

New Zealand's ambitious plan to save birds: Kill every rat

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In this March 22, 2017 photo, two shag chicks sit on a nest with their mother at Zealandia in Wellington, New Zealand. People across New Zealand are embracing an environmental goal so ambitious it's been compared to putting a man on the moon: ridding the entire nation of every last rat, opossum and stoat. The idea is to give a second chance to the unusual birds that ruled this South Pacific nation before humans arrived 800 years ago. AP

WELLINGTON, New Zealand — New Zealand has set itself an environmental goal so ambitious it's been compared to putting a man on the moon: ridding the entire nation of every last rat, opossum and stoat.

The idea is to give a second chance to the distinctive birds that once ruled this South Pacific nation. When New Zealand split away from the supercontinent Gondwanaland 85 million years ago, predatory mammals hadn't evolved. That allowed birds to thrive. Some gave up **flight** altogether to strut about the forest floor.

Then humans arrived, bringing predators with them. Rats stowed away on ships. Settlers introduced opossums for the fur **trade** and weasel-like stoats to control rabbits. The pests destroyed forest habitats and feasted on the birds and their eggs. More than 40 species of birds died out and many others remain threatened, including the iconic kiwi.

Now people want to turn back the clock. Yet the plan sounds impossible. How do you kill millions of vermin across a country that's the size of the United Kingdom? How do you ensure a few furtive rats won't undo all the hard work by surviving and breeding?

Scientists are talking about the mission in military terms: choking off pests on peninsulas and then advancing the front lines from there; developing new traps and genetic weapons; winning the hearts and minds of **children** and farmers alike.

Momentum began growing five years ago when the nation's leading scientist, Sir Paul Callaghan, delivered an impassioned speech. When it comes to heritage, he said, **England** has its Stonehenge, China its Great Wall, France its Lascaux cave paintings. What makes New Zealand unique, he asked? Its birds.

Callaghan was suffering from advanced cancer and could barely stand. But for over an hour he outlined his predator-free vision, saying how growing up he was inspired by efforts to reach the moon and how **saving** the birds could become New Zealand's own Apollo program. He died a month later, but the vision grew.

Nine months ago, it became official government policy. Then-Prime Minister John Key announced a goal to wipe out the nuisance animals by 2050, calling it the "most ambitious conservation project attempted anywhere in the world."

The goal has been embraced by many, although even its strongest supporters say it will require scientific breakthroughs. Some critics argue the plan should also have targeted feral cats or worry mice numbers might explode if rats disappear. Others say the effort is underfunded and overly ambitious.

"It's a fantasy science fiction," says Wayne Linklater, a wildlife biologist at the Victoria University of Wellington. "And it really is seriously distracting us from some really big changes and improvements we can make in biodiversity and the environment now."

The number of pests in **New Zealand** is many times larger than the human population of nearly 5 million. Opossum numbers in 2009 were estimated at 30 million. Scientists can't hazard a guess at how many rats there are because their numbers fluctuate wildly.

So far, the government has committed only a few tens of millions of dollars toward the project, which is estimated to **cost** billions. Officials say more money will come from local authorities and philanthropists.

Many aren't waiting for that. Along a **popular** forest trail a 10-minute drive from the bustle of central Wellington, Jonathan Moulds takes breaks from his run to clamber up banks and check rat traps.

He's one of 50 volunteer trappers who incorporate pest control into their regular workouts at the Polhill Reserve. Many became inspired three years ago after rare native birds that disappeared from the region a century ago began breeding there again.

Paul Ward, who leads the volunteer group, lists ways that birds have seeped into the culture, from the country's music awards that are named after the boisterous tui to the nickname for a New Zealander: kiwi.

"It's about looking after our identity as much as it is looking after the birds," he says.

James Russell, a scientist at the University of Auckland, has great hopes for the eradication plan. And he knows exactly how hard it can be to catch a single rat. During his doctoral research 15 years ago, Russell released monitored rats on small islands to see if they would take over.

The first rat he released, named Razza, evaded recapture for 18 weeks. It even swam to another island. The story inspired a local author to write a children's book in which Razza defiantly repeats the line, "Can't catch me."

But Russell, heartened by the progress since then, says New Zealand leads the world in clearing vermin. Rangers have wiped out pests from more than 100 small islands, which are providing a breeding ground for rare birds. Yet making the much larger main islands pest-free remains an enormous leap.

Russell is helping lead an effort to find scientific breakthroughs, such as changing pest genes to make them die out, using biosensors to target individual pests over vast areas, and using powerful new lures that rely on the scent of sex rather than food.

The Goodnature company in Wellington is coming up with its own innovations. It has developed traps that use pressurized carbon dioxide to reset themselves. Left alone, one trap can kill 24 rats over six months.

Robbie van Dam, a company founder, says that cuts down on the expense of employing trappers, which is particularly useful in remote areas. Van Dam says the company is now investigating the use of drones to help place traps.

Other pest control methods have proved contentious, including use of the poison 1080, sodium fluoroacetate. Hunters say the toxin sometimes kills their dogs, and animal advocacy groups say it's inhumane.

Conservation Minister Maggie Barry says a benefit of wiping out pests would be ending the use of such toxins. She says taxpayers stand to save tens of millions of dollars a year that's spent on pest control.

Barry looks about the Zealandia sanctuary in Wellington, where raucous kaka parrots and fidgety saddlebacks are among the rare birds protected from predators by a specially designed fence that stretches for miles. She says she hopes one day the whole country will look, and sound, as idyllic.

"The momentum has been fantastic," Barry says. "Street by street, town by town, city by city, we will join forces and achieve this thing."