

Population Assessment of Pakahā/Fluttering Shearwaters on Kokomohua/Long Island -October 2022

Translocation of seabirds can help future-proof species by establishing another colony. However, seabirds experience strong site fidelity to their natal colony and translocation of seabird methodologies are continually being developed. Despite this, most monitoring projects occur on the translocated site, to determine the success of the translocation (returning breeders). Our objective was to begin an annual survey of a source site (Kokomohua/Long Island) in the Marlborough Sounds that has been used for multiple translocations of pakahā/fluttering shearwaters to Te Pākeka/Maud Island (1991-1996), Mana Island (2006-2008), Matiu/Somes Island (2012-2014), and Farewell Spit (2022-2026).

The pakahā colony is situated on a very steep cliff-face, with loose terrain. To date, 157 artificial burrow boxes have been installed at this colony site (in 2007 and 2022; n=157), to improve translocation efforts since 1991 and to begin to monitor the source population.

We had originally planned to plot transects across the colony to determine natural burrow occupancy and compare occupancy rates with the artificial burrows. A trip in October 2022 was chosen as this would be during the optimal egg incubation period, thus allowing us to accurately determine occupancy rates.

Unfortunately, adverse weather in the Marlborough Sounds in the winter of 2022 caused multiple landslides and rockfalls on Kokomohua/Long Island, including, devastatingly, at the colony site (Figure 1).

An assessment of the colony after the slips was conducted in August 2022. It was determined that 10% of the artificial burrows had been destroyed (Figure 1). Fortunately, the occupancy of the burrows during this time was low, with birds on exodus out in the Marlborough Sounds. In September 2022, another trip was taken to fix and move dislodged boxes, and to clear out the nesting chambers, which were full of mud.

Funding supplied by Birds New Zealand enabled Marlborough and Wellington Birds New Zealand members to travel to Kokomohua/Long Island in October 2022 to conduct artificial burrow occupancy rates post-damage. We were interested in those that we had cleaned out, particularly the four boxes we moved to better locations. Another objective was to use mark-recapture to see if any previously translocated birds (from Te Pākeka/Maud; Matiu/Somes; Mana or Farewell Spit) have returned to Long Island to breed. Banding also provided a training opportunity for two members on the trip.

Artificial burrow occupancy has increased from 31% (2021/2022) to 44% (2022/2023). Despite a 10% loss in artificial burrows due to the slips, this is a marked increase. Natural burrows also occur amongst the artificial burrows throughout the colony and it is estimated that a significant portion of these were lost due to the slip as well. Birds trying to return to their destroyed natural burrows may have utilised the readily available artificial burrows, thereby increasing the occupancy rate. This was demonstrated when two out of the four boxes moved in September 2022 already had an incubating bird in them.

There has also been some evidence of a delay in the breeding season, which caused 11 empty burrows in October 2022 (7%) to produce evidence of breeding during the January check. Of those, only 55% hatched into chicks.

The fragility of seabird colonies is an important factor when undertaking any long-term population assessment, and conducting transects across this terrain could be detrimental. Therefore, the decision was made to focus on artificial occupancy rates, rather than a comparison with natural burrows to minimise disturbance and dislodgement of further burrows.

We wish to thank the Marlborough Birds New Zealand members that volunteered their time for this trip, and for Birds New Zealand for their financial contribution to help enable this trip to occur.



Figure 1 Damage to the pakahā colony at the northern tip on Kokomohua/Long Island after the winter storms in 2022. Note previous slip damage from a few years ago on the lower left-hand side, showing how fragile this site is. Red circle showing an artificial burrow hatch lid from the slip.

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