

Exotic invaders dominating native species

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Until relatively recently, New Zealand ecosystems were dominated by native plants, but a study by Associate Professor Kevin Burns has shown that the balance has now tipped in favour of exotic species.

Dr Burns, from Victoria's School of Biological Sciences, has published his findings in the prestigious scientific journal *The American Naturalist*.

Over an eight year period, Dr Burns examined the [plant species](#) present on an archipelago of small islands off the south coast of Wellington, which dot the sea from the airport to Ōwhiro Bay. Basing his study on the theory of island biogeography (an influential conservation model developed in 1967 by American biologists Edward O. Wilson and Robert MacArthur), Dr Burns devised a modified version which better reflects the increasing rate that exotic plants are invading, and takes into account the differences between exotic and native species.

Over the course of his research, he found that the cumulative numbers of exotic plants making their home in New Zealand is increasing quickly.

"The beaches of New Zealand are being absolutely overrun by a massive wave of invasions," he says.

"In 2005 there were only nine species of exotic weeds present on the islands in my study, and 14 native ones. But by the time the project ended eight years later the total number of exotics (taking into account the ones that had immigrated then died out within that timeframe) had doubled, while there was only a small increase in the number of [native species](#)."

Dr Burns says while foreign species have been making their way to New Zealand via wind currents for millennia, the presence of people has accelerated the rate at which new species are being brought in, and where those species are arriving from.

"It's like a tsunami of exotic invaders," he explains. "We're at the point in time where we've shifted from being native-dominant to exotic-dominant. My modified model predicts that the exotics will eventually take over. It's the new norm."

Provided by Victoria University

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