

# MANA

## Island of Hope and Glory

New Zealand conservationists are well on the way to achieving a world first with the mice eradication programme on Mana Island.

Melanie Hutton details progress.

Environment  
**Killer Cats**  
Furry pets decimate wildlife  
control them.



On New Zealand's Mana Island, some 15 million mice are devouring insects, birds and lizards. The mouse population soared three years ago after cattle were removed from the island and the supply of grass and seeds increased. Officials are spreading anticoagulant poisons everywhere to fight the plague.

In rural areas rabbits

July 1989, an estimate of 15 million mice on the island was reported. The Department of Conservation has been covering the island with poison bait to rid it of its huge mice population. Since August 1989 only one live mouse – a female which had not bred – has been discovered. Phil Todd and many others who took part in the eradication project are hoping it was the last of Mana's mice. Although conservationists and DoC will have to monitor the island for mice for another 12 months, it appears at this date that the programme has been a success. For New Zealand this could mean another achievement in our internationally acclaimed island restoration programme. While mice have been cleared from other New Zealand islands such as the 2 ha Whenuakura Island off the Coromandel coast, Mana's 217 ha presented the exterminators with a massive challenge. Eradication of mice on an island this size had never been tried in the world before.

**M**ANA ISLAND leapt into national and international prominence in August 1989 when *Time* magazine reported a biblical scale mice plague on the 217 hectare island just north of Wellington. Headline grabbing the estimate of 15 million mice might have been, but *Time's* figure was scaled down by the Department of Conservation to a still astonishing 5 million of this ubiquitous pest.

Of course, no-one had ever carried out a thorough rodent census. But Phil Todd, who has been on the island for more than two years, tells of going out on summer nights from the Mana island ranger station and seeing the back lawn and path covered with hundreds of mice.

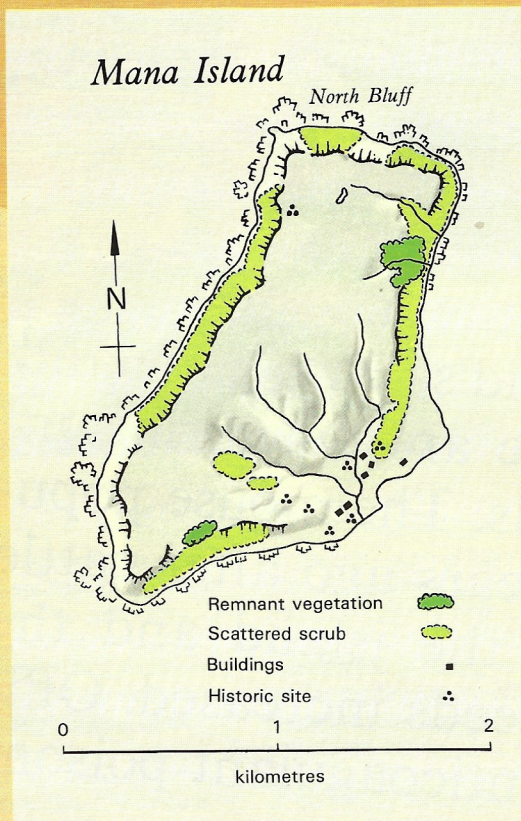
"They were attracted to the houses because of the food. During summer they were constantly in the ceilings and walls, spending a considerable time gnawing at the pinex and pink batts. If they got stuck in the hollows of the wall you could hear them for three days jumping up and down. When the poison was being laid, they gnawed through my ceiling into the cupboard in search for food," recalls Phil.

But now all that has changed. Over the last year Mana Island has been covered with poison bait to rid it of its huge mice population. Since August 1989 only one live mouse – a female which had not bred – has been discovered. Phil Todd and many others who took part in the eradication project are hoping it was the last of Mana's mice.

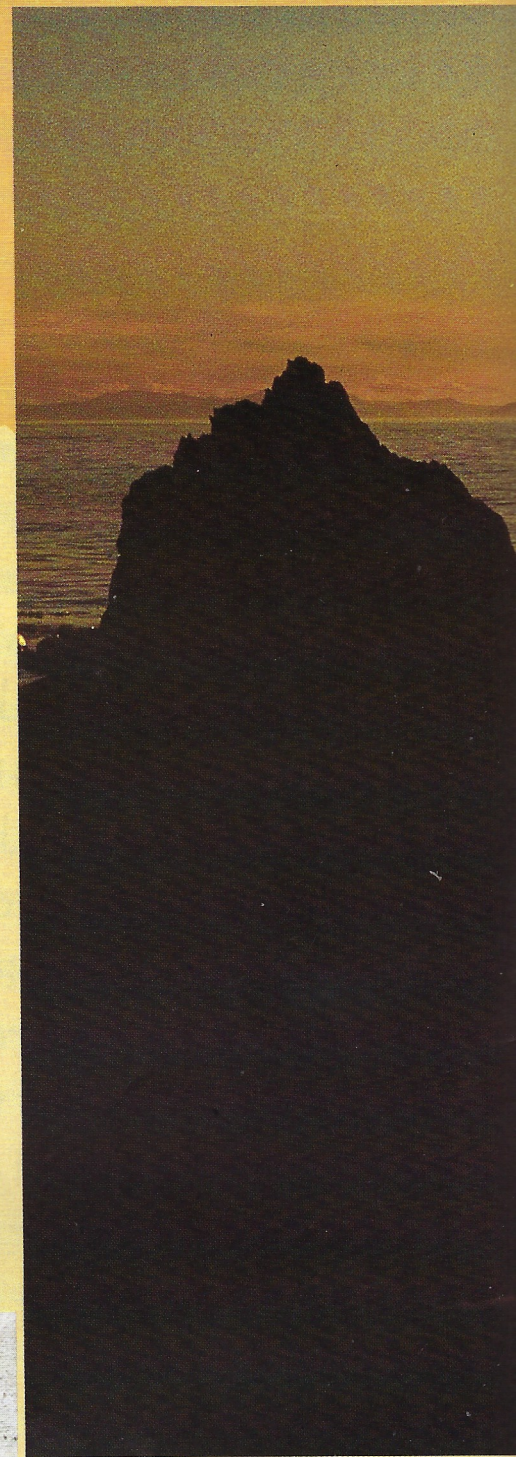
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Lying 2.5 km distant from the mainland, Mana has so far been spared the depredations of noxious pests such as stoats and rats. Considering its farming history, Mana appears to have avoided rats through sheer good fortune. Rats are accomplished stowaways and numerous boats have visited the islands over the years, posing the threat of accidental introductions. Boats still travel to the island bringing workers, volunteers and visitors, but nowadays every precaution is taken by those authorised to take passengers, such as laying poison on the boats and anchoring away from the soon-to-be-demolished jetty.





*Mana Island from the Wellington coast: the dream of a secure home for threatened species draws closer. Photo: Terry Fitzgibbon*



*Time magazine was not far wrong in its description of the extent of the Mana Island mice plague. A simple bucket trap laid one night a year ago by Mana Island field staff saw a catch of 204. Photo: Phil Todd*





## Mice vs Mana

Mana Island has been plagued by mice since they arrived with European farmers in 1834. After a long and chequered farming history which saw the virtual clearance of the original forest, the island then became an exotic sheep quarantine and breeding research station, and later a cattle research farm. Stock were removed from the island in May 1986. When the stock were removed the mice population exploded due to the increased food supply, especially of grass seed.

Action had to be taken swiftly to stop the burgeoning mice epidemic. Mice destroy the seed, fruit and seedlings of many native plants found on the island, inhibiting natural regeneration; they also clean out the poison bait set in case rats come ashore, compromising DoC's ability to keep the island rat-free; they eat bird and lizard eggs and about 75 percent of their diet is comprised of insects, which would otherwise be eaten by

birds. Several rare and endangered animals were threatened: the Cook Strait giant weta (*Deinacrida rugosa*), whose sole North Island refuge is Mana Island; McGregor's skink (*Cyclodina macgregori*) and the gold-striped gecko (*Hoplodactylus chrysosireticus*); and a number of seabirds which nest on Mana such as the little blue penguin and sooty shearwater. Finally, large concentrations of mice can cause disease.

Mouse eradication could also open the way for Mana to become an important island refuge for other threatened species such as the North Island saddleback or the takahe, provided the newcomers are compatible with resident animals.

## The Mouse Busters

Much of the credit for the Mana mice massacre goes to Colin Ryder, deputy chairman of Forest and Bird's Wellington branch. The spur to Colin was the February 1988 issue of *For-*

*est & Bird*, which contained an article about rat eradication in Fiordland's Breaksea Island. While the notion of clearing Mana of mice had been discussed for some years, it was not until Colin took it up as part of a proposal for a Conservation Corps programme that it got off the ground. The Corps scheme is a personal development/work scheme funded by the Government and launched in October 1988 to provide conservation work for school leavers and young adults.

In late October 1988 the idea was discussed among Forest and Bird's five Wellington branches (Kapiti, Mana, Lower and Upper Hutt and Wellington), then floated before the Department of Scientific and Industrial Research (DSIR). They were asked to give an estimate of the cost of the ambitious project. Two weeks later a Conservation Corps application for funding the Mana scheme and 12 other local conservation projects was presented to the Department of Labour by Forest





and Bird's Wellington regional branches.

Of the 150 project applications received nationwide, 19 were chosen, one being the Wellington proposal. With project co-ordinator Chris Ferkins at the helm, 15 keen young people were chosen for the 13 projects – among them weed control at McKays Crossing, on Somes Island and in Taupo Swamp as well as track work on Kapiti and Somes Islands.

However, the Mana Island mice eradication project was the largest and most important.

Through the Conservation Corps application a grant was received, part of which financed the whole of the mice eradication. To date \$57,000 in direct costs has been spent on the mice eradication project, considerably more than expected.

Once the Corps scheme was accepted, DoC's Don Merton was approached to devise the programme. Because it was an ambitious project never tried before on such a large scale, spacing and poison had to be tested for optimum kill. Most of the hard work was

done by the 15 members of the Wellington Conservation Corps, with volunteers helping on two days and four DoC people involved for a month.

Management of the Corps on Mana was handled by DoC Mana Island Manager Trevor Hook and his associate Phil Todd. These two put in many hours of hard work to see the project to a successful conclusion.

The final ammunition against the mice came in the form of a donation by Shell Chemicals of a tonne of "Storm" bait (an

## Mana Revegetation: Community Co-operation

The introduction of stock to Mana in 1834 had a severe impact on the island's plant life. When the last cattle were removed in May 1986, about 80 percent of the island was in short-cropped pastures with native coastal vegetation clinging to the cliffs and shore. Once the stock were removed, the mice population exploded, giving the native vegetation little chance to recover.

For the last three years there has been an enthusiastic revegetation programme occurring, supported by many individuals and organisations. Wellington Forest and Bird has financed the building of a shade house on Mana Island so that seedlings from plant stock growing in the local area could be raised on the island. The native plant seed stock has been gathered for the last four years by Tim Porteous of the QEII National Trust in his spare time.

He collects seeds from areas within 7 km of the island, with most of his collecting done from native plants in the Plimmerton area.

This is to ensure that only local genetic stock is used. The assistance of Gary Simpson of the Porirua City Parks Department has been invaluable to the project, with the seeds being germinated in Porirua City's nursery and then transported back to Mana Island. Once there, Trevor Hook and the Mana Forest and Bird branch work together on the planting programme.

For the Mana branch, the revegetation project on Mana Island has become a long term commitment with groups of 6 people going out 2-3 times in the summer to help repot and propagate. Work parties involving other Forest and Bird branches and community groups plant the seedlings out during autumn and

winter. Last year over 40,000 trees were planted in gullies around the homestead with a healthy strike rate of 80 percent. It is hoped that these plants will provide seed stock for natural regeneration.

Plant trials are now occurring on the slopes and former pastureland although it is hampered by the rank grass smothering seedlings, necessitating occasional release work. Flax, taupata, manuka, akeake, ngaio and kanuka are some of the species planted.

The vision inspiring these dedicated people is of a pest-free Mana Island springing back to life as native shrublands and ultimately forests return. One day, perhaps, an island which was once the playground of millions of mice will resound to the calls of some of New Zealand's precious endangered birds.



anti-coagulant); the remainder was supplied at low cost. At a cost of \$10,000 per tonne, and with 5 tonnes needed, this assistance was invaluable. The large oval pellets had a bitter additive making them unpalatable to insects and birds, but, curiously, not to mice. They were also dyed blue, a colour that does not attract birds.

## Programme Underway

Winter, when the mice were hungriest and numbers were at a relative low, was the optimum time for bait laying. The island was closed for four months while the eradication programme was carried out, in the following steps:

- April 1989: 5,500 bait stations laid. The bait stations consisted of plastic tubes with a tray inside for the poison. These were laid in a 25 metre-grid pattern over the island.
- July 26th 1989: In one day, all 5,500 bait stations were laid with bait, with the exercise repeated on 11 August. A one day operation was crucial to the programme's success as it meant that there was no area where the mice population could avoid the bait. About 60 volunteers from the Conservation Corps, Mana College, Ornithological Society, Mana Forest and Bird and DoC clambered over the whole island in the difficult and energy sapping task of baiting the stations.
- 15th August 1989: A further 2 tonnes of a different poison (Talon 50WB – ICI) was spread by a top dresser. This was an added precaution in case any of the mice were bait shy.

Since then the 5,500 bait stations have been regularly checked by Conservation Corps workers for any mice, with only one found since August – a one-year-old female which fortunately had not bred.

For the Conservation Corps, Mana Island looks like being a successful project. Although the Corps was sadly disbanded at the end of January because of a lack of funding, two of the members are now working



Mana College pupil Malcolm Priest was just one of scores of volunteers who helped in the Mana mice eradication programme. Here he places poison bait in one of the bait stations.

Photo: Chris Ferkins

fulltime on Mana for DoC monitoring the traplines and checking the bait stations.

Don Merton, of black robin and kakapo fame, is optimistic about Mana's future as an island sanctuary.

"If it is a success – and it will be a year to 18 months before we can get too jubilant –

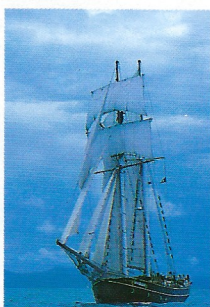
the programme offers one of the few options for rehabilitation of those native animals that are sensitive and have no future on the mainland. It's very exciting. It looked like degradation of our incredibly invaluable island resource was unstoppable, but now we have the ability to do something about it," he says.

The future for Mana as a sanctuary is looking good. As yet no plans have been made regarding the endangered native animals which might be relocated on the island. This will have to wait until the island is officially endorsed as being mouse-free.

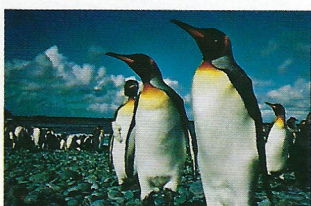
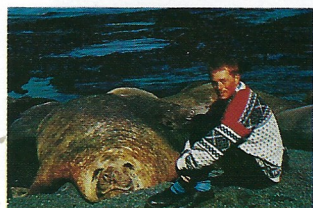
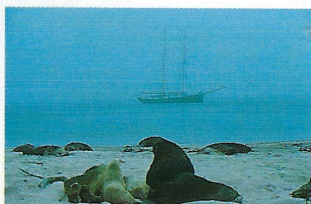
In the meantime, the tree planting continues and conservationists wait anxiously for the all clear on a new island sanctuary. ✈

Reference: NZ Journal of Ecology Vol. 10 1987 pg 57-68. Conservation Opportunities on a Highly Modified Island – Mana Island – Wellington, N.Z. S Timmins, I Atkinson, C Ogle.

Forest and Bird wishes to record its appreciation to the hardworking young New Zealanders who pitched in to help protect our unique wildlife. We wish them every success in the future. Many thanks to the following who were most closely involved with the project: Catherine Coles, Andrew Drumm, Peter Griffen, Bernard Kellett, Calum MacMillan, Keri Martell, Jonah Tu'uga.



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