</b><br>A technical tool for partner agencies to "pool" data sets |
|---|--|--|---|--|--|---|

Supporting Architecture (Pou)