



Windy Hill Sanctuary Citizen Science Series #6

How do you know your pest management is making a difference?

In short, the answer is to count, count, and re-count the species you are trying to protect over long periods of time. In the Windy Hill Sanctuary, we have been counting birds annually since 2000; weta, lizards, invertebrates, and seedlings since 2006; and freshwater stream species since 2008. At the same time, we have been monitoring what our rats are doing five times a year using tracking tunnels and by recording our trap catch. Over 19 years this has given us vast amounts of data against which to measure how well the suppression of rats, mice, feral pigs and cats improves the lot for our native species. This is the second article about the results of our counting and is focused on lizards.

There have been fourteen different species of lizard recorded on Aotea. Eleven of these have been identified in the Sanctuary. Lizards are tucker for rats, birds, feral cats, and pigs so they were another species worth monitoring to assess their response to reduced levels of predation.

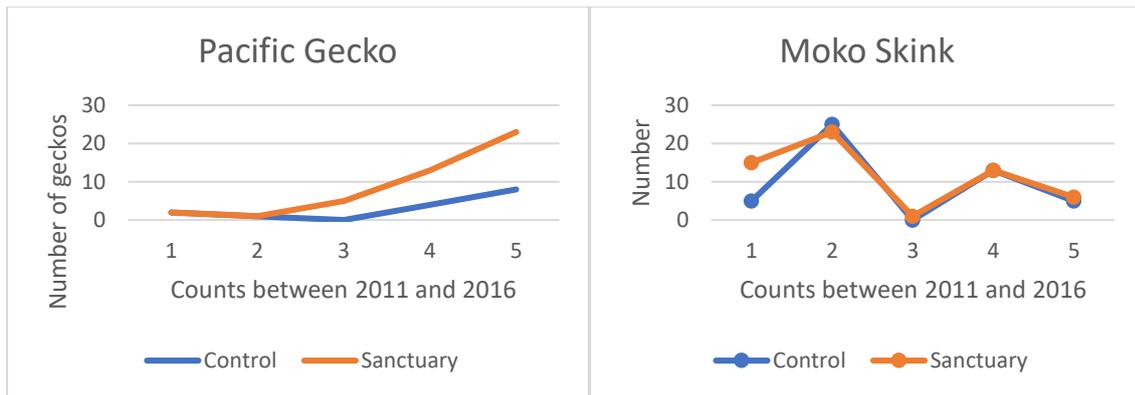
To start, in July 2006, we set up ten lizard 'motels' made from stacks of Onduline (corrugated card) in both the Sanctuary and our unmanaged Control site. The 'motels' were checked monthly over a year and the results were graphic. Lizards were present in 10-30% of the motels in the Sanctuary from the first month but not one was picked up in that first year in the Control site.

Since that time a range of lizard monitoring has been introduced using a variety of methods.



Lizard 'motels' made from Onduline stacks, tree foam covers, G-minnow traps, tree 'motels'

For example, in 2007 over 300 Onduline stacks and 300 foam cell covers were placed in two parts of the Sanctuary and in the unmanaged Control by EcoGecko Ltd. This was a trial to find a more effective way to monitor lizards at low densities rather than the highly labour-intensive pitfall trapping or night spotting. We continued their annual count up until 2016 and found that the Common and Pacific Gecko are much more present in the Sanctuary than outside it, as is the Ornate skink. However, other diurnal (daytime) skinks like Coppers and Mokos seem to be holding their own despite the uncontrolled rats. As the rat is predominantly nocturnal, this makes sense.



And there are always surprises, six very rare striped skink have been counted in the unmanaged Control site and only one counted in the Sanctuary - the right habitat is also a key determining factor for the success of native species. What we have to remember is that we are counting the remnants left after decades of predation.

Counting chevron skinks is exhaustive as they are highly camouflaged and freeze when approached. From a week-long survey over much of the Windy Hill pest managed area in 2010 using G-minnow traps a dozen skinks from adults to juveniles were found – the age range was reassuring because that means they are breeding successfully.



It's been great to have professional herpetologists direct our Sanctuary field team with this work – Dylan van Winkle took this amazing shot of a full grown pregnant female. Chevrons have survived as well as they have on Barrier as adults can fight off a rat but the juveniles don't fare so well. Lizards are also picked up in rat tracking tunnels leaving their distinctive paw prints and tail line as above.

In summary our counts of lizards using an array of methods since 2006 has shown a growing number of common and Pacific gecko, stable populations of ornate skinks, successfully breeding chevrons, with the more common daytime skinks like Moko and Copper faring ok wherever they are. Our Benthorn Farm pest managed area, which is run on biodynamic principles but using both bait and rat traps has the highest number and variety of lizards in the Sanctuary confirming the importance of good habitat.

My house is festooned with discarded gecko skins and I have a regular Pacific gecko in my letterbox. These are the treats from natu

re that make the hard work of systematically suppressing pests worth it.

Judy Gilbert – Windy Hill Sanctuary