

Windy Hill Sanctuary Citizen Science Series #3

In the current absence of a socially acceptable magic bullet to eradicate kiore, ship rats, and mice on Barrier, the Windy Hill Sanctuary over the last 18 years has created a toolbox of options for effectively suppressing these highly invasive species.

In the last two editions of the Bulletin we covered off the best sorts of rat traps, how well the current range of long life lures are working, and our trial of econode sensed traps.

This edition we focus on the performance of the **A24 Goodnature** trap.

The A24 is a non-toxic, multi-kill, self-setting rat trap. It is powered by gas and can be set off up to 24 times before the gas cylinder needs replacing at six month intervals. The rats are attracted by a chocolate based lure that is extruded from the top of the device under gentle pressure and is marketed as lasting for 6 months. The rats put their heads into the device which has a fine trigger wire just under the bait source. Once this is touched, the gas propels a plastic hammer at force



striking the rat in the head. The dead animal drops to the ground and the trap resets for another animal.

The Goodnature A24 Trap project is a collaboration between the Great Barrier Local Board, Auckland Council, DOC, Goodnature Ltd, and the Windy Hill Sanctuary. Its purpose is to establish how effectively the Goodnature A24 trap is at reducing both ship rat and kiore densities within a pest managed Sanctuary on Great Barrier Island over a two year period. This objective supports the local community aspirations to find ways to manage these pests with non-toxic methods.

The Local Board has funded the traps, replacement gas and lures for the period of the trial, some \$60K, and the Windy Hill Sanctuary has contributed over \$20K in field work monitoring and reporting to date.

Two hundred and ninety-three A24 Goodnature traps were established in the Big Windy Hill Pest Managed Area between February 22 and 24,

2016 by a team made up of personnel from Auckland Council, DOC, Goodnature, and the Windy Hill Sanctuary.

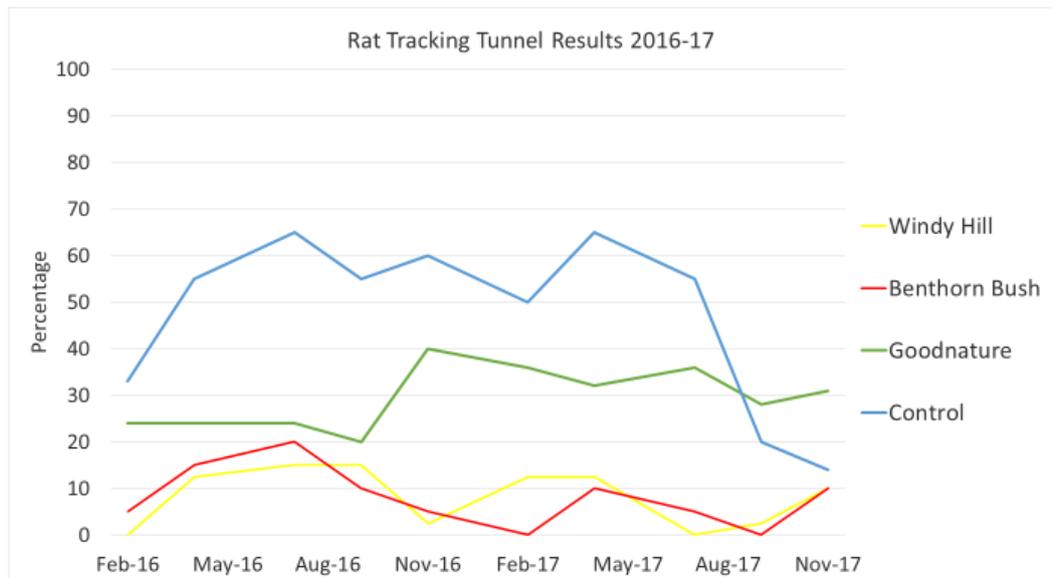
Traps were set up on a 50 x 100m grid and checked monthly for the first six months, and then every 3-6 months following the replacement of the manual lure with the chocolate flavoured auto-lure pump (ALP) in August 2016. Bait and gas cylinders have been replaced at six monthly intervals since that time and rat tracking tunnel monitoring undertaken five times a year - in January, April, July, September and November to assess the densities of rats still in the area.

Eleven Cameras were placed to film the animal interactions with the device over a three month period - the clips showed a small number of kills, ship rats climbing all over the device but not necessarily putting their heads in, and most kiore being shy of the device.

The traps have proved to be robust and reliable and Goodnature has provided good support replacing any failed unit quickly and have also visited the site on four occasions.

However, over the 21 months of the trial the following issues of have been identified:

- Consistently higher rat tracking tunnel rates in the Goodnature area than other areas in the Sanctuary using standard rat traps and diphacenone bait. The graph below shows the tracking results comparing the Goodnature project area with the unmanaged Control, and the managed Windy Hill and Benthorn Farm project areas.



- Only 10% of animals identified beneath A24 traps have been kiore with the Sanctuary catch rate for these animals standing at 57% . 90% of identified kills have been ship rats.
- Eleven cameras on units for the first three months of the project captured the shyness of kiore around these devices.
- Some of the Auto-Lure Pumps (ALP) emptied at 4 months, short of the 6 months expiry date
- A significant number of the ALPs still had a lot of bait in after a six month period indicating a lack of bait release consistency.
- Bait clogging round the trigger appears to result in a small number of units gassing out.
- With such high numbers of rats left in the area, it raises the question of whether the chocolate based lure is the most effective when a peanut butter based lure works more effectively as elsewhere in the Sanctuary

In August this year, in response to the high densities of rats, half of the A24s were moved and interspaced with the remaining traps on a 25 x 100m grid replicating the spacing of stations elsewhere in the Sanctuary. This was done with the team from Goodnature who also assisted with monitoring each station and collating the data. Kiore have a significantly smaller range than the bigger ship rats and this closer placement may address that.

The project will continue until August of next year to establish if reducing the spacing between traps improves the rat tracking tunnel rate. Rat tracking tunnels are the method used throughout the Sanctuary to monitor the effectiveness of each of our pest management programmes.

This is a robust trial of these units and the jury is still out as to how effective they are on Barrier with our suite of pests— we will keep you posted.

Judy Gilbert
Sanctuary Manager

