



# Vive la résistance – managing wilding conifer re-invasion

Wilding conifers are a serious economic and environmental problem. Existing populations of wildings are being treated but cleared land is being re-invaded. For the National Wilding Conifer Control Programme (NWCCP) to be successful effective strategies to create long-term resistance to re-invasion on treated land are essential.



## Context

Wilding conifers are a serious economic and environmental problem that affect an estimated 1.5 million hectares of New Zealand with large areas of both productive and iconic conservation land threatened by invasion over the next 30 years. In response, the Government established a National Wilding Conifer Control Programme (NWCCP) in 2016 to deal with this growing problem.

Existing populations of wildings are being treated, but cleared land is likely to be re-invaded due to incomplete initial control, soil legacy effects, seed banks and other causes. For the NWCCP to be successful effective strategies to create long term resistance to re-invasion on treated land are essential. This five-year (2021-2026) MBIE Endeavour Funded research programme: *Vive la résistance (VLR) – achieving long-term success in managing wilding conifer invasions*, has the ambitious goal of stopping wilding re-invasion!

## Aims

Re-invasion processes differ significantly from those of initial invasion and a critical international knowledge gap exists on which major factors interact to drive conifer re-invasion. Building on the previous MBIE Endeavour Programme Winning against Wildings (2016-2021), *Vive la résistance* aims to disentangle the multiple drivers of re-invasion to overcome this gap and address the devastating problem of wilding conifer re-invasion.

Led by Thomas Paul (Scion, Senior Scientist) and encompassing a wide range of internationally recognised invasion ecologists, the VLR programme will;

- Quantify wilding re-invasion.
- Understand the multiple factors, and their interactions, driving re-invasion.
- Build ecosystem resistance to prevent re-invasion and improve management strategies to minimise re-invasion.
- Co-develop practices with Ngāti Rangitihī to prevent wilding re-invasion on Mt Tarawera and integrate these practices with outcomes from the other research areas.

## Outcomes and benefits

This programme aims to transform current wilding-management practices by breaking an otherwise inevitable cycle of treatment→re-invasion→re-treatment.

Benefits include securing gains in eradication made from the current >\$100M investment in wilding control by avoiding multiple re-treatments and reducing treatment costs.

Another key outcome is increasing the participation of Iwi/Māori in the management of wilding re-invasions and restoring Māoritanga and landscape aesthetics.

## Who is doing the mahi?

This interdisciplinary programme connects New Zealand specialists from Scion, Manaaki Whenua, Lincoln and Canterbury Universities. International collaborators from Australia National University, and USA's Forest Service and National Center for Atmospheric Research bring expertise and tools to New Zealand and extends domestic science capability. The programme includes scientific expertise in invasion ecology, population dynamics, soil mycorrhizal ecology, atmospheric turbulence, control and remote sensing with local capability and Mātauranga on re-invasion management provided by our collaboration with Ngāti Rangitihī.

The programme works closely with the NWCCP and the Wilding Pine Network (WPN) and their well established implementation processes to translate new knowledge into national- scale operational recommendations. We will also work to support a community of leaders who can elevate the role of iwi in wilding management and increase their involvement in the war on wildings across NZ.



## Contact information

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## About Scion

Scion is the Crown research institute that specialises in research, science and technology development for forestry, wood and wood-derived materials, and other biomaterial sectors.

Scion's purpose is to create economic value across the entire forestry value chain, and contribute to beneficial environmental and social outcomes for New Zealand.

