

February 2013

Gisborne Titi Restoration Project Update Report



Longbush Ecological Trust

The following is a brief summary of the grey faced petrel, northern titi (*Pterodroma macroptera gouldii*) translocation project undertaken by the Longbush Ecological Trust in Gisborne.

This year has been extremely successful with all transferred chicks fledging successfully during late December in excellent health and at optimal weights. Patsy Matthews from Ecoworks NZ has been the key to this project being such a success. She has put in an impressive effort, not only to coordinate the volunteers but to undertake the feeding programme throughout the Xmas and New Year period, interrupting her own family time to prepare food for the chicks and to travel to Longbush every second morning to feed the birds.

The 10 chicks arrived at Longbush on 26th November 2012. They were given 20 mls of sterile freshwater in the event that they had become slightly dehydrated during the translocation process which took most of the day. The mean weight of the chicks this year on the translocation date was 647.1 grammes.

The chicks were fed every second day with 100mls of Brunswick, sardines, a vitamin mix and freshwater. Over a period of c.18-20 days each chick begins to lose weight and develop flight feathers and the muscle mass required to survive at sea for the next 3-7 years. Initially chicks are a mass of chick down (right) and the chicks store a huge fat reserve which makes them heavier than the adults. By fledging day they have spent many nights outside their burrows exercising and strengthening flight muscles in preparation for their departure.



The chicks stayed onsite at Longbush this year for an average of 19.1 days and departed by themselves from Longbush Reserve at a mean weight of 592.4 grammes. This is an optimal fledging weight.

The following photographs are from a remote infra- red camera which shows one of the chicks exiting its burrow and exercising prior to fledging. This would not be possible on mainland New Zealand without the aid of a pest proof fence. Petrel chicks are particularly vulnerable to attack from feral cats, stoats, ferrets and possums.

Photo 1: Petrel chick emerging from its artificial drain pipe burrow.





Ltl Acorn ☾ 053°F 012°C 02.16.2009 06:15:30



Ltl Acorn ☾ 057°F 014°C 02.16.2009 03:55:39

The chick with 80% adult plumage and a 'skirt' of chick down yet to shed.



Ltl Acorn ☾ 062°F 017°C 02.17.2009 06:20:56

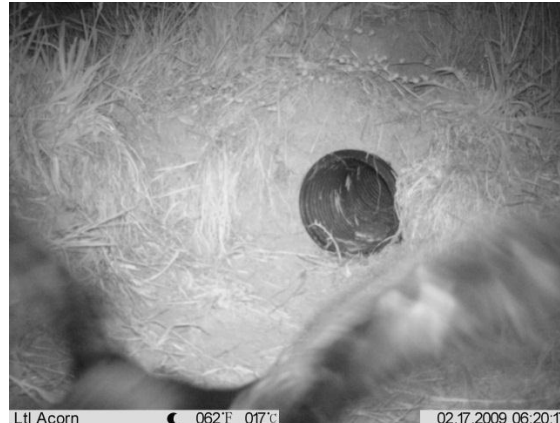


Ltl Acorn ☾ 055°F 013°C 02.16.2009 06:19:25

Most of the night is spent sitting outside its burrow.



Ltl Acorn ☾ 062°F 017°C 02.17.2009 06:20:49



Ltl Acorn ☾ 062°F 017°C 02.17.2009 06:20:17

Chick exercising and occasionally lifting off the ground outside its burrow.



Ltl Acorn ☾ 062°F 017°C 02.17.2009 06:21:14



Ltl Acorn ☾ 062°F 017°C 02.17.2009 06:26:43

This project is unique in that it is translocating *Pterodroma* chicks to a site 7.25 kilometres inland from the coast. This has never been done before. Historically the grey faced petrel, Cook's petrel and several other species nested in the hills surrounding Gisborne however only small remnants of these populations hung on into the 1930's, i.e. Waiherere, Nicks Head (M.Pohatu) Whareongaonga (D. Hughes) Most were extirpated well before this time due to the early introduction of Kiore rat (*Rattus exulans*) and later the mustelids, feral cat, ship and Norway rat (*R.rattus* & *R.norvegicus*). Petrels historically nested as far inland as Panekiri Bluff, Lk Waikaremoana and the central Raukumara Ranges.



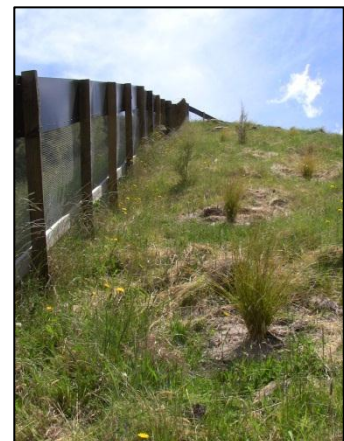
Grey faced petrels are a long lived winter breeding species of petrel. They are long lived (30-50 years) and produce one egg per year once they reach breeding age (4+ years). They are also highly philopatric meaning they are more likely to return to their natal nesting site to breed as adults than to seek out and establish a breeding burrow at a novel site. Therefore any predation of adult breeding birds causes a catastrophic and long term loss to any population because it not only eliminates individuals from the breeding population but also the historic knowledge the species has for a particular breeding site.

Unfortunately the translocation of pre burrow exiting chicks to an inland site is the only way we have of establishing a new population of Titi or petrel at present. It is a labour intensive and therefore relatively costly exercise per bird. Of the ten chicks translocated this year, the last one fledged on 29th December 2012. Grey faced petrels spend the first 3-7 years at sea prior to returning to their natal site to pair and begin breeding. Previous studies have shown that c. 10-15% of the translocated chicks return to their translocation site and the remainder return to their natal or source location (Dr C.Miskelly, *pers.comm*).

At coastal sites we have used social attraction incorporating the use of call playback and artificial burrows (Sawyer & Fogel, *Notornis* 2010), i.e. Nicks Head, Maui to attract passing seabirds this is a cheaper and in some ways a faster method of developing new seabird populations. We are designing a project with Dan Griffin at Motu where we plan to use social attraction at altitude in the Ruakumara area in an attempt to attract petrels passing over East Cape if in fact they do?

Therefore it is a slow way of restoring a historic population of pelagic seabirds at inland sites however petrels were a keystone species in our New Zealand forest ecosystem not having them leaves a huge ecological hole in our landscape. Having return to Gisborne adds significant ecological value to any forest and habitat restoration project.

This year (Year 2) we plan to approach the Motuora Management Committee again to request permission to translocate 40-50 petrel chicks from the island to Longbush petrel enclosure (right) during late November 2013. Our request was declined last year due to the



committee waiting to see what the result of the 3 year Cape Kidnappers transfer. After speaking with Andy Bassett, Area Manager, DOC we feel quite confident that we will be able to source 40 individuals from a an estimated population of 60,000 pairs on Motuora Island. This species is now so abundant that harvesting is now taking place by local Iwi in Whakatane.

If you need any further information regarding this project please contact Steve Sawyer at (027) 209-6049.

Best

Steve Sawyer

Trustee

Longbush Ecological Trust.

