

Motuora diving petrel translocation: Second monitoring report

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Background

Diving petrel translocations have been carried out annually on Motuora from 2007 to 2009. The aim of the translocations is to establish a self-sustaining diving petrel population on Motuora and the translocations are part of the wider ecosystem restoration project currently underway on Motuora (see Motuora Native Species Restoration Plan for further details). A total of 190 chicks have been transferred to Motuora and 178 of these chicks have fledged from Motuora (24 in 2007, 62 in 2008, and 92 in 2009). Most diving petrels return to their fledging site and begin breeding when 2-3 years old (although younger birds will often visit their fledging site and occasionally birds begin breeding as 1 year olds). Systematic monitoring on Motuora was therefore started in 2009, when birds from the first transfer year were most likely to begin returning to Motuora for breeding. Monitoring timetable and protocols used in 2010 followed those established in 2009 (see Appendix 1 for 2010 monitoring timetable and see "Motuora diving petrel translocation: First monitoring report" by Gardner-Gee & Gummer 2009 for further details of protocols).

Monitoring effort 2010

Monitoring was carried out from March 2010 to the end of the monitoring period (November 2010) by the Motuora rangers (Deane Williams and Andrea Ravenscroft) and the translocation project manager (Robin Gardner-Gee). Volunteers assisted with burrow maintenance. The monitoring tracks established in 2009 were cleared in March 2010 and then trimmed as needed. Tracks were walked by RGG on a total of 5 evenings (27 Mar, 29 May, 26 June, 25 Sept, 30 Oct), usually for 60-90 mins, beginning shortly after dusk.

Results: Artificial burrows

Artificial burrows were checked weekly by DW and AR from late April 2010 to Nov 2010 but no signs of use or visitation were detected.

Results: Natural burrows

Little activity was detected at the site over autumn and winter: on 27 Mar 2010 no overhead calls were heard and taped calls did not elicit any responses. On 29 May 2010 male diving petrel calls were heard overhead (6.30-7 pm) but on 26 June 2010 once again there were no overhead calls and taped calls did not elicit any responses.

However on 25 Sept 2010 male diving petrel calls were heard calling from two separate locations on the ground. The first calls heard (at 7.20 pm) were in the vicinity of a burrow established by a diving petrel pair in 2009 (burrow number DP1). The second calls heard (at 8.15 pm) were from an area of deep kikuyu grass behind the top speaker of the acoustic system (approximately 50 m from DP1). This is an area where diving petrel activity had been detected in 2009: on 1 Nov and 14 Nov 2009 male diving petrel calls had been heard from this area and a daytime search on 2 Nov 2009 had located an area within the kikuyu grass with signs of repeated visits (feathers and guano) but no burrow was located.

A daytime check on the afternoon of 26 Sept 2010 detected an egg and incubating adult in DP1 amongst the kikuyu stems beneath a rubber cover that had been placed over the burrow in 2009 (to protect the burrow from heavy rain). However no burrow or sign could be seen near the top speaker, and more intensive searching was not carried out to prevent damage to any burrow that may have been present in the area.

On the evening of 30 Oct 2010 the site was visited later than usual (8-9.20 pm) and no calls were heard or elicited from DP1. However a physical check of the burrow confirmed that a chick was present. A male diving petrel responded to taped calls in the vicinity of the top speaker again but no burrow was located. Limited time on 31 Oct meant the chick in DP1 was not banded.

Conclusions

The 2010 monitoring successfully detected a second breeding attempt in burrow DP1. The monitoring also detected repeated diving petrel visits to an area near the top speaker and it is possible that another pair bred in this area in 2010. All activity detected was in deep kikuyu grass (not in the artificial burrows) which makes close monitoring difficult. Burrows in kikuyu are hard to find, easily damaged and chicks within them may be vulnerable to disturbance (as the burrows are poorly defined and disturbance may make the chicks move into more exposed areas or wander from the burrow). None-the-less, the regular night visits to the site provide some indication of breeding activity at the site and it is recommended that monitoring (following the same protocols) is continued. Monitoring over the next two years (2011-2012) will be particularly important as more adults should start returning to the site over this period, given that the largest cohort of translocated chicks fledged from Motuora in 2009 (92, compared with 62 in 2008 and 24 in 2007) and diving petrels generally begin to breed at 2-3 years old.

Appendix 1

Outline of monitoring and burrow maintenance proposed for 2010 (see Appendix 1: 2009 monitoring protocols for further details)

Month	Project manager (and volunteers)	MRS rangers (and volunteers)
Feb-March	<ul style="list-style-type: none"> • Weed burrows and repair hinges • Cover burrow 18 with sandbags • Mark out new monitoring tracks • Clear gorse from slopes below colony 	<ul style="list-style-type: none"> • Weed-eat artificial colony and monitoring tracks (check burrows immediately before weed-eating)
April		<ul style="list-style-type: none"> • Commence weekly daytime burrow checks in early April, fence any with signs of activity and mark as “occupied”
May-July	<ul style="list-style-type: none"> • Night checks for activity (May check to coincide with annual grey-faced petrel burrow check/banding) • Weed unused burrows 	<ul style="list-style-type: none"> • Continue weekly daytime burrow/fence checks • Weed unused burrows as needed, leave occupied burrows undisturbed • Trim tracks (if needed) after night check and burrow check • Day check of occupied burrows in late July to determine incubation
August-September	<ul style="list-style-type: none"> • Night checks for activity • Day check on any natural burrows located to determine incubation • Weed unused burrows 	<ul style="list-style-type: none"> • Fortnightly day checks of occupied burrows until incubation confirmed • Continue weekly daytime burrow/fence checks • Weed unused burrows as needed, leave occupied burrows and incubating birds undisturbed • Trim tracks (if needed) after night check and burrow check
October	<ul style="list-style-type: none"> • Night checks to identify and band breeding pairs (artificial and natural burrows) in late Oct • Installation of any inspection holes needed • Weed unused burrows • Band all chicks (artificial and natural burrows) by day in late Oct 	<ul style="list-style-type: none"> • Continue weekly daytime burrow/fence checks • Weed unused burrows as needed, leave occupied burrows and incubating birds undisturbed • Trim tracks (if needed) after night check and burrow check • Day check of burrows with incubating birds in late Oct for hatching outcome: don’t handle chicks but inspect any adults present for bands
November	<ul style="list-style-type: none"> • Night checks to identify and band breeding pairs if not already done • Band all chicks (artificial and natural burrows) if not done 	<ul style="list-style-type: none"> • Continue weekly daytime burrow/fence checks to end November