

OUR LAND
AND WATER

Toitū te Whenua,
Toiora te Wai

Wai Ora, Whenua Ora, Tangata Ora
Healthy Water, Healthy Land, Healthy People

RESEARCH WORKPLAN UPDATE 2020

A reframing of research priorities, to address emerging issues and policy developments



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Why review our research workplan?

All strategies and plans must adapt to changing circumstance and context in order to be effective. The OLV 2019-2024 Strategic Plan was formulated in 2018. In this strategy OLV committed to a biennial review of research direction to take account of changing pressures on our land, water and communities, changing environmental, food and fibre production and economic policies, and relevant and aligned research being undertaken outside of the OLV Challenge.

We have developed this research workplan to address changing priorities for research, adapting approach and delivery mechanisms where appropriate, guided by the overarching vision and aims of the OLV 2019-2024 Strategic Plan.



In 2020, the key changes that have been considered in this review and workplan update are:

1. The development of a new “mental model” to underpin our strategy (Fig 1). The model gives effect to te ao Māori principles, using a holistic approach to influence and align key stakeholders to better support land stewards to live and work in ways that are more connected to te Taiao.

2. The Primary Sector Council’s vision for the agriculture, food and fibre sector of Aotearoa, which identifies the health and wellbeing of te Taiao as a benchmark for success.

3. Policy changes including the government’s Essential Freshwater – Healthy Waterways initiatives, with associated changes to the National Policy Statement for Freshwater Management and implications for land use practices.

4. The compilation of the 2019/20 Research Landscape Map, identifying aligned and relevant high-impact research.

5. Changes in context brought about by the Covid-19 pandemic, including changing economic pressures and consumer perceptions of the food and fibre industries in Aotearoa and their ability to produce a safe and secure food supply.

6. The need for a clear line of sight to be created between the OLV 2019-2024 Strategic Plan, the research programmes and their impact, now that Phase II of OLV funding is underway.

A Strategic Mental Model of Aotearoa's Agri-Food and Fibre System

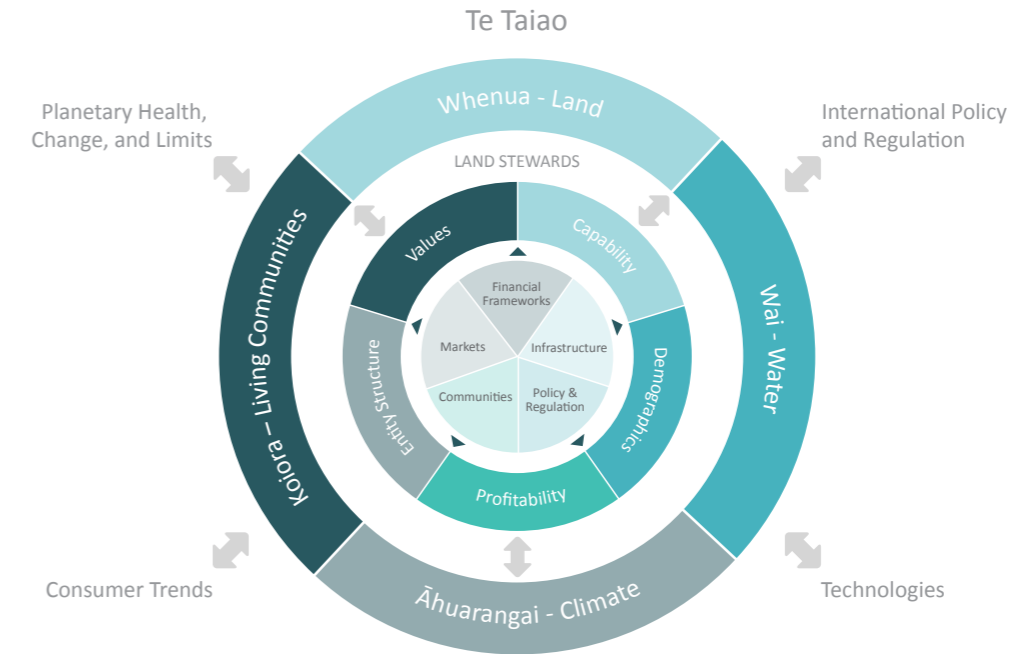


Figure 1. A “mental model” to guide a holistic approach to research design and impact, showing the connections between key stakeholders, land stewards and te Taiao. Thinking about the environment in this way encourages us to aspire to a future where humanity and the natural world sustain each other in an interconnected relationship of respect, and we all act as land stewards.

What has changed in the research workplan?

Our long-term focus, as articulated in the OLW 2019-2024 Strategic Plan remains unchanged. However, we have reshaped some of the anticipated Phase II research to accommodate new priorities (see previous).

1. A Flagship Concept has been identified for each of the three Strategic Themes. This is the main deliverable that will create impact (i.e. change how we relate to and manage land and water).

2. Identification of Critical Elements for each Flagship Concept. These are the specific steps required to deliver the impact that fall within, but can be more prescriptive than, the nine Strategic Areas of the OLW 2019-2024 Strategic Plan.

3. Target impacts are considered for a 5-year (2024) and 10-year (2030) time frame.

4. All anticipated research is linked to the **most** relevant Critical Element, while acknowledging it may have relevance across several Critical Elements and indeed, more than one Theme.

5. Research is described in such a way that the specific gap and/or need for the research is clearly identified and quantified where appropriate.

6. Te ao Māori principles are embedded in the co-design and undertaking of all research, together with the need for science excellence and meeting specific stakeholder/sector requirements.

7. The involvement of stakeholders, such as land stewards and their associated support systems and consumers in the agrifood and fibre system, is mandatory during the design phase for all research programmes.

8. The workplan has a strong focus on integrating research across themes using place-based demonstrations (Fig 2), that will provide the evidence required to enable wider implementation and uptake of new land use options.

An overview of planned research is given in the following tables.



Research Workplan: Future Landscapes

Flagship Concept:

Providing tools for land stewards to assess diverse land use options, to identify the best land use to support the vitality of te Taiao.

Theme Impact by 2024:

Decisions on land-use change and management practises can be made with confidence that they will lead to improvement in te Taiao.

Theme Impact by 2030:

The vitality of te Taiao is improving in response to our decisions as land stewards.

Critical Element	Current gap/need	Research focus	How will land stewards use this research	OLW proposed investment
Be able to see what diversity is possible, to match land use to opportunities to support the wellbeing of te Taiao.	Ability to relate values-based decision-making for land use options (at multiple scales) to policy requirements and potential benefits/impacts for te Taiao.	Developing a holistic understanding of land use opportunities. Matching this understanding to changes in the health of whenua and wai. Visualising and informing options for change in on-farm decision-making.	To test land use options in farm- and catchment-scale scenarios, in ways that facilitate holistic decision-making. To meet short and long-term policy requirements, at farm (e.g. FEP) and catchment scale.	\$12.7m (aligned research = \$11.8m)
Understand and model the management of healthy land and water.	Cross-sector, nationally applicable data that is transferrable across scales. A nationally consistent design for monitoring water health to detect change. The ability to transfer inputs and outputs between different land and water resource management models.	National maps and classifications relating to N, P, E coli and sediment delivery from source to sink. Translation of mana whenua assessments of water health into regional land use decision-making. Fine scale environmental monitoring networks that quickly and accurately reflect land use and practice change. Interoperable modelling to track N, P, E coli and sediment movement at all scales.	To test land use scenarios, make plans for investment, and meet NPS-FM and Carbon Zero requirements. To get a holistic picture of ecosystem health and see where land use practices will benefit water health. To use the best available models to understand and model the management of land and water.	\$8.5m (aligned research = \$86m)
Identify high-value land use options that support the health of te Taiao. (Crossover with Theme 2)	Where to grow high-value, healthy raw ingredients that fulfil identified market opportunities. How to grow these products in ways that benefit te Taiao.	Isolating and refining the areas able to grow the raw ingredients of healthy, high value land options. Determining the potential effects of healthy, high value land options on te Taiao.	To identify high-value land use options that have a lower footprint than present land use.	\$2m (aligned research = \$1.8m)

Research Workplan: Incentives for Change

Flagship Concept:

Identifying rewards, signals and approaches that motivate beneficial behaviours and reciprocal relationships in the agri-food and fibre system.

Theme Impact by 2024:

New incentive approaches and value chains are motivating people and organisations to make better decisions for te Taiao.

Theme Impact by 2030:

People and organisations in the agri-food and fibre system feel rewarded for prioritising the vitality of te Taiao.

Critical Element	Current gap/need	Research focus	How will land stewards use this research	OLW proposed investment
Understand market and non-market signals.	Prioritisation of market and non-market values, and how these influence behaviours across Māori-owned and non-Māori-owned land.	Cataloguing the intersection between domestic and international market signals for food and fibre producers; understanding the influence of international market signals.	To inform investment decisions and develop markets for high-value produce in the agri-food and fibre system.	\$0.5m (aligned research = \$4.1m)
Identify and co-create approaches to land management based on reciprocal (mutual) rewards that would motivate change by producers and consumers.	Understanding non-financial drivers for land steward and consumer behaviour. Building on successful models, based on reciprocal relationships, to create new approaches to improve te Taiao across value chains at scale.	Understanding reciprocity* and translation to a national context. Understanding barriers to change from the system around them, as signalled by incentives. Linking consumer decisions to land use decisions in support of te Taiao. Scaling approaches out to new locations and applications.	To see the value and have the confidence to participate in reciprocal reward schemes. To use consumer decision-making processes and incorporate them in land use decisions. To promote system reset by connecting with value chains that operate holistically.	\$8.0 (aligned research = \$1.3m)
Connect metrics of land management practices to rewards.	Indicators and models to assess the benefit of products to land and water within and across value chains.	Finding a common ground to measure land practices for the delivery of multiple benefits. Recording current land practices to measure improvement in te Taiao. Matching metrics of land practices to existing or new reward schemes to benefit landowners and communities.	To see how changing land use will be measured in a way that will be rewarded. To enable consumers to have the confidence to purchase products knowing they benefit te Taiao.	\$2.6m (aligned research = \$5.1m)

* 'Reciprocity' in this context relates to the responsibilities we have and actions we take because of our intergenerational relationship with te Taiao.

Research Workplan: Capacity for Transition

Flagship Concept:

Working with land stewards/ organisations in the agri-food and fibre system to design new options and pathways to achieve future landscapes.

Theme Impact by 2024:

New options and pathways to enhance te Taiao are being explored by land stewards and organisations in the agri-food and fibre system.

Theme Impact by 2030:

The agri-food & fibre system is reconfiguring to enable resilient, healthy and prosperous land uses that improve the vitality of te Taiao.

Critical Element	Current gap/need	Research focus	How will land stewards use this research	OLW proposed investment
Scaling out land-use options to enhance te Taiao, through demonstration in place-based research.	<p>Few examples to demonstrate cross food and fibre sector options.</p> <p>Insufficient resourcing of previous demonstrations of changes to cover all dimensions of te Taiao.</p> <p>Past examples have not used transformative methods for scaling change to other areas.</p>	<p>Place-based pilots (field, farm, catchment) showcasing integrated research to demonstrate the transition to new options that enhance te Taiao (Fig 2).</p> <p>Evidencing and communicating the progress of pilots to meet their objectives, and identifying the point at which interventions can be made if necessary (Fig 2).</p> <p>Evidencing and scaling the transition pathways for piloted land use options to others.</p>	To have confidence to implement change, knowing that policy makers, regulators, consumers, and market and investment support industries, all understand what needs to be done to transition.	<p>\$11.1m</p> <p>(aligned research = \$11.8m)</p>
System reset: Act on key leverage points in the agri-food and fibre system to chart a transition.	<p>Lack of an integrated understanding of barriers to transition to better land uses and practices.</p> <p>A prioritisation of where to act to accelerate the transition.</p> <p>Feasible solutions to critical barriers to transition.</p> <p>Lack of knowledge about new players in the agri-food system and their role in addressing barriers.</p>	<p>Identify barriers and where to act in the whole agri-food and fibre system, to best support te Taiao.</p> <p>Identify barriers and viable solutions to change (e.g. infrastructure, investment) and who can drive these solutions.</p> <p>Co-design and implement solutions through connections with relevant decision-makers and rural influencers.</p>	To have confidence that external barriers to transition are being addressed by policymakers, regulators, and market and investment support industries.	<p>\$1.5m</p> <p>(aligned research = \$0.8m)</p>

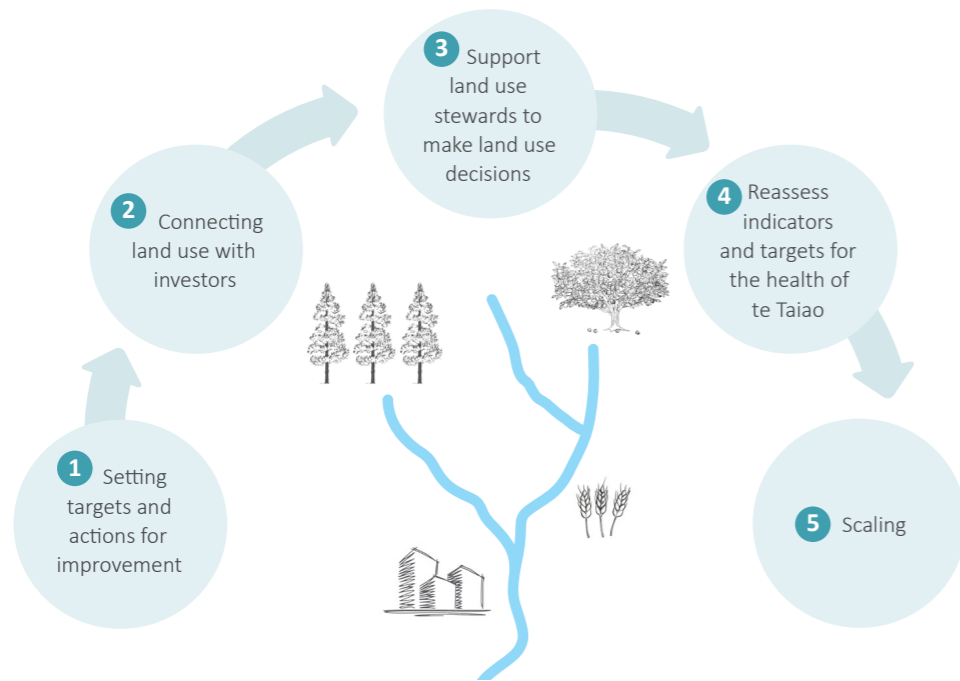


Figure 2 Conceptual diagram showing the integration of place-based field-farm-catchment research to scale out change. This involves steps such as **1)** Collaboration to inform the setting of future targets and what actions each stakeholder can take to indicate improvement in te Taiao; **2)** connecting those indicators with land use, markets and non-market signals; **3)** supporting land stewards to make change (e.g. via investment decisions, reward schemes, infrastructure etc); **4)** monitoring and reassessing progress towards those targets and the health of te Taiao and adjusting if necessary; and **5)** scaling out and up (e.g. sector behaviour) actions by stakeholders to other regions, nationally.

Research Integration and Collaboration

The integration of research and aligned initiatives within and outside the OLV Challenge is a powerful tool to accelerate progress to our 2024 and 2030 impact goals and ultimately our vision.

To support this integration and foster collective ownership and contribution to the outcomes we seek to achieve, OLV will bring together stakeholders and scientists across themes, and those leading aligned initiatives, on a regular basis to identify opportunities, discuss issues, and facilitate active collaboration and connection.

We will continue to scan all land and water research in Aotearoa every 2 years, while staying connected to leading international research. This will enable us to leverage new thinking, refine our research investment, and to effectively target gaps and opportunities. We will do this in a way that demonstrates our commitment to te ao Māori and stakeholder co-design, backed by research excellence and a strong impact focus for the benefit of Aotearoa.