

OUR LAND
AND WATER

Toitū te Whenua,
Toiora te Wai

Wai Ora, Whenua Ora, Tangata Ora

Healthy Water, Healthy Land, Healthy People

STRATEGY SUMMARY

Our Land and Water National Science Challenge 2019–2024
Read the full strategy: ourlandandwater.nz/strategy



Our Mission

To preserve the most fundamental treasures of our country – its land, water and associated ecosystems – while producing value from those same treasures.

Photo by Darryl Ward

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Who we are and what we do

Our Land and Water is one of 11 National Science Challenges that focus on defined issues of national importance.

The National Science Challenges were designed to take a more strategic approach to the Government's science investment by targeting goals that, if achieved, will have major and enduring benefits for New Zealand.



What are we doing?

We're tackling the biggest science-based issues and opportunities facing our country in the area of primary production, and the complex relationship it has with our precious land and water resources.



Our objective

To enhance the production and productivity of New Zealand's primary sector, while maintaining and improving the quality of the country's land and water for future generations.



Te ao Māori

The Māori world view (te ao Māori) is at the heart of our Challenge – acknowledging the interconnectedness and interrelationship of all living and non-living things.

The principles of kaitiakitanga (guardianship of the land) are central to our research. We have an intergenerational duty to restore and increase the mauri (life force, vitality) of our land and water, and to nurture the reciprocal relationship between tangata (people) and the whenua (land).

We believe that combining mātauranga Māori and Western science will result in a new wave of applied science that is distinctly designed for Aotearoa.

Looking ahead

Research priorities for 2019–2024

Until 2024, our research will focus on three interconnected research themes that contain nine strategic areas – illustrated on the following pages.

Across all programmes, we will continually improve and implement best practices and processes with our Māori partnerships – bringing together Māori thought-leaders, researchers and co-innovators.

Achieving our objective – to enhance primary sector production and productivity while maintaining and improving our land and water quality for future generations – will depend on our commitment to a world view that recognises:

The intrinsic values of land and water.

The interconnectedness of all living things.

Our collective responsibilities for environment and community.



Photo by Dave Allen, NIWA

Our strategic areas



FUTURE LANDSCAPES

In the future, landscapes contain mosaics of land use that are more resilient, healthy and prosperous than today.

Strategic Area 1

Be able to see what diversity is possible and match land use to what it is suitable for.

Strategic Area 2

Understand and model the management of land and water quality.

Strategic Area 3

Provide the novel production systems that use healthy land and water to generate high-value products.



INCENTIVES FOR CHANGE

New Zealand's primary producers are well-rewarded for producing high-value products in sustainable ways.

Strategic Area 4

Capture and share with the producers more of the value consumers associate with our products.

Strategic Area 5

Increase and share value based on mechanisms that rewards sustainable land use and high-value products.

Strategic Area 6

Enable communities to identify and adopt sustainable land use practices.



CAPACITY FOR TRANSITION

We understand what it will take, and have the tools to help us, transition to resilient, healthy and prosperous futures.

Strategic Area 7

Increase our social capital so that we can have well informed debate about alternative futures.

Strategic Area 8

Act as kaitiaki, being responsible for our actions within enterprises, in a catchment and beyond.

Strategic Area 9

Manage pressures and remove the barriers to a transition.



FUTURE LANDSCAPES





Aim

In the future, landscapes contain mosaics of land use that are more resilient, healthy and prosperous than today.

Outcomes

- 1** We will have determined if a diverse mosaic of land uses can deliver better economic, environmental, social and cultural results than the current mix of land uses.
- 2** Individuals and communities have the understanding and tools they need to achieve good land and water quality.
- 3** New Zealand farmers produce a diversity of food and non-food products that are valued by them, and their community and consumers.



INCENTIVES FOR CHANGE





Aim

New Zealand's primary producers are well-rewarded for producing high-value products in sustainable ways.

Outcomes

- 4 Across all sectors, New Zealand is producing high-value products that capture and share more value from consumers to producers.
- 5 Agribusiness plays a key role in improving New Zealand's social, cultural and environmental footprint.
- 6 Sustainable practices are the norm in primary production.



CAPACITY FOR TRANSITION





Photo by Tourism Naew Zealand

Aim

We understand what it will take, and have the tools to help us, transition to resilient, healthy and prosperous futures.

Outcomes

- 7** An increased number of urban and rural people understand how land and water issues can be addressed.
- 8** There is more evidence of kaitiakitanga leading to improved outcomes.
- 9** New Zealand primary enterprises are able to manage pressures collectively and better than their international competitors.

Key Performance Indicators

The performance of our whenua and quality of our awa is improving in response to land-use choices and management decisions

Compared to 2019/20, catchments where Our Land and Water is focusing work will show:

An increase in the area of land-use change or the use of different land use practices by stakeholders using Our Land and Water tools or concepts.

Increasing biennial trends of better performing whenua and quality of awa linked to stakeholder decisions informed by Our Land and Water tools.

More value is shared with producers whose land and water reflect environmental, social or cultural performance

Compared to 2019/20:

Every two years, a new Our Land and Water-informed value chain is identified as distributing more value from consumers to producers.

Every two years, there are more agribusinesses incorporating metrics that reward land-use practices that increase environmental, social, cultural and economic well-being.

The time to peak adoption has been halved

Compared to a 2019/20 baseline that sets the New Zealand average:

The time to peak adoption of innovative practices among Our Land and Water partners is reducing (to a goal of halving by 2030).

There is an increasing trend in the social licence to operate of innovative practices by Our Land and Water stakeholders.

Co-innovation delivers more relevant, robust, and enduring impacts from science than the current approach

From a 2017 baseline we will maintain or improve:

Co-design: at least 40% of the team as participants in co-design or advice, thereby maintaining relevance.

Co-development: at least 25% co-funding either as cash or in-kind resourcing, thereby showing that stakeholders wish to invest in the research as it develops.

Co-production: at least 40% of all publications to be co-authored by stakeholders, showing that outputs are robust and that stakeholders are able to reflect on and extend the research to others – thereby improving literacy and capability.

Maintain an advantage in mean impact as assessed in the Research Landscape Map over the average for aligned New Zealand research.

The ultimate challenge

Our Land and Water aims to preserve the most fundamental treasures of our country – our land, water and associated ecosystems – while producing value from those same treasures.

As a challenge, this is the ultimate.

Every New Zealander, both alive today and yet to come, has a stake in the outcome.

Our vision for the future

Catchments contain mosaics of land uses that are more resilient, healthy and prosperous than they are today.

All New Zealanders can be proud of the state of our land and water and share economic, environmental, social and cultural value from them.

How do we reach this future?

By finding new, fundamentally different ways of thinking and interacting with land and water.

Building clear transition pathways to impact.

By making changes quickly – starting now.

Through industry and community collaboration – working together for change.

The *right enterprises*
in the *right places*
for the *right outcomes*



Top: Photo by Paul Sutherland Photography
Bottom: Photo by Kieren Scott



Photo by Paul Sutherland Photography

National-scale issues that command our attention

The reality

The state of many of Aotearoa's soils and freshwater bodies is poor.

We're producing more food and fibre than ever before – but we capture and share only a small fraction of what our high-quality produce is sold for overseas.

Environmental impacts such as climate change are already modifying our catchments.

Land uses must adjust to keep producers resilient and market focused.

Transformative solutions are required – and quickly – so that current and future generations can prosper.

This is the economic and political context for Our Land and Water's 2019–2024 research strategy.

What makes us different?

Our Land and Water, like all National Science Challenges, takes a different approach to science and research by fostering co-innovation from a diverse range of organisations and stakeholders.





Our Land and Water is...

A hub of research activity.

Growing co-innovation, enabling researchers and stakeholders to work together to generate better, faster, and more robust impacts.

Using our convening power to partner with Māori and industry leaders to:

Stimulate ideas.

Identify alignment.

Leverage opportunities.

Function as capability-building brokers.

Catalysing and co-ordinating transdisciplinary, mission-led programmes.

Beyond science as usual

Achieving the Our Land and Water mission will require fundamental shifts in attitudes and behaviours on a national scale. The science required to underpin these changes needs to be *transformational* in scope and *additional* in its achievements.

For Our Land and Water, as a National Science Challenge, ***success beyond our KPIs looks like:***

A larger pool of diverse land and water scientists, especially Māori, who have the knowledge, networks, transdisciplinary and collaborative skills to contribute to the Challenge objective.

A coordinated, agile and effective response to national priorities by Challenge Parties, anticipating future needs and taking action in advance.

Both Challenge and aligned science is used nationally.

Evidence of stakeholders adopting and trialling new practices, and greater collaboration across sectors.

More transdisciplinary and stakeholder involvement in publications from Challenge Parties, resulting in uptake as signalled by end-user surveys.

An informed public debate and greater unity of purpose across urban and rural communities, government, industry and NGOs that results in accelerated progress towards the Challenge objective.



Our strategy

We have taken a collaborative approach to evaluating and refocusing our strategy – this diagram illustrates our engagement and consultation approach.

Our collaborative approach

Since October 2017, more than 350 researchers and industry stakeholders have been consulted face-to-face about the future of the Challenge.

Key issues our strategy addresses

Building enduring partnerships with Māori.

Maintaining and improving land and water quality.

Achieving better environmental outcomes by increasing and sharing value.

Identifying transition pathways to make change happen faster.



Photo by Chris Williams

How we will work to deliver impact

Delivery will be achieved by:

Designing a research portfolio to deliver **transformational science**.

Co-innovation to ensure that science is relevant to stakeholders and therefore used faster.

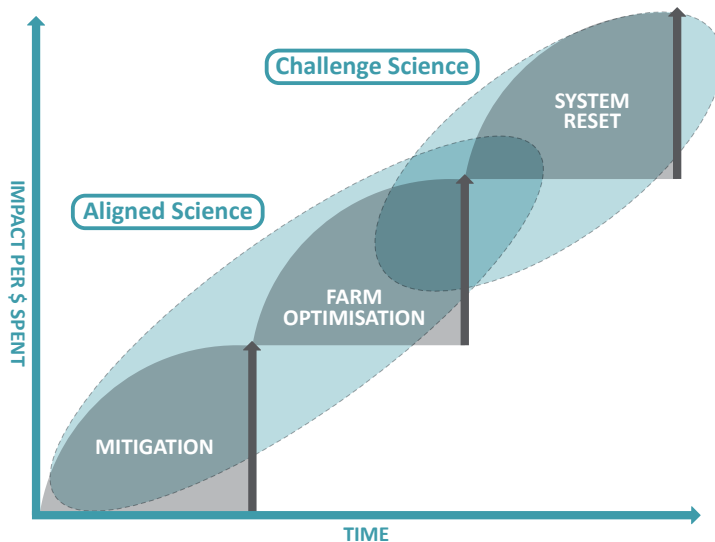
Implementation pathways that are enhanced by the right teams through stakeholder interactions.

Targeting stakeholders who have the willingness and resources or power to act.

Embedding a **te ao Māori** world view in the Challenge science and operations as central to achieving our objective.

Achieving impact means thinking differently

This diagram illustrates how achieving impact requires us to think differently. For example, in tackling improvements in water quality at a catchment scale, mitigation measures in existing systems get us some way. Optimising where measures are placed may get us a bit further, but our goals for water quality may require a systems reset, which equals the right enterprise in the right location.



Alignment by Challenge Parties

Alignment among research providers can be a powerful tool to fill gaps and accelerate research in strategic areas. By focusing the research funded by others, we're able to leverage greater impact in areas that are important to the Our Land and Water Challenge mission.

Every two years, we undertake a rigorous formal alignment process with our Challenge Parties to maximise resources and adapt to different investment timings.

Identified aligned research:

Will significantly advance the impact of the Challenge.

Is based on the principle of mutual benefit.

Our Key Collaborators

The Our Land and Water Challenge has formal collaborative relationships with 16 key parties. We are hosted by AgResearch and supported by the Ministry of Business, Innovation and Employment.



*Read the full Strategy for the Our Land and Water National Science Challenge 2019–2024:
ourlandandwater.nz/strategy (PDF, 1.36 MB)*

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