

Auckland Council
Environmental Initiatives Fund - Grant 1118

'Petrels, Parrots, and Monitoring'

A multi-focused project to survey for seabirds, build nesting boxes for a red crowned kakariki breeding programme, and a report on monitoring outcomes at Windy Hill Sanctuary on Great Barrier Island



Final Report
December 2014

Windy Hill Rosalie Bay Catchment Trust
429 Rosalie Bay Rd
Great Barrier Island

Thank you for Grant 1118 for \$3921 which has been spent as detailed.

Kakariki Nesting Boxes	\$748.60
Lizard Monitoring Report	\$1680.00
Seabird Survey	\$1380.00
Species Monitoring	\$112.40

1. Kakariki Nesting Boxes

As part of our plan to establish a breed and release facility for kakariki the Trust is in the process of equipping an aviary which was supported by last year's EIF grant. This report cover photo shows Windy Hill shareholder Chris Thompson constructing red crown kakariki nesting boxes in his shed at Windy Hill. Chris took the basic design we had received from Cape Kidnappers Sanctuary and has improved the lid opening and re-designed the box bottom so that it can be opened for cleaning out. Kaka are known to be very destructive to wooden items so each nesting box that is established in the bush will be fitted with a fibrolite top to protect it from these birds and to further protect the untreated timber from which the boxes are made. This meant that the cost of the boxes was slightly more than quoted. Eight of the boxes will be installed in the aviary and the remaining seven in the surrounding bush. Currently, the Trust is waiting for confirmation from DOC that the translocation of 48 birds (8 for captive breeding and 40 for hard release) from Hauturu can go ahead.



Nesting boxes in the aviary at Windy Hill

2. Lizard Monitoring Report

Please find attached the Interim report from Prof John Ogden. On beginning the analysis of our field data it was realized that the amount of work far outweighed the dollars allocated from this grant so this report is of an interim nature. Next year we hope to add Arboreal and G-Minnow ground based lizard monitoring, and when funding allows will include seedling, weta, and invertebrate monitoring results as well.

The Conclusions from this interim report on Lizard monitoring are as follows:

- ° *Temporal trends suggest a big increase in Copper Skinks since 2010, especially in the Control Area.*
- ° *The Control area had a high proportion of (small) Copper Skinks, while the managed areas were dominated by Ornate Skinks. The Control area also had more Moko Skinks, but no Geckos were recorded in it.*
- ° *Areas managed for rats (Windy Hill and Benthorn) had about twice as many reptiles as the unmanaged Control and about three times the reptile biomass.*

° *An apparent negative correlation between a proxy for kiore abundance (derived from earlier data) and the number of Ornate Skinks supports an argument that rats are responsible for the decline of this species in the Control.*

° Comparison with independent data (Ecogecko) from 2011 and 2012 confirms the main patterns indicated here, but the data differ in several respects.

3. Seabird Survey

Please find attached the report from Jo Sim of DabChickNZ. This is Jo's third annual seabird survey in the Windy Hill Sanctuary. Her report summary is as follows:

SUMMARY

Not much was found this year in comparison to other years. This year emphasis was put on searching new areas, this may confirm that we have been surveying in the correct places of which this remnant petrel population prefers to nest – in areas of good slope with large puriri trees/logs present.

Of the known burrows that were checked this year, it was very encouraging to find 100% occupancy.

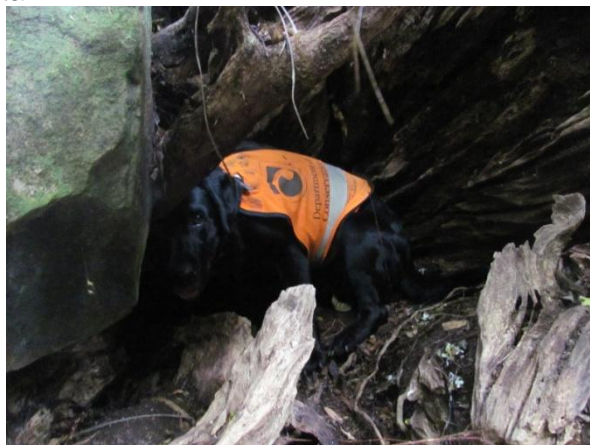
If no more surveys are to be done in the near future, it maybe worthwhile to band the chicks from the known burrows when possible (this will depend on a certified petrel bander being available and the birds being within reach). This will contribute to a small but accurate picture of the population dynamics here at Windy Hill. If banded as chicks the exact age will be known and whether they return or are recaptured dead/alive here or elsewhere in the future could be very interesting and useful information.

Given the amount and the timeframe of predator control here, I am surprised that there are not more black petrels here. The ones that we have found are probably older birds displaying high site fidelity – but I would have expected new birds to be appearing (e.g. returning "chicks"). This could be an artifact of chicks not surviving at sea, not returning to Windy Hill (e.g. being attracted to Hirakimata), limited habitat, or a combination of all these factors. This demonstrates the challenges facing the recovery of slow breeding long lived species.

If further surveys are done, then March/April could be a good time as this will mean the burrows are very strong smelling as there have been adults sitting on eggs and chicks growing there for 3-4 months. However the timing of this will only pick up successful breeders.

Sorry we didn't find any more than this on this trip. We certainly put the effort in and clocked about 19km and over 30ha of area covered.

Thanks for the work, the accommodation, and support from Judy and the knowledgeable local field staff.



Jo's dog Maddie indicates a petrel burrow

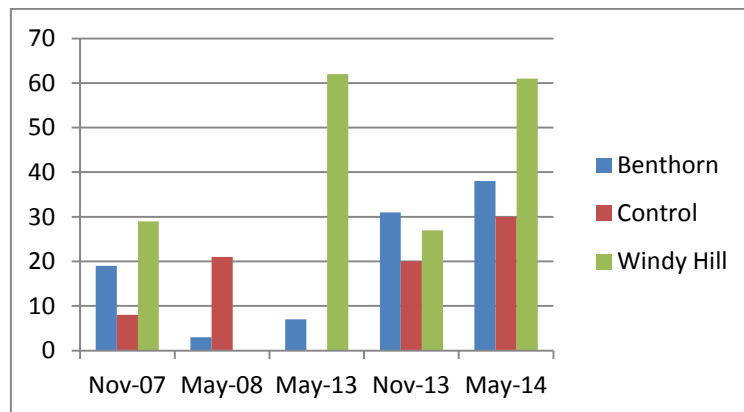
4. Species Monitoring

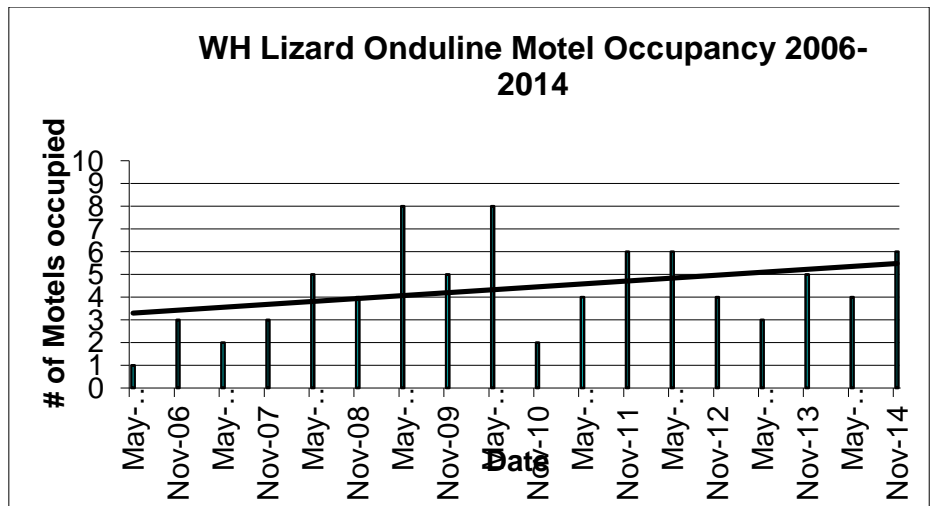
Monitoring of lizards, seedlings, weta, and invertebrates has been carried out at Windy Hill and Benthorn Farm since 2006. We are fortunate to have had the consistent input from field worker Dean Medland for all that time. Onduline stacks (checked for both lizards and invertebrates), weta 'motels', and seedling plots are monitored every May and November. Monitoring is also carried out in the unmanaged Control site.



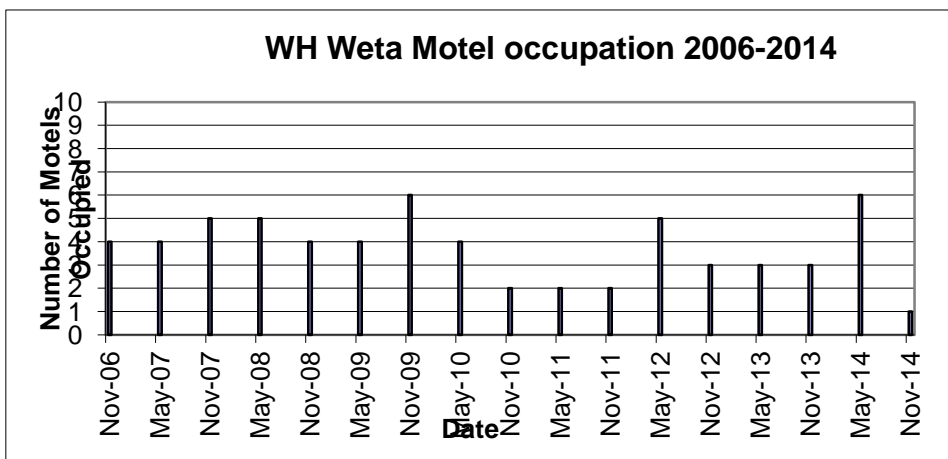
Dean Medland checks an Onduline stack for lizards and invertebrates, and a weta 'motel'

The graph below shows an example of the invertebrate monitoring results for Slaters in the Control, Windy Hill, and Benthorn sites and shows the variability of a species over time. A comprehensive review of all invertebrates monitored will become part of the fuller report written up by Prof John Ogden next year.





Droughts have a major impact on lizard abundance. This is reflected clearly for 2010 and 2013 in the graph above.



Weta motel occupancy also follows the trend of reducing during droughts.

5. Acknowledgements – Auckland Council support

The Auckland Council EIF grant is an important support to the Windy Hill Sanctuary allowing funding for some of the more sophisticated levels of work carried out here. The EIF grant and the support from Auckland Council Biodiversity and Biosecurity teams is acknowledged in our twice yearly newsletters, articles in the GBI Trust Enviro news, at presentations at Conferences and to site visitors, and in other local media. The GB Local Board is also kept fully informed of our activities.

Thank you for your on-going support.

Judy Gilbert
Trust Manager
Windy Hill Sanctuary