

CURRENT AND FUTURE CHALLENGES

IN LAND AND WATER SCIENCE

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The Our Land and Water National Science Challenge has been underway for 2.5 years. It is time to review what has been achieved and how we can drive towards a mission that sees our land and water resources and productive sectors improving. The Challenge has taken a strategic approach and focused on: 1) value chains that distribute to producers more of the value consumers pay for primary products, 2) use those value chains to reward sustainable practice that are better suited to what the land can produce and water can sustain, and 3) determine if collaborative practice can yield better, faster, more robust results than adversarial processes. Our data shows that certain 'sustainable' attributes do extract a premium, but that these attributes are somewhat bespoke to different markets and their understanding of NZ production systems. The value extracted could be used to drive sustainable practice, but schemes and the quality of the evidence that they are sustainable or rewarding producers, is nascent. We now have a better understanding of how farms sit within catchment systems, for example, c. 30-80% of nitrate produced can be removed via denitrification. We can use this knowledge in a system we have developed called – land use suitability to improve land and water resources and produce more. Finally, we also know that early evidence suggest that collaborative processes are no quicker, but those involved do have a greater sense of trust than adversarial processes.

The Challenge finishes in 2024. However, the current time taken for an idea to reach peak adoption is around 16.5 years. Science can play a key role in reducing this time and achieving our mission, but to do so the Challenge is testing a new way of working – co-innovation. Early metrics are encouraging, for example, collaboration inside the challenge is twice that in science programmes outside of the challenge. This new way of working has been combined with a subtle change in the Challenge towards focusing on future landscape according to land use suitability, incentivising change and testing our capacity for transition captured in a hypothesis which states that: when the incentives and pathways are compelling, the future contains the right enterprises, in the right place to deliver the right outcomes.

Editor's Note: An extended manuscript has not been submitted for this presentation.