

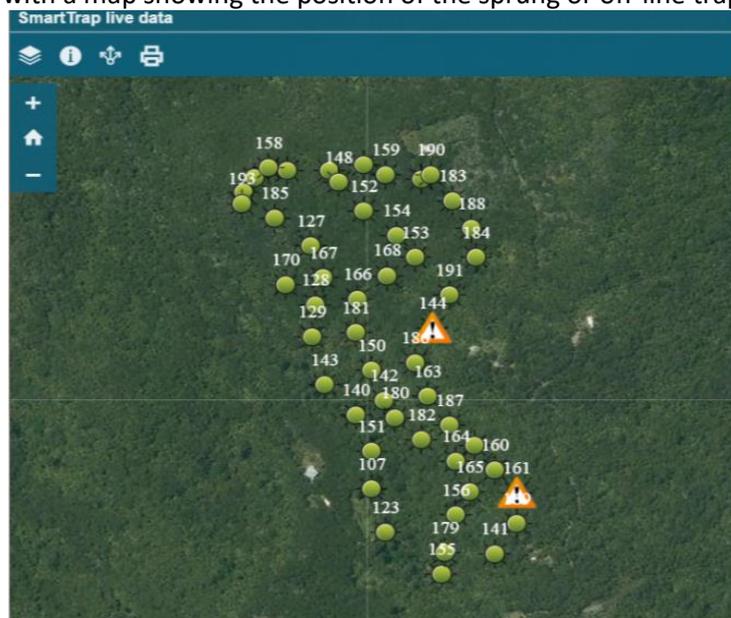
## Windy Hill Sanctuary Citizen Science Series #2

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.

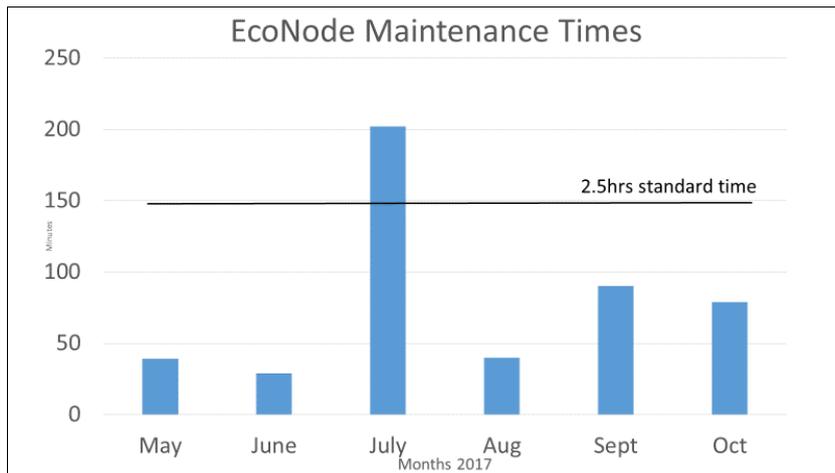
In the last edition of the Bulletin we covered off the best sorts of rat traps and how well the current range of long life lures are working. This time we focus on our trial of econode sensed traps.

Reducing the amount of cost and effort that goes into managing the 2500 traps we have in the Sanctuary is a key goal – the less time we have to spend on maintaining traps the more area we can cover. Local tech guru, Matt Way, has designed and is trialing the SmartTrap – a wireless bio-security monitoring system made by econode. When a trap is sprung, a signal is sent to a base station using radio network, then uploaded to the internet. The principle of the device is that the trap only needs to be visited when it signalled that has been sprung (or needs its lure refreshed) thus saving labour and time. When the trap is sprung a message is sent to a cell phone or computer detailing what trap has gone off and where.

In their 2016 round, the Auckland Council Regional Environment Fund granted the funds for a 50 unit econode rat trap trial at Windy Hill Sanctuary. The units were established in April this year. Every Monday morning a message detailing total traps sprung and the nodes 'on' or 'off line' is sent to the trust and field managers along with a map showing the position of the sprung or off-line traps.



A protocol was established by the field team of responding only when 2 or more units have gone off per week. Used in conjunction with a long-life lure as detailed in the last article in the Bulletin, this means that set traps can remain unvisited for two to three months at which time the lure will need refreshing. Normally traps set with peanut butter are visited monthly and may have caught a rat within the first few nights or had the bait eaten by ants rendering the device ineffective until checked next. The long-life lure, a plastic polymer plug, is not eaten by the rats so remains in place. The 50 unit array in the Sanctuary would normally take around 2.5 hours to service per month. Using econode has resulted in a considerable time saving as shown in the graph below.



Throughout the trial issues have been identified and addressed. Each new generation of traps improves on the last and this has occurred within the trial. For example, the method of fixing the magnet to the bar of the trap so that it doesn't move sending a false sprung signal was improved. The green plastic cap shown below secures the magnet and stops slippage.



There have been units that have failed to signal, a battery has come loose, and the odd software bug. All part of ground truthing these devices in the field where terrain may make signalling a challenge, and the environment for electronic devices is not optimum. Aotea Great Barrier DoC is trialling the Smart trap on cat traps in Okiwi and there are now several other projects round the country that have started using econode for rats. This trial will remain in place for 2 years so that the historic rat catches in the same area can be compared with those of the econode. Saving time is one thing but that has to be matched with effectively catching the rats. For some unknown reason, this year there has been a significant decline in rat catches in the Sanctuary. This means we have to wait for more information to be able to compare the econode catches to previous years.

Next edition, we will continue our focus on trapping methods detailing the progress of the Goodnature A24 trap project – a joint collaboration of the Sanctuary, the Local Board, Auckland Council, DoC, and Goodnature.

On a topical note, while a toxin free Aotea is an aspirational idea and one we would all support in principle, it cannot be achieved at the expense of our biodiversity. As the Commissioner for the Environment stated in her recent report on Saving NZ's birds – we have to use every tool we have available now - the 80% of our bird species in trouble cannot afford to wait till new tools are developed.

Happy trapping

Judy Gilbert

Windy Hill Sanctuary

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