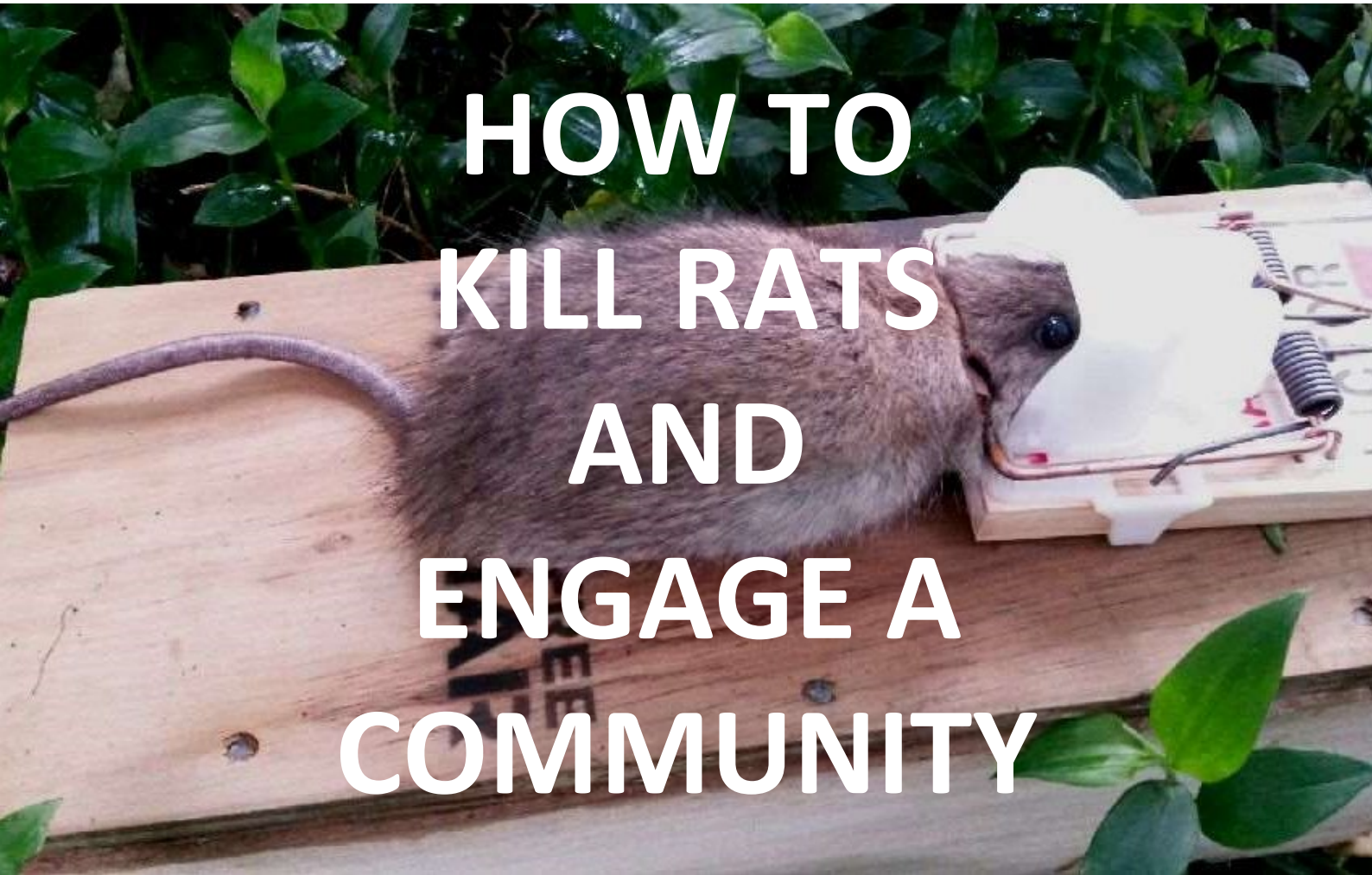




PREDATOR FREE MIRAMAR

**HOW TO
KILL RATS
AND
ENGAGE A
COMMUNITY**



INTRODUCTION

Predator Free Miramar is a volunteer community project, established in winter 2017 to rid Wellington's Miramar Peninsula of rats, stoats and weasels, and bring back the birds and the bush to the eastern suburbs. Over the last three years we've created a community of backyard trappers, by asking people to install a trap in their backyards, keep it baited, and report their catches. Simple.

The initial target was to have a rat trap in one out of every five backyards, effectively a trap every 50 metres, which is thought to be roughly the home range of a rat. There are about 7500 households on the peninsula, which means we needed 1500 backyard traps to meet the target.

As we approach Christmas 2019, we have 1448 traps out, and *Predator Free Wellington's* eradication operation is almost complete. As a community working together, in two and a half years, we've removed more than ten thousand rats, mice, hedgehogs and weasels from the Miramar landscape.

My hugely supportive wife Jess is able to access our deep freezer again, now that my stash of frozen 'sample' rats and weasels have been cleared, and the months of deferred maintenance in our *own* backyard might just get a look in, now that I don't have *quite* so many trapping missions to complete.

So what follows is a reflection on how we got here. Despite the title, this is not an instruction manual on how another group should proceed; what makes these projects so great is that there's no *one* way of doing it.

This is simply, to the best of my recollection, the story of what *we* did, recorded here in the hope that it might provide some help for other trapping groups starting out. Because we're all aiming for the same thing, and to quote Bruce Springsteen, nobody wins, unless everybody wins.

Dan Henry
November 2019



WHY PREDATOR FREE?

The reasons for people getting behind the project are varied. For many, it's about conservation. People like green space and feeling connected to nature, and Wellington has proudly celebrated the return of its birds in recent years, as the 'halo effect' of Zealandia has brought tūi and tīeke back from the brink.

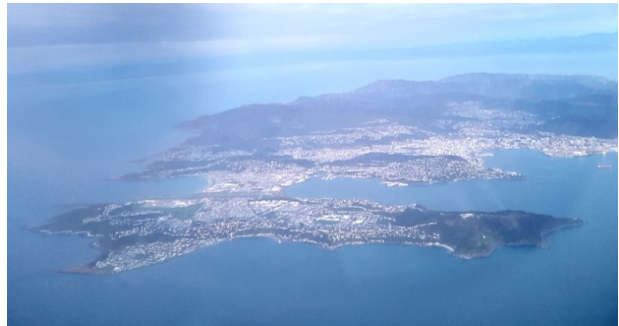
But rats are destructive to our homes and possessions as well as to our birds. Rodents chewing through electrical wires are believed to cause eight percent of house fires, and one family joined our project after having to replace their dishwasher, thanks to a rat chewing through the outlet hose, and causing a flood!

Having fewer rats is one simple measure of the success of the project, but perhaps even more important are the social side effects. This Predator Free movement is building communities. Folk working together for a common goal can't help but feel united and part of something. Conservation can be a starting point for a conversation, and a way to turn strangers into neighbours. An entire community, connected and rallying around a common goal? We reckon that's a good thing.

ISLAND ADVANTAGE

Before Scottish settler and landowner James Crawford named it Miramar in the mid-19th century, the peninsula was called Te Motu Kairangi by local Māori. Motu means island, kairangi can mean precious or plentiful, and the area was a source of abundant food for Māori.

Before earthquakes and reclamation created the Rongotai isthmus, Motu Kairangi was indeed an island, and this gives it a geographical advantage, when it comes to defending it from mammalian predators.



Miramar Peninsula has Wellington Airport as a predator barrier on its western edge.

CONSERVATION BACKGROUND

The 900 hectare motu at Wellington's harbour entrance has been possum-free since 2006, after an operation by *Greater Wellington Regional Council*.

Community groups have been predator trapping around Miramar since 2007, when *Forest and Bird: Places for Penguins* began building penguin nesting boxes and defending them with trap lines. Joakim Liman's conservation group *Te Motu Kairangi Miramar Ecological Restoration* soon followed, concentrating on trapping, weeding and planting in the larger reserves. And local conservationist Tim Pankhurst also established his own trap line above Mahanga Bay, near his home, after seeing a weasel in broad daylight one day.

I began trapping in Miramar around 2013. After running into Joakim Liman on the local walking trails in Centennial Reserve near our home in Miramar, I began managing a few traps there for *Te Motu Kairangi*. At a similar time, another friend, Paul Ward was growing the rosters at Polhill Reserve near Wellington's CBD, and I picked up a trap line there as a *Polhill Protector*.

But it was the announcement in July 2016 of the government's ambitious plan to make New Zealand Predator Free by 2050, which really spurred the creation of various Predator Free groups in communities around Wellington.

Kelvin Hastie's *Crofton Downs Predator Free* had already proved hugely successful, and nearby *Predator Free Brooklyn* had formed. Over the hill from us on Miramar Peninsula, *Predator Free Seatoun* launched in March 2017, and I saw the chance to take our possum-free advantage and decided to run with it before someone else got there first!

PREDATOR FREE MIRAMAR



Trap number one, built using recycled fence palings.

We began keeping records for *Predator Free Miramar* on June 1st 2017. This was a handful of early adopters, friends of friends with tunnels we'd built from old fence palings, and spare traps provided by *Wellington City Council* for the *Te Motu Kairangi* group.

Predator Free Wellington had also just formed around this time. A partnership between *Wellington City Council*, *Greater Wellington Regional Council* and *Next Foundation*, *Predator*

Free Wellington is an organisation set up to support the volunteer community groups, and ultimately to manage an ambitious eradication of rats, mustelids and possums throughout the capital city.

A coffee meeting was held for the heads of a handful of volunteer trapping groups around the city to introduce James Willcocks, the newly appointed Project Director of *Predator Free Wellington*. The news that Miramar had been identified as the logical starting point for a city-wide eradication strengthened our resolve to get our community group up and running.

During June and July 2017, we began to get ourselves organised and establish some systems. An email address was first. *Predator Free Miramar* at gmail dot com. Easy to remember. We set up a Facebook group, and designed a logo. Having no money at this stage, I created the logo with less-than-basic Photoshop skills, adapting a photo of a local Raukawa gecko into a silhouette, set against the outline of our motu. And knowing we'd soon need funds, I wrote a proposal that we could use to try and gain support from local businesses.

Our model was simple: get traps, give them away and encourage people to report their catches to us. We were confident we could get money, and therefore traps, but we needed people to know we existed. So we picked a date and planned a launch.

OFFICIAL LAUNCH

We booked the local community hall for August 12th 2017 and printed posters for the windows of shops and cafes, to get the word out, and we also advertised on local Facebook community pages. *Predator Free Wellington* provided us with 200 modified Victor traps and tunnels to get us underway.



A phone call to the local New World supermarket got us a generous donation of sausages and bread, and combined with a friend's barbecue, we had catering. We borrowed a microphone and speaker from *Wellington City Council*, along with their collection of taxidermied predators – which always draw a crowd, and provide a conversation starter. We also had a giant laminated aerial photo of Miramar and whiteboard pens, and when people signed up for a trap, they could put an X on their house to create a real-time trap coverage map - albeit an analogue one!

Outside the hall we had a mini working bee in action, with Dan Coup and Campbell Cowan constructing trap tunnels, using timber donated by our local Placemakers. This showed people the accessible nature of the project; that it wasn't rocket science, but rather, effective *because* of its simplicity. We threw the doors open from 2 o'clock, and the crowds flocked in. I made a quick welcome speech at 2:30, followed by James Willcocks of *Predator Free Wellington*, explaining their eradication plans, and then City Councillor Andy Foster said a few words in support of all the volunteer efforts underway across the suburbs already.



Wellington City Councillor Andy Foster (R) helps Campbell Cowan build trap boxes.

I initially wondered how best to manage the flow of people. I knew we wanted people *inside* to sign up and also be able to see a demonstration of their trap, but we also had all the trap tunnels on a trailer *outside* where we had our kids stencilling them with spray paint. How could we keep people moving through without them needing to double back?



So we came up with a system where we had two volunteers signing people on two laptops. They entered the trappers' contact details on two separate spreadsheets, which we later merged. Two laptops allowed us to deal with busy periods, as entering the contact details created a bottle-neck.

The new trapper was then given the trap itself, pre-numbered on the back with a unique number, and the number went into the spreadsheet alongside their name. The trapper then moved along to watch a

continuous demonstration of how to set the trap. With trap in hand, they were free to try it out themselves, until they were satisfied they understood.

When the trapper was ready to leave, they collected their newly stencilled wooden trap tunnel from outside, where we had someone ready to write the corresponding number from under the trap, onto the tunnel itself.

In two hours we gave away 80 traps, which was a fantastic way to get started. But equally exciting was the fact that during the following week, we had the same number again get in touch wanting to sign up. The grape vine was already working!

***Predator Free Wellington* Project Director James Willcocks (L) with *Department of Conservation* Director-General Lou Sanson at our launch.**



SHARING THE LOAD

Predator Free Miramar is a project belonging to more than a thousand Miramar locals. But behind the scenes are really just me, Dan Henry, and one of my oldest friends, Dan Coup. For the first couple of months, I was trying to do everything by myself, and just ask for help from friends on an 'as needed' basis. This was mostly due to me not wanting to unnecessarily burden anyone else. I soon realised there was a better way, and asked Dan if he wanted to join me on the crazy project. Luckily for me he was enthusiastic.

For more than two years, we've shared the workload. I've done the majority of the planning, the face-to-face stuff with trappers, and all the social media and communication. Dan Coup has generously given up half his family's garage space for construction and storage, and has almost single-handedly built nearly a thousand trapping tunnels.



Dan Coup adds to the hundreds of trap tunnels he's built for the project.

As well as being *General Manger: Trap Construction*, he's acted as *Chief Consigliere*, offering advice, wisdom and a fresh perspective. He also generously paid for 200 Victor traps early on in the project, before we'd secured funding, which allowed us to keep up supply.

OUR MODEL

There are as many different ways of structuring these projects, as there are projects themselves. We decided from the outset that we'd give our traps away for free. Free traps, in exchange for data, if you like. Some groups have charged a small fee for the traps, or suggested a koha, which is great in that it keeps the cash flowing, and covers operating costs. Our entirely unscientific theory is that a free trap is accessible to all, is a low-risk proposition for the wavering trapper, and creates an unspoken sense of obligation to report catch data back to the project.

We're lucky in Miramar that we have no possums, so we could focus solely on rats. Our pitch to people was we were offering traps that would humanely kill rats, and were safe for pets and small children. The community trapping groups like *Te Motu Kairangi* had several larger DOC200 traps in reserves, which would catch the odd weasel and hedgehog, along with the rats.

We soon learned that our rat traps would also take out the odd weasel and hedgehog, and while a few people expressed discomfort at killing 'cute' hedgehogs, most were quick to appreciate their true 'pest' status and destructive nature.



FUNDING

We knew we would need money to make the project work. One of the first things I did was to write a proposal, which I could then tailor according to the business or funding body I was targeting.

Our first donation was a few hundred dollars from our locally owned Z Petrol station, which was hugely exciting and got us underway. We knocked up a Z Energy stencil, using a logo we found online, printed and laminated, and then cut out with a

craft-knife, and we sprayed this logo on the side of 50 trap tunnels.

We then applied to the *Nikau Foundation* for a charitable donation, and after waiting for a few months, we received a very generous grant of several thousand dollars – enough to buy everything we needed and more.



NIKAU FOUNDATION

Nikau Foundation awards philanthropic grants to local groups.

In our proposal I had outlined our projected total costs, based on us using plastic Snap-E type traps which retail at around \$9 each. But *Predator Free Wellington's* initial donation to us of 200 traps were Victor traps which cost around \$4 each, modified with plastic shrouds which are an additional \$6 or \$7. The shrouds make the traps more humane, as measured by NAWAC, the National Animal Welfare Advisory Committee. The Snap-E traps are arguably easier to use than Victors, but their NAWAC rating is lower. Victors were also the standard being used in reserves trapping across Wellington City.



Victor Pro trap and tunnel.



Modified Victor trap.



Snap-E type trap.

So when we received funding, we quickly decided that we'd buy Victor traps instead of Snap-Es, which gave us greater comfort around animal welfare and the potential questions arising from our community. We bought them in bulk, online, from Key Industries in Auckland.

Buying the cheaper traps meant we had enough money left over to purchase other essentials, such as spray-paint, nails, mesh, saw-horses, gloves, tin-snips, marker pens, a trestle table for trap-giveaways and school fairs, a banner flag, posters, a trail camera, etc.

We resolved that rather than *buy* the wooden trap tunnels, we'd build our own, which would save us money, and provide another way for people to get involved.



Eight hundred Victor traps, straight off the truck.

OUR TRAP TUNNELS

We modelled them on the shop-made ones, available from Haines Pallets. But we made them to be easily built with three cuts of a 1.8metre fence paling, so they ended up longer than the shop-bought ones; a Haines model is 38cm long on the top and ours were 42cm. This was good, in that it further mitigated the risk to pets and small curious fingers.



To source materials, we put out a call online for recycled timber - unwanted fences or building off-cuts - and received several offers. Not only did it save us money early on, and help us get a steady supply of tunnels, but it was a great story we could tell. Reduce, reuse, recycle.

A dismantled fence yielded lots of trap boxes.

When demand increased, we were lucky that Placemakers donated us a good supply of fence palings, and we later bought more from them at a greatly reduced rate.

For mesh, we bought 10m x 0.9m rolls of 12mm square galvanised aviary mesh from the hardware store, and cut it into strips with an angle grinder.

Those strips were then cut down into matching box-sets with aviation snips, following a cutting pattern for minimum wastage provided by Wellington trapping identity Bernard Smith (thanks Bernard!)



Placemakers delivering enough timber for several hundred trap tunnels.



The Hafco Handshear from Machinery House in Manukau cuts through 5mm steel.

The aviation snips hurt your hands after a while and were mostly retired once we splashed out on a steel-cutting handshear, which is basically a guillotine for steel, and cuts through mesh like butter. This cost us a couple of hundred dollars from an engineering firm in Manukau, Auckland, but has revolutionised our production line!

An extra feature on our traps included banging a 40mm nail or clout up through the floor of the trap, halfway along the tunnel, to stop the trap sliding too far forward towards the entrance. This again increased safety for pets, kids and hungry sparrows.

BUSH RESERVES

We'd realised after only a couple of months, that looking at a map of our trap coverage, there were obvious gaps in our network – most noticeably where there were large tracts of green space with no backyards. So, we started planning a series of trap lines in reserves. Some of these reserves were just small scrubby areas adjacent to pedestrian zig-zags, or road reserves covered in dense shrubs and weeds, but many of these were surprisingly ratty!

One large area was the former Defence NZ land at the north end of Miramar, known as Watts Peninsula. We obtained permission from Land Information NZ to lay traps across the 75 hectare area, and drew up trap lines which, wherever possible, formed a loop, so that someone could park at one point, and walk a logical circuit. For any particularly hard-to-get-to gullies, we covered that area with self-resetting, gas-powered Goodnature A24 traps.



A lightweight timber frame, tied to a backpack frame made carrying traps easier.

Once established, these bush lines were mostly delegated to one of our more enthusiastic backyard trappers. There was always a small percentage who were keen to do more.

TRAP NUMBERING

As I mentioned, we numbered every trap. This was a huge help, as it's a short hand for people reporting catches. It also helped us keep track of where our traps had gone. We found that some of our people formed a surprising connection with their trap and its number! They'd send us messages saying things like "*Another catch for old faithful 702!*" or "*Chalk up another one for 376!*" We used small squares cut from gold-coloured ice cream containers, stapled them to the tunnel lid and wrote on them with paint markers.



Ice cream container plastic was used for numbering traps.

At the beginning, our numbering convention was obvious: we started at number 1 and went up from there. But over time, we adapted our system. For the traps being set out in our bush reserves, we wanted to have each trap in the line in a numerical sequence, to help trappers navigate from one to the next without missing a trap. But because we were installing these traps gradually over a few days or weeks, there was the risk that the nice tidy number sequence would be interrupted if we gave a trap to a household, and then we'd end up with a gap in the reserve line sequence. Or worse, we'd end up with duplicated trap numbers.

So for these bush reserves, we wanted a number sequence that was independent of the main sequence. Knowing that we'd never reach the number 2000 from our original numerical sequence starting at 1, 2, 3... we numbered these reserves traps as the 2000 series: 2001, 2002, 2003...

Occasionally we would get contacted by someone who had bought their own trap and tunnel, or a Goodnature A24 trap, and wanted to report their catches to us. So we would allocate them a number to report it against, and this became the 3000 series – 3001, 3002, 3003...

Later when we incorporated into our trap project more than 300 traps from the *Predator Free Seatoun* project, and wanted to assign numbers to them, we called them the 4000 series.

STENCILS

A stencil adds nothing at all to the efficacy of the trap; they'll kill just as well whether stencilled or not. But a trap tunnel branded with the group name, becomes a membership badge, and strengthens the sense of belonging. And when photos of traps and catches feature heavily on the Facebook groups, having the identifiable group brand visible helps promote the project.

We got our stencils made by our friend Bryan Stinson who runs Graley Plastics, a plastic fabrication business with a laser-cutter. Laser cutters need a compatible picture file of your logo, and to make a stencil your file needs to join up all the parts of your letters so that the middle of your 'O' doesn't fall out! Bryan refused to be paid for his work, and has since made stencils for several other groups. But you can also make one cheaply with a laminator, as we did for a Placemakers stencil. Placemakers Evans Bay had donated some timber to us, and we wanted to acknowledge that, so I found a logo online, slightly adapted the letters to suit a stencil and then laminated it with a cheap A4 laminator. A few careful minutes with a craft knife and we had an effective stencil.



FACEBOOK GROUP

Predator Free Miramar has a Facebook 'Group' rather than a Facebook 'Page'. This means an administrator posts or comments under their own name, rather than as an anonymous 'administrator' avatar. It also means group members' posts appear in the Group's feed, where they're easily read by everyone. On a 'Page', such visitor posts disappear off into another section, where they're not easily viewed by all the Page followers.

Posts from a Group also tend to defeat Facebook algorithms. This means that if you belong to a Group, you'll likely see ALL the posts by members of that Group, in your news feed. When you follow a Page however, you'll only see some of that Page's posts in your news feed, depending on the whims of the current algorithm. Essentially, a Group is a flat structure, allowing greater sharing, on an equal footing, than a Page.

Related to this, I was quite prepared to put my head above the parapet and be the face of the project, and as a result I very soon had lots of people direct-messaging me to ask questions about trapping, or baits or whatever.

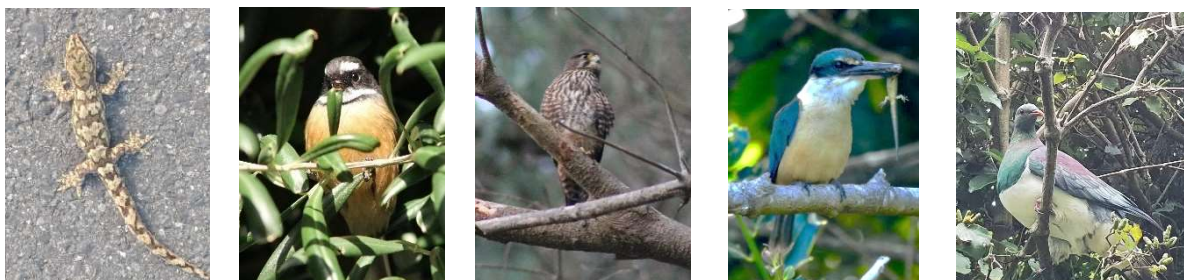
I posted often on Facebook, tried to keep it varied, and I engaged with every post. Whenever anyone posted a photo, I would comment and congratulate them. I tried to keep the tone fun and interesting, rather than too virtuous and worthy. I tried to make sure that no one had to wait long for an answer to a question; if they'd taken the time to interact with the project, they deserved our attention!

I posted a lot of pictures of dead rats, and resisted the urge to fall into line and "sanitise" it! We're not a science journal, nor a government dept. There's often discussion about whether it's necessary to post dead rats as part of these projects. My view is that it allows people to celebrate success and to show off. It's also a visual reminder of what lurks out there, and a photo posted by one person will remind another to go and set *their* trap. We are a competitive species, and many of us are motivated by a friendly rivalry within a group!



We gave away prizes to people reporting catches. "Anyone who reports a catch before end of the month could win", was the key message. Our focus was always on increasing numbers of people trapping and reporting, and less on who could claim the *most* catches. So we'd offer a good prize to a randomly drawn trapper who had reported a catch in the last month. After all, it's not anyone's fault that they don't live in a particularly ratty part of the suburb.

Before long, our Facebook Group had taken on a life of its own, and it didn't require me to whip it along as head cheerleader; I could sit back and watch others posting their pictures and getting excited about *their* project, as their neighbours cheered them on.



Over time it's been great to watch the focus of the posted photos move from dead rodents to live birds!

COMMUNICATION

Because not everyone is on Facebook, we wrote a regular email newsletter. The maximum number of recipients for an email sent through gmail is around 80 to 100, so we used a web service called Mailchimp. It's not as quick as just bashing out a regular email, but it's pretty straightforward. I tried to keep the tone light, fun, chatty, and the newsletters would clearly jog people's memories as they always resulted in a small flurry of catch reports coming in. I sent a newsletter every couple of months and then posted the link on Facebook. I also put the links to our past newsletters on our website.

With Mailchimp, we could see what percentage of our audience we were reaching and the average 'open-rate' of our newsletters was about 50%. It was something of an eye-opener that even though our trapping project was free and voluntary, and we weren't trying to sell anything to anyone, only half our group were reading our emails. But people lead busy lives and there's a lot of competition for their spare time these days.

SCHOOL FAIRS AND TRAP GIVEAWAYS

With a great foundation of more than a hundred traps on the ground, we looked for ways to increase that number. We did a few trap giveaways at school fairs and community events. These were great events for us; the event marketing is already taken care of, most of the crowd live locally, and as our traps were free, people were receptive.



Stalls at Miramar North School were always a success.

We found that we could give away an average of about 50 traps in a couple of hours, which made it worthwhile.

We invested in a cheap folding trestle table and made a few laminated posters and A4 "trapping 101" information sheets that people could read while they queued.

We also learned quickly to have a stack of separate sign-up forms for people to complete, rather than having them queue to enter their names on a single sheet which created a bottle-neck. These sign up forms were just small forms – three to an A4 page – so they were cheap to print.

We learned two other important things early on too. One was to check that we could read a new trapper's email address correctly before they left, after we had several 'bounce-backs' early on! The second thing was we realised that a large sign saying "FREE TRAPS" would give people the confidence to approach, as they weren't going to be asked to pay for anything!



The Free Traps sign made a huge difference!

OUR WORKFLOW AND PROCESS

At its most basic, our project model is very simple. We build tunnels, buy traps, distribute them to local people for free, those people tell us what they caught, and we plot it on a map. But we created systems to make the job easier for us, and easier for our backyard trappers.

Requests for traps would come to me through any number of ways. Many came via our email, but lots via posts or comments on Facebook. Others came through Messenger or texts or from people stopping me in the supermarket. Wherever I could, I would give people the link to our 'sign up form', and ask them to complete their details.

This was a Google form, essentially asking for name, address, email, phone number. But because Google forms are long, nonsense URLs, we used www.bit.ly to turn those long URLs into short links, and then edited them to be easy-to-remember links.

So this: <https://docs.google.com/forms/d/1q8nvlmeizMslzvXTj9s8aeiprTU78BTvgAv4vHpAYU4/edit>became this: www.bit.ly/pfmcatchreportform , which is *much* easier to remember!

I had this URL saved as a shortcut on my phone home screen, and sometimes I would key peoples' details into the form myself, if they'd stopped me in the street for example.

When someone signed up, Google put all the details into a spreadsheet. Every couple of days, I would check for new entries, and send those people a 'welcome email' with all the information about our project, some attachments with instructions, and the promise that someone would deliver a trap "in the coming few days" - which could mean tomorrow, or could mean next week!

In Dan Coup's garage we kept a pretty constant supply of trap tunnels built, ready to go. We had a big box of numbered Victor traps, so we'd chuck a trap in each tunnel, number the tunnels accordingly, and load up the car.

I kept a stash of traps in my car boot and I would drop off three or four before or after work, or do a couple of hours during the weekend. I kept a notebook in the glove box to record which number went to which house. Most of the time I would knock on the door and give people a quick demonstration of how it all worked. If they weren't home, or I was hurrying, I could leave it on the doorstep, knowing that we had a website with instructional videos. But I'm convinced that the face-to-face direct contact of delivering the trap meant we gained a lot of good will and buy-in from our trappers.

We kept a master spreadsheet of all the contact details for our trappers. I'd copy the data from the Google sign-up sheet across to this master list, so that we could add notes and amend records without messing with the automated spreadsheet. Every few days I'd load the new traps onto our project on www.trap.nz . This involved uploading a spreadsheet in .csv form, and required a slight bit of data manipulation, including changing street addresses into latitude and longitude. We found a website that does these conversions in batches pretty easily:

https://geocode.localfocus.nl/?fbclid=IwAR2Y4HNlBCCoY3K66zLo1x_BqX8Ydky0thO0RctBB62_hVINBv8CT3q4UG0



1448 traps looks like this.

DATA RECORDING

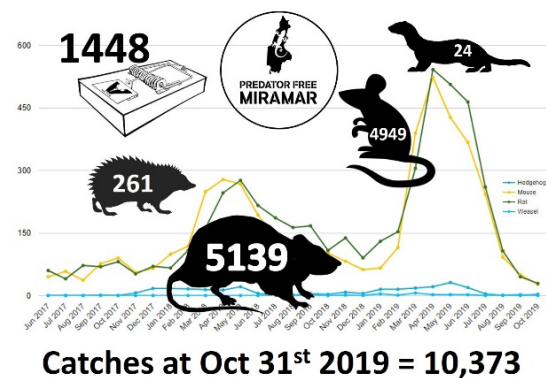
Along with our 'sign up form', we set up a Google 'catch report form'. I also had this saved as a short cut on my phone home screen, so that when people would text me *their* catches, or send them via Messenger, I could then enter it directly and easily.

Early on, whenever people would post their catches on Facebook, I would check with them that they'd logged it with the form. I worked hard to train everyone to use it, and after a while it seemed to sink in!

All the catch data went into its own spreadsheet, and then I would periodically upload it in batches to www.trap.nz, rather than have people upload their own catches. I figured that if some people were uploading their catches directly to trap.nz, some were texting me, and some were using our form, we'd very quickly lose track of which data had been recorded, and which hadn't.

Transferring the data from our Catch Report sheet to another also required some manipulation – adding certain columns and conforming things to the style that trap.nz requires – but it wasn't difficult. I think the advantage of this system was that our Catch Report Form asked for only the most basic information – date, trap number, address, and type of catch. There was also room for people to write a comment about what bait they used or how big the rat was etc. Hopefully this basic interface encouraged people to continue to use it.

Every couple of weeks, I'd check our catch numbers on Trap.nz, and share it on Facebook using an easy-to-read 'dashboard' style graphic, with icons for rats, mice etc., and the numbers of catches. We later added a graph in the background from Trap.nz. I created this in PowerPoint, stealing the silhouette shapes from the web, and writing the numbers in text boxes! It's become quite recognisable, and other groups have borrowed the idea since which is fantastic.



WEBSITE

I realised that if we couldn't demonstrate How to Set Your Trap in person, we needed a video that people could find easily, which meant we needed somewhere to host it. So, using Google's free website builder, Google Sites, we created a website with all the basic resources. We started with Frequently Asked Questions, for which we borrowed heavily from *Predator Free Brooklyn* (thanks David!) We had our links for reporting catches and for signing up. And we had our short videos showing how to set the traps. I shot these one-minute, single-take videos on my phone, uploaded them to YouTube, and then embedded the videos on the website.

These systems all made it simple for us AND simple for our trappers. And again, like the forms, we used www.bit.ly to shorten the long, nonsense link into the slightly more memorable www.bit.ly/predatorfreemiramar

FLEXIBILITY

Despite all our systems, we also allowed people to exist outside those systems. We have several trappers who will still text me their catches, or email them through. And we know we'll have plenty

of people who are catching rats, and haven't reported them to us. Which is still better than not trapping at all!



Dan Coup at Strathmore Christmas in the Park 2017.

At the Strathmore 'Christmas in the Park' Community Fair, we gave away a trap to a man who had no phone and no computer, but said "Don't worry; it'll be put to good use." And I'm sure it is.

WORKING BEES

To add to our stocks of trap tunnels, we'd hold small working bees. We'd initially probably imagined big events with 20 or 30 people all sawing and hammering away, but in reality, over two years, we

held probably half a dozen smaller events with between five and eight people working. These were often organised at late notice, and by emailing just a dozen trappers who'd already indicated their interest in helping out further.

This meant we could work in a garage, without needing a separate venue, and it meant we could keep a closer eye on quality control! We'd hold these events in the lead up to trap give-away events, or when we began to get low on stocks, and six people working for three hours could generally get 50 tunnels made.



Local trapper Brent Hoy and his 93 year old ex-cabinetmaker father built us more than 50 trap boxes from recycled pallet wood, and delivered them to us!

FOCUS ON THE ENTHUSIASTIC

We realised early on that we had only ever heard from about 40-45% of those with traps. That means that more than half our people had either never set their trap, or never caught anything, or set it once, and then lost interest. Or, they'd been trapping successfully, but never bothered to report their catches. This was slightly disheartening to realise, but we decided to focus on fostering enthusiasm from existing trappers, rather than chasing the silent majority of inactive trappers.

Now, as we approach the end of 2019, the figure has increased, and we've now had catch reports from nearly 60% of traps. I'm putting this down partly to an increase over time in the number of traps we've put out in *reserves*, which are probably checked more regularly.

As mentioned earlier, we rewarded our most enthusiastic trappers with trap lines of up to 30 or 40 traps in a bush reserve, that they could 'own' and check as often as possible. This meant an increase in rat catch numbers and then an increase in Facebook posts. And this created more competition among backyards, and therefore an increase in interest and activity generally.

We looked for gaps in our network and filled them. We looked at a map, and found areas with fewer traps and we did small-scale mail drops to those streets, with a flyer encouraging people to sign up using the online form. We put traps in bush reserves and checked them often - particularly early on.

In autumn 2018, we installed a trap line of 16 traps in a scrubby, wind-swept and gorse-clad coastal green space, bordering an industrial area. We checked these traps *daily* at first, and in the first seven weeks we caught 70 big rats and 40 mice. Daily checks seems excessive, but the more checks - the more 'trap nights' - the more catches. Which allow less time for a rat population to bounce back.



I posted this photo collage on Facebook: 13 strikes cleared from the 16 traps on one trap line, in 45 minutes.

COMMUNITY SUPPORT

We enlisted local business support and offered them a way to get involved. Many offered prizes for our trappers, and some also provided other help. Palmers Garden Centre let us hold a trap giveaway there on a busy Saturday morning.



96kg of Fix & Fogg Peanut Butter fits in the boot of a Corolla.

We got 96 kilos of factory seconds peanut butter, from local Peanut Butter business Fix & Fogg! What we couldn't use immediately, we re-distributed to other trapping groups around Wellington.

We made this up into batches of bait and our local café The Larder kept a stash of pottles of bait behind their counter.

We'd encourage trappers to come in, grab a coffee, and pick up their bait supply. This helped to normalise trapping as something done by anyone and everyone, rather than being the preserve of a grey-haired, sandal-wearing, conservation fringe!

Placemakers gave us timber; local brewery Double Vision Brewing made one of their monthly "Brew for Good" beers in our honour, and then gave us the proceeds!

If a business supported us, we made sure we showed them the love on Facebook, and in our newsletters, and asked our trapping community to support those businesses.



Our collab' brew with Double Vision Brewing sold out in two weeks.

OTHER PROMOTION

Whenever we reached a particular milestone – the launch, or catching our 100th rat, we'd approach our local suburban newspaper and try and generate some publicity. These stories always prompted new trappers to sign up.

Project to make Miramar pest-free

By Jamie Adams

A project aimed at ridding Miramar Peninsula of rats, mice and other pests was officially launched on Saturday.

Predator Free Miramar is a community effort that seeks to

bring back the birds and native bush to Wellington's eastern suburbs.

"Since Crofton Downs resident Kelvin Hastie led the way in 2015 by leading his neighbours and achieving a Predator Free community, other Wellington

suburbs have followed and set backyard traps in their thousands," co-ordinator Dan Henry said.

"We're poised to jump on board the eco-train and take our peninsula into the Predator Free Future."

Dan said the prevailing pests in the area included weasels and mice but the focus was on rats and stoats.

Miramar Peninsula was already possum-free and the benefits were already noticeable, Dan said.

"Tui are part of the neighbourhood and we have our first confirmed pair of Kereru nesting here."

The first traps were distributed to local backyard trappers on Saturday.

Pests would be killed through

the classic bait-and-trap method – no poison would be used.

"Having a rat trap in just one in five backyards reduces the rat population to below five percent," Dan said.

"There are still nearly 6000 more households on the peninsula, which means we need almost 1200 backyards traps to meet the target."

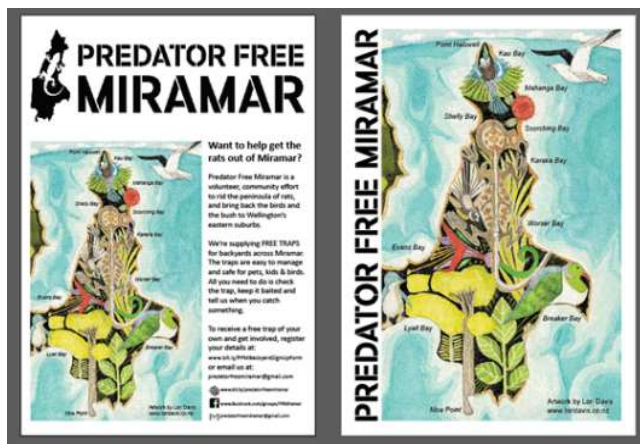
The launch featured Predator Free Wellington director James Wilcocks, whose organisation aims to make the capital New Zealand's first predator-free city.

Dan hoped the goal for Miramar Peninsula would be achieved within four years.

He said those who missed the launch can still receive a trap by emailing PredatorFreeMiramar@gmail.com with their address and contact details.



Predator Free Miramar aims to make vermin on the peninsula a thing of the past. PHOTO: Supplied



We were approached by a local artist Lori Davis who wanted to support us using her skills. She painted an artwork celebrating Predator Free Miramar, and made it into posters for cafe windows and postcards that people could pick up from café counters.

Allowing people to participate in whatever way suited them, took the project to places we'd have never considered.

Local café, The Larder held a *Pest on a Plate* dinner as part of food festival Wellington on

a Plate. It caught the imagination of journalists globally, and days later, UK newspaper *The Guardian* ran a story about The Larder Chef Jacob Brown cooking with Jellyfish.

SCHOOL TALKS

Much of the growth of the group has come via word-of-mouth. I've done half a dozen talks at local schools on the peninsula, and been so impressed at the knowledge that our young people have.

All the talks were to year six kids. These nine and 10 year olds know about our birds, and they know we have geckoes and skinks that need our help. But they're also wise to the fact that possums, rats and mustelids are not bad. They're not evil. They're just doing what they're born to do, but in the wrong place. And they know that we all have to get active about helping our birds and other natives if they're going to survive.



Dan Henry talking to kids at Worser Bay School.

Since those school talks, I've had regular emails from some of those kids and their parents, first wanting instructions on 'How to Build' trap tunnels. And then later, sending me videos of them building those tunnels and getting excited about catching rats.

I've also done talks for local gardening groups, Victoria University, Department of Conservation, and other trapping groups. It's time-consuming, but rewarding, and it all helps to create more energy and interest in the backyard trapping movement.

MERGER WITH OTHER GROUPS

Hamish Midgley and Deb Harwood had launched *Predator Free Seatoun* in March 2017. By the end of their first year they had about 300 traps out, and had already absorbed the smaller *Predator Free Breaker Bay*, which had about 50 traps out. During this time we were in regular contact; they'd refer trappers to us, and we'd do the same, if we were approached by anyone in Seatoun. Inevitably, we both ended up giving the odd trap to 'out-of-zone' trappers, which really didn't matter at all.

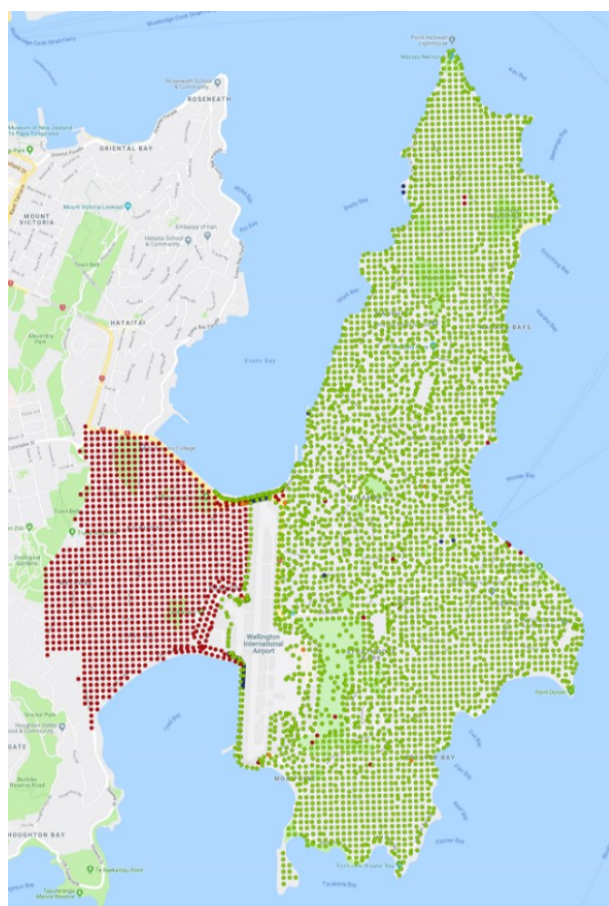
In 2018, we all worked together to merge all the peninsula groups, under the *Predator Free Miramar* banner, to make it simpler for the community to know where to go. The Seatoun traps had not been assigned numbers initially, and with no way at that late stage to physically number the actual traps, those Seatoun trappers were emailed and assigned a "4000 series" number, and encouraged to write it on the box, or stick a note on the fridge as a reminder.

PREDATOR FREE WELLINGTON ERADICATION

As we approach the end of 2019, we're hugely excited to be part of a world-first eradication of rats and mustelids in an urban landscape of nearly a thousand hectares. We feel very fortunate that we have the eradication operation following closely behind our initial community effort, to provide a peer-reviewed, scientific approach to removing rats.

It's fantastic that as a community we've removed more than 5000 rats in two and half years. But having Glen Falconer, John Hambidge and their team of 30 odd passionate and professional trappers, checking their 50m by 50m network of nearly six thousand bait stations and traps across the peninsula each week, provides a great deal of security that our work is well-supported!

Our next phase after Christmas 2019, once we're Predator Free, will be to transition to monitoring our neighbourhood for re-invasions. We're working on how best to do this, and are drawing up plans for trap lines featuring a mix of traps, tracking tunnels, chew cards and wax tags.



Every dot represents a trap or a bait station in *Predator Free Wellington's* eradication operation.

Our volunteers and backyard trappers aren't ready to retire just yet, and there's a great deal of enthusiasm about the next steps.

SOCIAL SPIN-OFFS

The reasons people have joined our project are many and varied. Conservation – saving the birds and the bush – is one obvious driver, but there are those who want to banish rats from their house for hygiene reasons, or for safety. Our local bowling club had two traps installed after they discovered they had rats chewing through the wiring in the green-keeper's shed.



Keen trapper David Shaw with the 1000th rat caught in Miramar.

In Miramar, our trappers are a diverse bunch: We've got tradesmen and we've got accountants. We've got work-from-home mums and stay-at-home dads. We've got GPs and refugees. But the one thing all our trappers have in common is the will, and the enthusiasm to see the Predator Free vision and say "Great idea, tell me more."

Whatever the reason people joined, the benefits of backyard trapping extend far beyond the obvious benefits to the birds and bush. One of the things I've really enjoyed about this project is the growing community of like-minded predator-free folk. I have made a lot of new friends among our trappers and my counter-parts from suburbs around town.

There's a lot of talk about resilience lately. And in a time when people perhaps need it more than ever, we're building community. We know we have neighbours competing over the fence to see who can catch the most rats. We have one trapper who started with one trap in his backyard, and then began helping his neighbours on either side of his house, by managing traps in *their* places. Now, he's managing more than a dozen traps across his whole neighbourhood, and has found a new sense of purpose, making new friends and helping people across the community.

Throughout this project, we've tried to keep our communication positive and focus on our successes. There's no doubt that our native birds are facing a crisis, and that they seriously need our help to survive. And while we acknowledged that at times in our communication, we made sure to not make the crisis the focus of our project. If you talk too much about a crisis, it's inevitable that people will feel defeated and powerless, and before long their engagement will fall away.

As much as possible, we focused on how successful we all were, at killing rats. We offered people a way to win, and a tangible measure of success. You caught a rat? Well done! You've made a difference. And before very long at all, our community began sharing their own little measures of success, posting pictures of birds, geckoes and skinks, spotted in their own backyards.

With the eradication operation mopping up the last of our rats, the story is now coming to an end for us in Miramar, but I'm conscious that for most Predator Free groups in New Zealand, there's no immediate end in sight. Ensuring the energy and enthusiasm in *your* community stays buoyant, will mean constantly coming up with new ideas and ways to keep *your* people keen.

For us, now that we have almost a thousand locals committed to improving their neighbourhood in this way, we're starting to think about how we can harness all that energy, and how it can be refocused when the last rat is caught! One of our keen volunteers who traps in the local reserves, has taken it upon himself to start clearing the bush of decades of household rubbish which has been dumped there. He's enlisted the help of his daughters and her friends, and just made a start, bag by bag, trailer load by trailer load. We might have found our next project!



Locals turned out in droves for a recent community clean up organised by *Predator Free Wellington*, removing a small mountain of rubbish from the bush.

Dan Henry
Predator Free Miramar
predatorfreemiramar@gmail.com
November 2019

APPENDIX – EXAMPLES OF DOCUMENTS AND RESOURCES

On the following pages are copies of various resources, which might be helpful or provide inspiration, along with some useful web links.

WELCOME EMAIL – sent to all new trappers

SUBJECT: Welcome to Predator Free Miramar!!

Hi there

Welcome to our local backyard trapping network! I have your details now, and will get a trap to you in the coming few days. This trapping thing is not hard to figure out - but here (below AND attached) are some useful things to note.

We have a website: www.bit.ly/predatorfreemiramar - where you can find handy resources, including short videos on **How to Set Your Trap**. We'll be adding to this site as we grow, so do check back regularly.

Also on the site you'll find the catch report form: www.bit.ly/pfmcatchreportform - which is the easiest way for you to **report what you catch to us**. We're logging all the catches on a central database, to keep score, so this is really helpful. If you're a technophobe, then just report to us via email. You can put it all in the subject line: (CATCH: 123 Every St, August 13th, 1 x Rat).

You'll also find hints on where to place your trap and what to do with the rats and mice you catch. Main things are keep your trap baited, keep it fresh. Peanut butter or nutella or similar is good.

We will send regular newsletters and updates to keep you posted as this movement grows. Please **join the group on Facebook** too, if that's your thing, as it's a great way to keep informed. And please tell your neighbours about us too, as we have good stocks of traps now. They can sign up here: www.bit.ly/pfmbackyardsignupform

Any questions, please shout out. Happy trapping - and good luck! :)
Cheers,

Dan Henry

ATTACHMENTS (see next pages):

Backyard Trapping 101

Backyard Trapping "How to" – Victor Pro Trap

Backyard Trapping FAQs



Email: predatorfreemiramar@gmail.com Web: bit.ly/predatorfreemiramar Facebook: facebook.com/groups/PFMiramar/

WHAT IS IT?

Predator Free Miramar is a volunteer community effort to rid the Peninsula of rats and mice, and bring back the birds and the bush. Our neighbourhood's already possum-free, and we know with energy from our community we can get it clear of rats and mustelids too.

HOW DOES IT WORK?

We're creating a community of backyard trappers. We want people to put a trap in their backyards, keep it baited, and report their catches. Simple.

THE PLAN

Having a rat trap in just one in five backyards, will reduce the rat population to below five percent. There are roughly 7500 households on the peninsula, which means we need around 1500 backyard traps to meet the target. But we're not aiming to get it done overnight; we'll roll out the traps in stages.

COST

The traps and protective timber tunnels will be **FREE** to householders. We're relying on grants, sponsorship and partnerships with local businesses to make this vision a reality.

WHY PREDATOR FREE?

We want to bring back the birds and bush. Rats, mice and stoats are destructive to our natives but with your help we can have the kaka and kereru makes their homes here again.

Rats are also destructive. Rodents chewing through electrical wires are believed to cause eight percent of house fires, and one Miramar couple just had to replace their dishwasher after a rat chewed through the outlet hose, causing a flood!

PLANS FOR THE FUTURE..

We're also recycling timber off-cuts. We'll soon be building trap boxes and building communities too, over a skill-saw and scones at working bees. With the money saved by building our own boxes, we can buy more traps. Sign up today, and keep in touch for details!





SETTING YOUR *VICTOR PRO* TRAP

Place the tunnel in your backyard or garden somewhere. Alongside fences and walls can be good.

Bait your trap.

Firmly press a small amount of bait onto the small pins at the back of the yellow treadle. Common pantry items such as peanut butter or Nutella are quite effective; try mixing with rolled oats to make it more manageable. You could also try small pieces of dried fruit, butter or bacon! Experiment – and report back to us with your findings!

Set the trap.

- Keeping the trigger rod clear, pull back on the kill bar, and keep it pressed down with the edge of the palm of your hand.
- Bring the trigger rod back over the top of the sprung kill-bar, and hook it under the back of the yellow treadle (you'll have to lift the treadle up slightly to achieve this.)
- Let the tension off the kill-bar slowly, till the trigger rod catches. Your trap is now set.
- Carefully slide it, bait first, into the tunnel. There should be a nail sticking up through the floor to prevent it going too far.
- Replace the sliding mesh on the tunnel.
- **WATCH THE VIDEO** on the resources page on our website, <http://bit.ly/predatorfreemiramar> - for a 60 second demo.

Check the trap often - we'd recommend at least once a week. Dead rats get a bit stinky after a few days! Keep the bait fresh – it'll increase your chances of catching something.

- **Keep us posted!** When you catch something, PLEASE report it to us. Just go to the resources page on our website, <http://bit.ly/predatorfreemiramar> and fill the Catch Report Form. This tells us *What you caught*, *Where* and *When*. (You can email us instead at PredatorFreeMiramar@gmail.com but the form is the preferred method.)

Get rid of the dead rats and mice. You can pick up the trap with the kill in it, and open the trap over your rubbish bin, so you never actually have to touch it. Or use a bag over your hand like a glove, then turn it inside out with the rat in it; knot it, and bin it!

Backyard Trapping FAQs



PREDATOR FREE MIRAMAR

Backyard Trapping FAQs

1. What will it cost as a householder?
a. Are the traps free?
b. What does bait cost; is it supplied or do I need to buy; how much?

2. What is my time commitment?
a. How often to check traps?
b. How long does it take to check a trap and re-bait.

3. Is it icky?
a. What do I do with the dead ones?
b. Should I wear gloves?

4. How safe is it?
a. Can I hurt myself setting or re-setting a trap?
b. What about my cat?
c. What about my kids?
d. Is the bait poisonous?

5. How effective is it?
a. How many traps do we need?
b. Where is the best place to put them?
c. What predators are we targeting?

6. Data & metrics:
a. Should we log catches anywhere?
b. How do we know it has been effective?
c. What is success?

7. Great! How do I sign-up?

- Predator Free Miramar will supply tunnels and a trap.
- You'll be responsible for the bait. Common pantry items like peanut butter or Nutella work well.
- Check the trap as often as you like, but at least once a week. Dead rats get a bit stinky after a few days!
- The traps are similar to domestic mouse traps, just bigger. Thirty seconds to bait and set; plus the walk from your back door to wherever you're placing it.
- It's generally a clean kill across the back of the neck, so no blood and guts - or even broken skin.
- You can pick up the trap with the kill in it, and open the trap to release the rat into the rubbish bin, or bury them in the garden.
- These traps are pretty basic, so even if you snap your fingers in one, it shouldn't be too bad - just take care and you'll be fine.
- The traps are located in wooden boxes or tunnels with wire mesh at the ends, to keep out little hands & domestic pets.
- No. We're not using toxins or poisons for this project; bait is peanut butter or chocolate spread or other pantry items.
- One trap per property is a good start, and we're aiming for a trap in one in five backyards.
- Put the trap somewhere you'll see it and be reminded to check; or near your compost bin. Alongside walls and fences is good as rats generally run along those boundaries.
- We're targeting rats and mice, but the traps will catch mustelids (stoats & weasels) too. Bigger traps are also being deployed in the reserves to deal with rats and mustelids there.
- Whenever you catch something, PLEASE report it to us. Just go to the resources page on our website, <http://bit.ly/predatorfreemiramar> and fill the Catch Report Form. This tells us *What you caught*, *Where* and *When*.
- We'll take a baseline of data in the first year; and compare year on year. When zero catches are reported over an extended period, we can use chew cards to survey predator numbers.
- Go to the resources page on our website, <http://bit.ly/predatorfreemiramar> and fill the Backyard Sign Up Form.
- OR Send your name, address and phone number to PredatorFreeMiramar@gmail.com
- Check out the Predator Free Miramar Facebook group: <https://www.facebook.com/groups/PFMiramar/>



 PredatorFreeMiramar@gmail.com

 Predator Free Miramar

MAKE A TIMBER RAT TRAP TUNNEL



Materials required:

- Treated timber, 150mm x 23mm. 3 @ 460mm long; 1 @ 420mm long (conveniently adds up to a 1.8 metre paling)
- 12 x galvanised jolt-head nails (60mm)
- 1 x galvanised flat head clout nail (40mm)
- Galvanised square aviary mesh (12mm x 12mm squares)
- Staples

Tools required:

- Hammer
- Skill saw
- Router (if available)
- Wire cutters or tin snips
- Staple gun (or hammer & small fencing staples)

Rat Trap building instructions – page 2

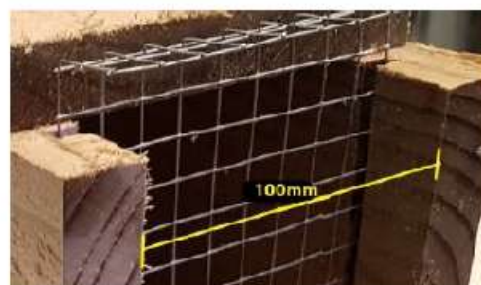
CUT YOUR TIMBER into the required four lengths. The lengths CAN be longer than the suggested 460mm and 420mm, but no shorter. The important thing is that the lid is 40mm shorter than the walls and floor.

CUT THE GROOVES into the two walls. This is for the wire mesh sliding hatch. Make the cuts 10mm deep, and 25-30mm from the end. A sliding drop-saw is handy for this – but a steady hand-held skill saw works fine too. If you have a router, even better!



NAIL THE BOX TOGETHER.

Put six nails through the lid into the walls & six corresponding ones up through the floor. Make sure you butt the box lid, hard against the end of the walls at the 'fixed mesh' end, so you leave the cut grooves well clear of the box top. Take care when joining the 'sliding hatch' end in particular, that the walls are 100mm apart. Too much more or less, and the 115mm hatch will fit poorly - sticking, or worse, just popping out.



The 40mm clout nail goes up through the base of the box, 25cm from the sliding hatch end and therefore about 17cm from the end with the small square entrance for the rat. This is just to stop the trap itself sliding too far into the box, and out of your reach!

CUT THE MESH ENDS.

Both are 14 squares tall, with the sliding hatch 9 squares wide and the 'fixed' end 10 squares wide.



The sliding mesh gate is 9 squares by 14.



The fixed end is 10 squares by 14, with a 4x4 hole.

The sliding hatch needs to be cut prettytidily so it won't jam, but the fixed end can have some rough edges, as they won't over-hang the timber. For the sliding hatch, bend two rows of squares over at one end. An easy way is hang two rows over the edge of your box & bend the mesh 90 degrees.

Staple the fixed end onto the box. Line up the grids with the edge of the box floor, so the entrance is neat and tidy for the rat. Use wire cutters to cut a 4x4 square hole for the rats.

Spray the stencil on top; attach the identifying number – HAPPY TRAPPING!

Bernard Smith's Mesh Cutting Guide





Want to help get the rats out of Miramar?

Predator Free Miramar is a volunteer, community effort to rid the Peninsula of rats and mice, and bring back the birds and the bush to Wellington's eastern suburbs.

We're supplying FREE TRAPS for backyards across Miramar.

The traps are easy to manage and safe for birds, pets & kids.

All you need to do is check the trap, keep it baited and tell us when you catch something.

To receive a free trap of your own and get involved, register your details at www.bit.ly/PFMBackyardSignUpForm, or email us at predatorfreemiramar@gmail.com.

For more information, check out the above links.



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All you need to do is check the trap, keep it baited and tell us when you catch something.

To receive a free trap of your own and get involved, register your details at www.bit.ly/PFMBackyardSignUpForm, or email us at predatorfreemiramar@gmail.com.

For more information, check out the above links.

Sign-up form – for trap giveaways

Want a FREE backyard trap to help rid the peninsula of rats? Sign up here!

Name: _____

Address: _____

Email (PLEASE PRINT CLEARLY): _____

Phone: _____

Trap number: (leave blank) _____



**PREDATOR FREE
MIRAMAR**

Want a FREE backyard trap to help rid the peninsula of rats? Sign up here!

Name: _____

Address: _____

Email (PLEASE PRINT CLEARLY): _____

Phone: _____

Trap number: (leave blank) _____



**PREDATOR FREE
MIRAMAR**

Want a FREE backyard trap to help rid the peninsula of rats? Sign up here!

Name: _____

Address: _____

Email (PLEASE PRINT CLEARLY): _____

Phone: _____

Trap number: (leave blank) _____



**PREDATOR FREE
MIRAMAR**

These are the questions we asked with our online *Sign-Up* form:

1. Date
2. Email address
3. First name
4. Last name
5. Street address (street number and name)
6. Suburb
7. Phone - mobile (useful for texting if required)
8. Phone - other (home / work)
9. Do you use social media regularly?
10. Anything else we should know? (Do you have skills or knowledge that might help our community project? Are you already trapping? Keen to help trapping in our parks and reserves?)
11. How did you hear about us?

...and then we copied the resulting data across to our main spreadsheet, with the additional fields or columns, shown in *italics*, which we filled in later.

1. *PFM Trap Number*
2. Date joined
3. Email
4. First Name
5. Last Name
6. Address 1
7. Address 2
8. Phone - Mobile
9. Phone - Other
10. On Social Media?
11. Notes
12. How did you hear?
13. *Trap Type?*
14. *Entered on Map? (Y/N)*

These are the questions we asked with our online *Catch-Report* form:

1. Date
2. Your trap number? (it's on your trap box & also on the underside of the trap itself)
3. What's your street address? (number and street name only)
4. What did you catch? (if you caught more than one please make a new report for each catch.)
5. Anything to add? (Bait? Size? etc)

...note that their trap number and street address *should* correlate on the *trap.nz* map, but if they put a typo in the trap number, we'd never know where it was caught – hence asking for the address as a cross-reference.

Links to useful websites:

Predator Free Miramar Facebook Group

www.facebook.com/groups/PFMiramar/

Predator Free Miramar website

www.bit.ly/predatorfreemiramar

Google forms

Our "catch report" form is here:

www.bit.ly/pfmcatchreportform

Our "backyard sign-up" form is here:

www.bit.ly/pfmbackyardsignupform

Google sites – for making low-cost simple websites:

www.sites.google.com/new

Trap NZ – where we upload all our project data such as trap locations and catch history, and from where we can run reports and create graphs.

www.trap.nz/

We use this web page to convert street addresses into Latitude / Longitude, and so we can batch import the trap locations:

www.geocode.localfocus.nl/?fbclid=IwAR2Y4HNIbCcoY3K66zLo1x_BqX8Ydky0thOORctBB62_hVINBv8CT3q4UG0

Mailchimp – for sending bulk emails.

www.mailchimp.com/

Predator Free Wellington has heaps of information about the local trapping scene:

www.pfw.org.nz

Predator Free New Zealand is a private charitable organisation established to encourage, support and connect New Zealanders in their trapping efforts

www.predatorfreenz.org/

Department of Conservation recently put out a comprehensive guide to trapping:

www.doc.govt.nz/nature/pests-and-threats/predator-free-2050/toolkit-predator-free-2050/practical-guide-to-trapping/

Predator Free 2050 Limited is a Crown-owned, charitable company established to help deliver the New Zealand government's ambitious goal of eradicating possums, stoats and rats by 2050.

www.pf2050.co.nz/

Goodnature is a bunch of great people who built a company to see endangered wildlife in New Zealand and around the world flourish again. They make self-resetting traps.

www.goodnature.co.nz/