

Pest eradication success stories from subantarctic New Zealand

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Campbell Island and megaherbs. Credit: twiddleblat, CC BY-SA 2.0 , via Wikimedia Commons

Research into the complex task of ridding Auckland Island of mammalian pests, as part of the Predator Free 2050 program, is the focus of a *New Zealand Journal of Ecology* special issue published today, November 28.

The 19-paper issue on the restoration of New Zealand subantarctic islands also documents previously unpublished research and history of the successful eradication of six introduced [mammal species](#) from five subantarctic islands (Campbell, Antipodes, Auckland, Enderby, and Rose) achieved since 1984, and the ecological recovery that has followed.

Professor James Russell, of the University of Auckland and editor of the special issue, says the results reported together represent a major leap forward in our knowledge on managing multiple pest species across very large landscapes.

"This is critical for programs such as New Zealand's Predator Free 2050, but also for other island eradications around the world targeting diverse pests such as pigs, [feral cats](#) and mice," says Professor Russell.

Nine papers detail recent research led by the Department of Conservation and Ngāi Tahu into the feasibility of eradicating introduced pests from Auckland Island—New Zealand's only subantarctic island where pests remain.

DOC National Eradication Manager Stephen Horn, who led the Auckland Island research, says the special issue is an important milestone.

"This wraps up our four-year investigation into the feasibility of removing pigs, mice and feral cats from Auckland Island and allows what we learnt to be shared with others planning similar projects, or

other predator free projects throughout New Zealand.

"An in-depth feasibility study was needed as this would be the largest and most complex multi-species island eradication attempted to date.

"The team undertook large-scale field trials on the [remote island](#) to test adapted methods and emerging technologies, such as thermal cameras to detect pigs, camera traps to detect cats, prototype cat baits, and a reduced bait sowing rate for mice," says Stephen Horn.

While DOC is not currently positioned to start the Auckland Island project (estimated to take about eight years and cost \$79 million), the critical groundwork has been done, and the findings are available for projects like Predator Free Rakiura and eradications on mainland New Zealand.

A paper charting the removal of mice from Antipodes Island in 2016 (the last subantarctic island eradication), describes the recovery of endemic birdlife on the island. Previously, high numbers of mice had a huge impact on insects and plants and competed with birds for food.

Surveys conducted over six years after mice were gone showed the numbers of Antipodes Island snipe and pipit and Antipodes and Reischek's parakeets rebounding, with pipit and snipe populations more than doubling.

Stephen Horn says the results from Antipodes and other subantarctic island eradications show that the chronic damage to ecosystems can be effectively reversed once they become predator free, allowing biodiversity to thrive.

"Eradication of invasive pests from islands is a key part of New Zealand's Predator Free 2050 Strategy and removing pests from

Auckland Island to complete a [pest](#)-free New Zealand Subantarctic remains a priority."

The Maukahuka Pest Free Auckland Island project was put on hold in April 2020 due to the impacts of COVID-19 on potential funding streams.

More information: *New Zealand Journal of Ecology* special issue: newzealandecology.org/nzje/j46_3

Provided by Department of Conservation

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