

# Motuhara seabird research: field trip report December 2022

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## Introduction

Motuhara (the Forty-Fours) is Maori Freehold Land with over 200 registered owners. I discussed this research, and access to the island with the senior owners of Motuhara, and I am grateful to the island owners for granting permission to land and camp on the island to undertake this research.

Northern Royal Albatross (*Diomedea sanfordi*), Northern Buller's Mollymawk (*Thalassarche bulleri plateri*) and Northern Giant Petrel (*Macronectes halli*) all have significant breeding populations on Motuhara (43°96'S, 175°83'W) (Checklist committee 2010).

Following on from CSP funded research in Jan/Feb 2021 and Jan 2022 I continued with privately funded research on Motuhara. To support this work the Marine Bycatch and Threats Team at the Department of Conservation provided a limited amount of funding to help with logistical costs.

In December 2022 a field trip to Motuhara was carried out to undertake seabird research. Including recovering GLS devices redeployed on Buller's Mollymawk to collect a second year of data, download cameras set up to recording breeding activity at Royal Albatross, Buller's Mollymawk, and Giant Petrel breeding areas. Along with censusing the Royal Albatross, Buller's Mollymawk, and Giant Petrel and recording banded birds at various study colonies. This report provides a brief summary of that trip to provide data, but no analysis, to keep building up the knowledge of the species at this location.

## Results

### Field trip

A team of two, Mike Bell and Dave Bell camped on Motuhara from December 8<sup>th</sup> to December 17<sup>th</sup>, 2022. We landed on the northern landing mid-morning, and immediately ferried our gear up to the usual campsite. We had our campsite setup and all gear safety stowed by earlier afternoon. The weather throughout the trip was warm, calm and very foggy throughout, with some periods of heavy rain.

## Northern Royal Albatross

### Study plot re-sighting and banding

Within the two study plots established in 2021 we re-sighted 108 birds banded. As biennial breeders a much longer data series will be needed to attempt any survival analysis. Throughout both study plots a further 6 breeding adults were banded, we restricted banding to birds paired with banded partners. Since January 627 Royal albatross have been individual colour banded to establish a baseline marked population to follow going forward. All banding and resight data will be added to the FALCON banding database.

### Aerial study grids

In Jan 2021 five study grids were established within the main breeding area on the eastern end of the island to support future aerial survey and these were counted on December 9<sup>th</sup> (Table 2). There

was some difference between years in the two plots, but as Royal's are biennial breeders these fluctuations are likely and a longer time series is needed to determine any population trends.

*Table 1. Nest counts from established study grids in the main Royal Albatross breeding area on Motuhara, December 2022.*

Study grid	Egg	Chick	Failed	Total
Grid 1	40		2	42
Grid 2	28		2	30
Grid 3	38		1	39
Grid 4	40		1	41
Grid 5	37			37

### Island wide census

A complete census of the Royal Albatross nesting population was undertaken on December 13<sup>th</sup>, 2022, with a total of 1,614 breeding nests counted (Table 2).

*Table 2. Nest counts of total Royal Albatross breeding population on Motuhara, December 2022.*

Area	Egg	Chick	Failed	Total
Camp colony	76		6	82
Bowling Green Colony	35		6	41
Main Colony	1,387		104	1,491
Total				1,614

### Camera download

Cameras within the Royal area were downloaded and images provided to Peter Frost for further analysis.

## Northern Buller's Mollymawk

### Study plot re-sighting and banding

Within the two study plots established in 2021 all nests were checked multiple times, and banded birds recorded. A total of 203 banded birds were resighted, and 27 additional new birds banded (we only banded new birds on numbered study nests). All banding and resight data will be added to the FALCON banding database.

### GLS recovery

A total of 55 GLS devices deployed on breeding Buller's Mollymawk in January 2021, and downloaded and re-deployed in Jan 2022 were recovered in December 2022, and a further 3 in January 2023 during a day trip to the motu. Analysis of the data was not part of this project and has been supplied to the Department of Conservation who will process the data and map the movements of these birds.

### Study grid counts

The 5 original 10x10m study grids and the 5 newly established grids (Jan 2021) were counted (Table 3).

*Table 5. Nest counts from the 5 existing and 5 newly established study grids on Motuhara Island, January 2022.*

	Study grid	Egg	Chick	Failed	Total
Existing	Grid 1	33		19	52
Existing	Grid 2	58		20	78
Existing	Grid 3	48		17	65
Existing	Grid 4	50		24	74
Existing	Grid 5	57		19	76
New	Grid 6	60		13	73
New	Grid 7	40		18	58
New	Grid 8	49		19	68
New	Grid 9	47		14	61
New	Grid 10	32		20	52

### Island wide census

A complete census of the Buller's Mollymawk was undertaken across the motu from December 10-12<sup>th</sup> 2022. With a total of 15,809 breeding pairs counted on the main island. Drone images of the four stacks have yet to be counted.

### Camera download

Cameras within the Royal area were downloaded and images provided to Peter Frost for further analysis.

## Northern Giant Petrel

### Island wide census

A complete census of the Giant Petrel was carried out was undertaken across the motu on December 13<sup>th</sup> 2022. During this time Giant Petrels were on chicks, so this census is of chicks (active nests). A total of 1,193 chicks were counted across the 3 breeding areas (Table 3).

*Table 3. Nest counts of total Northern Giant Petrel breeding population on Motuhara, December 2022.*

Area	Chick
Camp colony	42
Bowling Green Colony	11
Main Colony	1,140
Total	1,193

### Camera download

Cameras within the Royal area were downloaded and images provided to Peter Frost for further analysis.

## Cape Pigeon

### GLS deployment

A total of 15 GLS were deployed on incubating Cape Pigeons, including 7 nest were both partners were captured, and one bird from further nest in December 2022. These nests were checked in the day visit in January 2023 to confirm breeding status at the time.

## Acknowledgements

Motuhara is a privately owned Island and I am grateful for the island owners allowing me access to the island to undertake this research. Thanks to Chris Morrison for providing access to the island and my brother Paul for his company and hard work on Motuhara. This work was funded by the Department of Conservation Conservation Services Program and I thank Graeme Taylor for managing this.