

# Trouble in paradise: Lord Howe Island divided over plan to exterminate rats

Rodents are threatening the unique natural environment of Australia's sparsely populated Lord Howe Island. But a plan to eradicate the pests by dropping 42 tonnes of poisoned cereal is splitting the close-knit community in half

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Described by the UN as “an area of spectacular and scenic landscapes”, Lord Howe Island is nothing if not dramatic. Formed from an inferno of underwater volcanoes more than six million years ago, the 10km long crescent-shaped island sits in a bath of turquoise water, exactly where the warm East Australian Current meets the icy waters of the Antarctic Circumpolar Current.

Those ancient lava flows left a rugged landscape with steep cliffs, which drop off into an ocean which supports the world's most southerly coral reef. Between those cliffs and the reef lies a calm blue lagoon that laps against a yellow-sand beach.

But now there's trouble in paradise.

Listed as a world heritage site, Lord Howe Island is home to hundreds of species of plants and animals found nowhere else in the world, along with 350 people who, isolated from Australia's mainland by 600km, form a close-knit community.

That little community is being torn apart. By rodents. Or rather, what to do about the rodents that are threatening that unique environment.

A plan drafted in 2009 to drop 42 tonnes of poisoned cereal on the island to eradicate its mice and rats has split the community in half.

Years of bitter dispute about whether to progress with the eradication led to a poll in May last year - referred to on the island as “the referendum” - in which 48% of respondents voted against pursuing government approval for the eradication. And the disagreement is fierce.

The journey to this split involves shipwrecks, the world's largest stick insect, the psychology of small islands and a touch of conspiracy. The scenario, still playing out on the island, reveals how conservation can be as much a social science as an ecological science.

Until about 1860, Lord Howe Island was free of mice and rats. Then, somehow or other, mice were introduced. They began to eat native insects and plants and compete for food with native birds. But their impact on the native plants and animals is not completely clear.

Then on 15 June, 1918, the SS Makambo, a steamship carrying fruit and vegetables, ran aground. It was repaired and refloated within 10 days, but not before black rats scurried off the ship and set up home on their new island paradise.

That was the beginning of the end for several unique animals. Over the coming years, the rats are thought to have caused the extinction of five species of bird and 13 invertebrates that aren't found anywhere else in the world.

Today rats continue to threaten 13 more birds and two species of reptiles.

But somewhat strangely, one uncharismatic creature has grabbed the limelight and focused international attention on the 14.55 sq km Australian island and its big rat problem.

The Lord Howe Island stick insect - also known as the Lord Howe Island phasmid or "tree lobster" - was presumed extinct. The largest stick insect in the world, it was a regular meal for hungry rats, and within two years of the invasion, sightings of the once common insect had ceased.

But in 2001, based on a hunch, a team of scientists scaled a foreboding rocky outcrop 23km south-west of the island called Ball's Pyramid, where it was unlikely rats had colonised. After scaling the mount and not seeing any of the phasmids, the scientists resigned themselves to heading home empty-handed.

On their descent they found droppings that seemed too large to be from any other insect and decided to return at night when the phasmids were known to be active. When they came back, they found a small colony of 24 living there.

After 81 years of "extinction", the phasmids were back.

Two years later, after a revival plan had been established, the team returned and took a breeding pair, named Adam and Eve, to Melbourne zoo.

"Now we're in our 12th generation from the original pair" says Rohan Cleave from Melbourne zoo, who manages the breeding program. "Last week we hatched our 13,000th baby nymph - that's the number that hatched since 2003, when we hatched our first ones.

"The early couple of weeks were really stressful. Not knowing anything about the species except one particular bush they might have eaten," Cleave says. "But we're here hatching them almost every day in 2016."

Now, bred back from the brink of extinction, the phasmids are being flown around the world. Last year they were flown to a zoo in Bristol and one in Toronto. And this year a group were flown to San Diego for breeding. Besides being a unique exhibit for those zoos, they act as insurance in case something happens to the collection at Melbourne zoo,

explains Cleave.

Although they're jet-setting around the world, they can't go home to Lord Howe Island yet, says Cleave. "That's always been the hope from the start of the program," he says.

There are some in enclosures on the island where the stick insects are breeding, but until the rats are gone, this strange, ancient creature cannot live free.

Not everyone is a fan of the phasmid.

"It infests houses and eats crops. It's a nuisance. It's ugly. Ugly and frightening," says Rob Rathgeber, a resident on the island who has been a vocal opponent of the rat eradication. Rathgeber is retired now but has a science degree and was a businessman.

Rathgeber doesn't want the phasmid back. Despite what the scientists say, he's not convinced the rats killed it in the first place. And he's deeply worried about the health impacts of a rat eradication program that spreads poison across the island. He's particularly concerned about the proposed use of aerial baiting where poisoned pellets are thrown from helicopters.

"This stuff is going to rain down on the island. It's going to come on to our rooftops. It's going to be in the soils," he says.

Despite assurances to the contrary, Rathgeber thinks it's likely people will be poisoned by the baits, that it could cause birth defects, that how to deal with poisoning isn't well understood and that it will kill many of the island's animals.

"We will be the first permanently populated island that will have this treatment. The very first. We'll be the guinea pigs," he says.

Rathgeber is so convinced of the danger and nonsense of the plan, he argues there must be a financial motivation behind it. "I think it's at a higher level of government."

All these claims are wrong, according to island authorities and others who have studied the science.

Penny Holloway is the CEO of the Lord Howe Island Board - the island's equivalent of a local government. She says residents' concerns are mostly misplaced. The risks to humans are negligible, she says, and the bait won't be dropped anywhere near houses. Most of the island is uninhabited, and using helicopters is the only feasible way of baiting the remote areas, she says.

According to Ian Hutton, a naturalist, photographer and tour operator from Lord Howe Island, the "no" voters seem to be motivated by a mix of suspicion of mainlanders, a distrust of government and a legitimate concern about the possible unintended consequences of the intense use of poisons required to wipe out vermin in one fell swoop.

"Some people in a small community resent authority," says Hutton. "People living on the

island have lived here for six generations and feel ownership of the island and maybe the scientists that initially came here weren't skilled with communicating to small communities."

But should the islanders be happy about 42 tonnes of poisoned cereal being dropped on the island from the sky?

It certainly sounds like a lot. But Hutton says actually, it's a way of lowering the amount of poison used in the medium and long term. The control program that currently keeps rat numbers down is putting poison into the environment continually.

In that 42 tonnes of bait in the proposed eradication program, there will actually be less than 1kg - 840g - of brodifacoum, a poison in common pesticides like Talon which is found in most supermarkets. According to the World Health Organisation's International Programme on Chemical Safety, the fatal dose for an adult is about 15mg of brodifacoum. That means a lethal dose would be achieved by eating about 2.5 litres of the poisoned cereal.

Holloway says if the eradication works, it will end the need for constant baiting. Poison is laid out in organised blitzes every 10 weeks and is distributed to residents to help with infestations on their properties. Almost two tonnes of bait is used each year in the control program, Holloway says.

What's more, although residents are asked not to use commercially available Talon to avoid breeding rats that are resistant to it, it is for sale in stores on the island and residents have been known to bring it over from the mainland too.

"Controlling rats means you have to use poison baits forever," she says. "With an eradication you have to make sure every single rodent on the island has access to a bait at a single point of time. That worries people. But once you've done that you don't need to use baits any more."

Far from "raining down on roofs", Holloway says no aerial baiting will occur within 150m of an occupied building without permission from the owner, and it would never occur within 30m of a building. In inhabited areas, bait will be placed in covered bait stations.

Rat eradication programs, including ones with aerial baiting, have occurred on several other islands in countries including New Zealand, the US and Seychelles, so she doesn't think Lord Howe is being treated like a guinea pig.

But the fact so many islanders have been persuaded by arguments against an eradication program indicates the scientists and governing board have a lot of work to do. Holloway says the board is now consulting intensely with the community, surveying every landholder to try to understand their concerns and more clearly explain the facts of the eradication program.

Meanwhile, scientists are continuing to investigate the very real risks of such an intense

baiting program. They've found the poison could kill some birds, and part of the plan is to catch almost the entire population of those species and keep them in cages for a few months.

And this month, trials are going ahead to make sure mice, which require a higher dose of the poison to be killed, won't perversely benefit from their ratty neighbours dying in higher numbers.

The 52% vote in favour of seeking planning and approvals means the program could begin as early as January 2017, pending approval under the federal Environmental Protection and Biodiversity Conservation Act, and from the Australian Veterinary and Pesticides Medicines Authority.

Meanwhile, Cleave says the jet-setting stick insects have arrived in San Diego and are enjoying their new home.

Looking towards the future, Hutton says most people are open-minded and since the referendum, many have shifted towards supporting the eradication.

Holloway says pending the various government approvals and further consultation, it is hoped the eradication will proceed in early 2017.

But divisions among the human inhabitants might be harder to eradicate. In May last year, the federal commissioner for threatened species, Gregory Andrews, travelled to Lord Howe and spoke with a group of islanders. "I feel sad for the Lord Howe Island community that the decision on how best to address a pest species problem is causing such division," he was reported as saying in the Lord Howe Island Signal, the local newspaper.

Speaking now with Guardian Australia, Andrews is more upbeat. "The islanders eradicated feral cats about 30 years ago and they've got rid of the donkeys and the goats. They're doing an exemplary job protecting a world heritage area," he says.

Andrews believes saving threatened species requires as much knowledge about humans as it does about the animals they are trying to save or eradicate.

"At a higher level, I think the ecological science was done, but not the social science. And what it taught me was that the journey of saving our wildlife is one we need to go on together. You can't barge through."

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