



Manaaki Whenua
Landcare Research

Science and Research Exchange

Waikato and Bay of Plenty

November 2017

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Strategic Refresh

What we do is focussed around:

Four Ambitions for New Zealand



OUR ENVIRONMENT

We are an environmentally informed nation, taking action together



OUR BIODIVERSITY

We know, value and actively preserve our unique biota and ecosystems



OUR BIOSECURITY

Our land is protected from invasive biological threats



OUR LAND

We use our land, soil and water resources wisely

OUR AMBITIONS

OUR ENVIRONMENT

We are an environmentally informed nation, taking action together

OUR BIODIVERSITY

We know, value and actively preserve our unique plants, animals and ecosystems

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OUR LAND

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OUR PARTNERS

GOVERNMENT

The Natural Resources Sector achieving their environmental and economic goals.

MAORI

Meeting their aspirations for their land through Vision Mātauranga.

PRIMARY SECTOR

Operating effectively within ecological limits and meeting market expectations.

SCIENCE SECTOR

NZ and global collaboration to grow knowledge and talent.

OUR VISION

Kia tupu matomato a Tane, a Rongo, a Haumia-Tiketike

OUR SCIENCE GOALS

INNOVATIVE & CHALLENGING

We are tackling greater science challenges with greater rewards for New Zealand. We actively seek and support innovation.

VALUED & TRUSTED

We are responsive to the needs of our clients and partners. We produce whole solutions with and for them. Our advice is trusted.

STRATEGIC & INTEGRATED

We work on longer and larger scales and more complex problems, integrating across disciplines and stakeholders.

ENGAGED WITH ALL NZERS

We have a strong corporate identity, visible and understood externally and shared internally. We engage citizens in our research and speak with authority.

Science working with Mātauranga Māori

OUR FOUNDATION GOALS

OUR PEOPLE

We have great people doing great work and being recognised for it. We are 100% committed to health, safety & well-being, with staff balancing work and life commitments

OUR PARTNERS

Our partnerships are enduring and are based on trust and mutual support. Through long-term partnership we increase our capacity and achieve our ambitions

OUR INFRASTRUCTURE

Our sites and ICT support our excellent research and provide great working environment. Our sites support our partnerships and are a base for interaction with NZers

OUR SUSTAINABILITY

We invest wisely to deliver our strategy including financial resilience. We set challenging sustainable development goals that reflect our vision.

OUR VALUES

MANAAKI TANGATA

Caring, partnering, common purpose integrity

SCIENCE THAT DELIVERS

Excellence, relevance,

Strategy 22

Strategic outcomes...

1. We are recognised nationally and internationally for our excellent science and solutions
2. We are a household name in New Zealand
3. Our science and solutions have lifted NZ's environmental and economic performance
4. As a world class science institute and employer, we are attracting exceptional local and international talent
5. Our relationship with Māori brings a holistic world-view to our work and sustainable development goals
6. We are regularly used as an expert reference by government, and the media
7. We are a leader in sustainable business practice and integrated reporting



LANDCARE RESEARCH
MANAAKI WHENUA

New Zealand's leading provider of science and solutions that enhance land environments and biodiversity



System drivers



Strategic alignment

- There are growing expectations we align our work to key national priorities
- Growing push for CRIs to show clear 'line of sight' between \$ and stakeholder priorities
- New KPIs in SSIF contracts require us to:
 - Consider stakeholder needs in SSIF allocation
 - Develop/implement a 'co-innovation culture' [set & deliver research priorities with users]



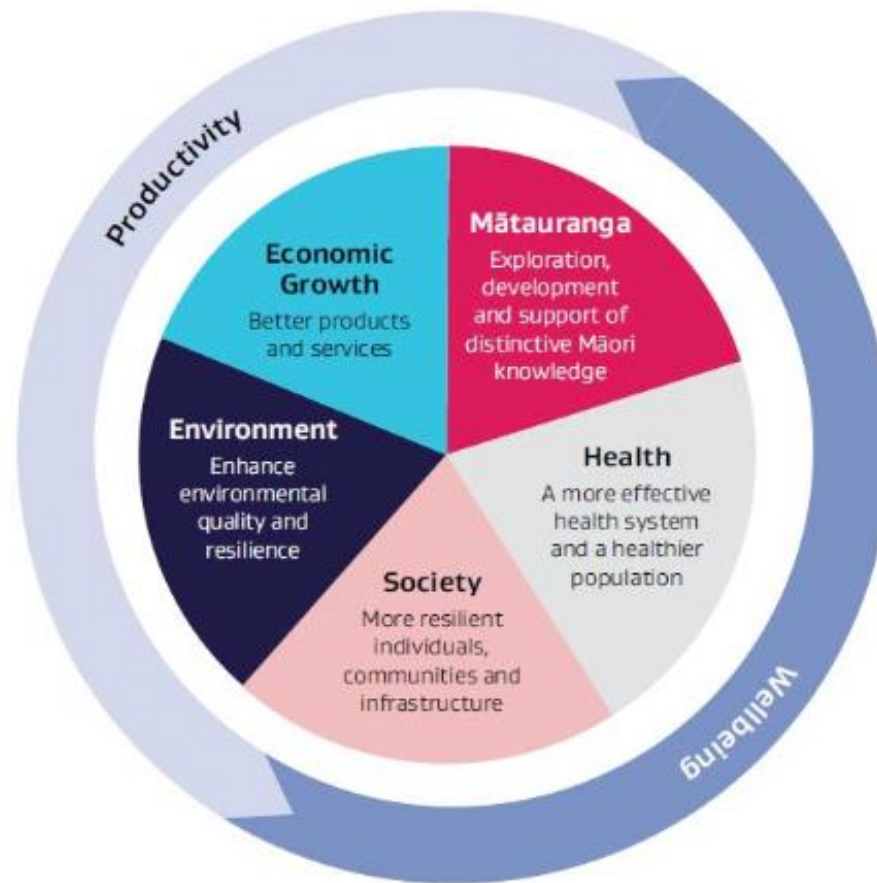
Demonstrating value & impact

- Increasingly, CRIs are being asked to show the value (benefits) of our work
- Growing push for CRIs to show articulate specific impacts/outcomes
- Crown wants to better understand / articulate the benefits of SSIF, Endeavour & NSC \$s to:
 - Underpin a case for more science investment
 - Undertake value-for-money assessments



Draft MBIE Impacts Framework

Aims to reflect a wider set of impacts (NSSI):





'Next-generation' Science Plan

- FY19-21 Science Plan drivers
 - Take a 3-year view (directional; detail can still evolve)
 - Enable longer-term, larger-scale research direction-setting
 - Clarify associated capability & capacity needs & enable people planning
- Earlier, client-centred engagement key
- Shows MW's main activities – not all of them!



Societal outcomes & impacts	LR Ambition	Science Outcomes	
<p>Reversed decline of NZ biodiversity (Improving biodiversity indicators)</p>	<p>Our Biodiversity</p> <p>New Zealanders know, value and actively preserve our unique plants, animals and ecosystems</p>	<p>CHARACTERISATION: Improved identification & characterisation of NZ's species, habitats & ecosystems, with a focus on those relevant to conservation priorities. CLB</p>	<ul style="list-style-type: none"> Accelerate efforts to identify a Enhance the relevance, impact Maintain and develop the Nati
		<p>TIPPING POINTS, RISKS & RESILIENCE: New methods maximise the resilience of species, habitats & ecosystems to threats & stressors. EBD</p>	<ul style="list-style-type: none"> Continue to implement cost-ef Better determine the attribute Reconstruct past ecosystems t
		<p>NEXT-GENERATION MANAGEMENT: Novel, scalable & cost-effective technologies, tools & strategies better protect priority species, habitats & ecosystems. EBD</p>	<ul style="list-style-type: none"> Integrate current and emergent Use novel genetic techniques t Use novel genetic techniques t Implement tools for Maori lan Reanimate heavily impacted w
		<p>BENEFITS, VALUES & DRIVERS: The benefits of weed, pest & disease control for biodiversity are <u>quantified</u>, and new tools and processes better identify and leverage socio-economic factors influencing conservation action. EBD</p>	<ul style="list-style-type: none"> Enhance monitoring and meas Better quantify and integrate t Assess the social and ecologica Enhance models of what drive
		<p>LANDSCAPE-SCALE APPROACHES: Improved detection, surveillance & control of weeds, pests & diseases via landscape-scale technologies, tools & strategies. Biodiversity is effectively integrated into landscape-scale decisions. MAI</p>	<ul style="list-style-type: none"> Better understand the main dr Determine mechanisms by wh Achieve the successful roll-out Identify tipping points in social Improve outlier detection of tr
<p>NZ is predator free by 2050 (1 mammalian predator eradicated)</p> <p>NZ is TB free by 2055</p>	<p>Our Biosecurity</p> <p>Our land is protected from invasive biological threats</p>	<p>CHARACTERISATION: Improved identification & characterisation of NZ's species with a focus on those most relevant to national biosecurity priorities. CLB</p>	<ul style="list-style-type: none"> Accelerate efforts to identify a Enhance the relevance, impact
		<p>HIGH-TECH SOLUTIONS: New genetics-based approaches aid control of high-priority conservation and productive sector weeds, pests and diseases. MAI</p>	<ul style="list-style-type: none"> Identify at least 1 new novel te Assess the use of 'gene drive' r Identify assays for identifying p Enhance diagnostics and prod



Science & NRS systems evolving

Further science system changes

- Converse force against 'line of sight'
- Can disrupt our focus on client needs
- More changes possible (NSC, NSDCs; SSIF)

Alongside changes with a new Government

- Climate change back on agenda
- Freshwater & biosecurity tweaks?
- Biodiversity emergent priorities



New large-scale research directions



MBIE funding: Positive results

- Must be both EXCELLENT and RELEVANT
- Science assessment 1st, impact 2nd
- Evaluation criteria (25% weighting)
 - Excellence (Idea; Method)
 - Ability to Deliver (Team; Track record)
 - Relevance (Alignment to NZ priorities)
 - Pathway to uptake (Users involved)



2016: MBIE Programmes

- Next Generation *S-map* (High-tech soil mapping)
- Soil health and resilience
- Wilding conifer management
- Security for Iconic Species: Kiwi Rescue
- Building resilience/provenance in the Maori honey industry
- Innovative ways to reduce farm nitrogen losses by manipulating carbon



2017: MBIE Programmes

- FUNDED: Next generation remote sensing (LCDB)
- ON HOLD: Sediment / erosion
- TO BE REVISED: Riparian management



Learnings from 2017

- Bids with a sole social-research focus were not funded
- Bids that were very large / broad were not funded
- Vision Matauranga key to all successful bids to date
- Critical to involve international collaborations
- Expectation to include new technology-based science
- Bids must highlight distinctness from NSC or SSIF-funded activity AND outline critical knowledge gaps
- Science excellence still a key hurdle – bids must show stretch / innovation (can't just deliver on user needs)



2018: MBIE Programmes

New bids in the areas of:

- Large-scale restoration across complex forests
- Role of soil trace elements (health/contamination)
- Sustainable management of marginal lands
- Myrtle rust management, mitigation & monitoring
- Predator control - the last 5%
- Sediment / erosion
- Riparian management