

PERSPECTIVES IN

Biodiversity

VOLUME 1 / ISSUE 1 / 2023

Published ahead of issue

Received: 6 April 2023

Accepted: 4 July 2023

Published: October 2023

Observations of avifauna on Rēkohu / Wharekauri / Chatham Island, Chatham Islands group, in February 2023

**Marleen Baling, Dayna J. M. McKenzie,
Rowan K. Scott, Leon H. van Vugt, Hamish
Tuanui Chisholm, Peter J. de Lange**

<https://doi.org/10.34074/pibdiv.001102>

Observations of avifauna on Rēkohu / Wharekauri / Chatham Island, Chatham Islands group, in February 2023 by Marleen Baling, Dayna J. M. McKenzie, Rowan K. Scott, Leon H. van Vugt, Hamish Tuanui Chisholm and Peter J. de Lange is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

This publication may be cited as: Baling, M., McKenzie, D., J., M., Scott, R. K., van Vugt, L. H., Chisholm, H. T. & de Lange, P. J. (2023). Observations of avifauna on Rēkohu / Wharekauri / Chatham Island, Chatham Islands group, in February 2023. *Perspectives in Biodiversity*, 1(1): 1–24.

Contact:

epress@unitec.ac.nz

www.unitec.ac.nz/epress/

Unitec | Te Pūkenga

Private Bag 92025, Victoria Street West


Tāmaki Makaurau Auckland 1142

Aotearoa New Zealand



ISSN 3021-114X

Observations of avifauna on Rēkohu / Wharekauri / Chatham Island, Chatham Islands group, in February 2023

Marleen Baling^{1*} , Dayna J. M. McKenzie¹, Rowan K. Scott², Leon H. van Vugt¹, Hamish Tuanui Chisholm³, Peter J. de Lange¹ 

1. School of Environmental and Animal Sciences, Unitec | Te Pūkenga, Private Bag 92025, Victoria Street West, Auckland 1142, New Zealand
 2. NorthTec | Te Pūkenga, Private Bag 9019, Whangārei 0148, New Zealand
 3. 1007 Waitangi-Tuku Road, Chatham Islands 8016, New Zealand
- * Corresponding author: m.baling@gmail.com

Associate Editor: Sarah Wells

Article type: Annotated checklist

Abstract

Rēkohu / Wharekauri / Chatham Island (hereafter Rēkohu) is the largest island in the Chatham Islands group, 800 km east of Te Wai Pounamu / South Island, Aotearoa / New Zealand. This island has an avifauna of 170 taxa. Here, we present a list of bird species encountered during an eight-day undergraduate field trip in February 2023. Based on visual encounters or via calls heard, we encountered 38 species of bird (two seabirds, eight coastal birds, six freshwater birds and 22 terrestrial birds) across 13 locations over six days. The most common species sighted were common starlings (*Sturnus vulgaris vulgaris*), followed by white-fronted terns (*Sterna striata*) and black swans (*Cygnus atratus*). We encountered a Chatham Island tūi (*Prosthemadera novaeseelandiae chathamensis*) in Nīkau Bush Reserve, c.35 km north of the translocated population in Awatotara Valley. We also present the first list of bird species for Motuhinahina and a nearby limestone rock stack in Te Whanga Lagoon. Birds encountered there included Chatham Island shag (*Leucocarbo onslowi*), Pitt Island shag (*Phalacrocorax featherstoni*), buff weka (*Gallirallus australis hectori*) and New Zealand little penguin (*Eudyptula minor minor*). We formally report the presence of feral emu (*Dromaius novaehollandiae*), including chicks, at Te Matarae, where there is self-sustaining population following their release to the wild years ago. In previous observations, feral chicken (*Gallus gallus gallus*) and turkey (*Meleagris gallopavo*) were 'semi-wild' on the basis that observations made of these species were well outside sites of human habitation. In the case of turkey, they are in the process of self-establishing. We suggest a full census is required to determine the status of these populations, particularly emu. As the emu population is self-sustaining, they should be considered as a new addition not only to the avifauna of the Chatham Islands group but to Aotearoa / New Zealand.

Keywords

Bird survey, Aotearoa / New Zealand, Rēkohu / Wharekauri / Chatham Island, emu, *Dromaius novaehollandiae*, feral chicken, *Gallus gallus gallus*, turkey, *Meleagris gallopavo*, Motuhinahina

Introduction

The Chatham Islands group is an archipelago c.800 km east of Te Wai Pounamu / South Island, Aotearoa / New Zealand. The group consists of c.10 islands, with Rēkohu / Wharekauri / Chatham Island (hereafter Rēkohu, Figure 1) at 920 km² (92,000 ha) the largest island (Miskelly 2008). Rēkohu is low lying, reaching a maximum elevation of 299 m a.s.l. in the south, with much of the northern two-thirds of the island <20 m a.s.l. Notably, most of the island is dominated by Te Whanga, a 186 km² (18,600 ha) lagoon, as well as myriad dune and peat lakes (Miskelly 2008).

The indigenous vegetation cover of Rēkohu has been extensively cleared, and what little remains is severely modified. With the exception of some portions of the southern tablelands, kawenata / covenants, conservation areas and a few scenic reserves, much of the island is now given over to pasture, degraded peatland, and gorse (*Ulex europaeus* L.) (de Lange et al. 2008). The last conspectus of the Chatham Islands flora accepted 875 taxa of vascular plants (including hybrids), of which 41 were considered endemic and 400 indigenous (de Lange et al. 2011). Subsequent taxonomic adjustments have added five endemic flowering plants, and others have yet to be described (de Lange et al. 2011). Overall, the vegetation associations reflect drainage and underlying geology; in poorly drained sites, peat bogs dominated by the restiad *Sporadanthus traversii* (F.Muell.) Buchanan, and *Dracophyllum scoparium* Hook.f. dominate. Sandy and free-draining soils once supported dense stands of hakapiri (*Olearia traversiorum* (F.Muell.) Hook.f.) and mixed hakapiri, mataira (*Myrsine chathamica* F.Muell.), hioa karamu (*Coprosma chathamica* Cockayne) forest. On the more elevated southern tablelands, the forests are similar but tend to have greater dominance of tarahinau, with the occasional co-dominance of mataira karupuru (*Myrsine coxii* Cockayne). The only other major forest association of note is swamp forest, which once dominated the floodplains and margins of lakes. This vegetation is dominated by the swamp hakapiri (*Olearia telmatica* Heenan & de Lange). Along the western side of Te Whanga Lagoon the limestone outcrops and rock stacks support a low, wind-shorn shrubland in which hokopēke puapiki (*Leucopogon parviflorus* (Andrews) Lindl.), hokotaka (*Corokia macrocarpa* Kirk) and harapepe (*Phormium tenax* J.R.Forst. et G.Forst.) are prominent, and, in forested areas, kōwhai (*Sophora chathamica* Cockayne). The dunes of Rēkohu were once dominated by pingao (*Ficinia spiralis* (A.Rich.) Muasya & de Lange) and *Poa chathamica* Petrie on the active margins, and,

in the more stable swales and back dunes, kopakopa (*Myosotidium hortensia* (Decne.) Baill.) and pūhā pārākaurahi (*Sonchus grandifolius* Kirk).

Rēkohu has an avifauna of c.170 taxa including two monotypic endemic genera (*Cabalus* Hutton, 1874, and *Diaphorapteryx* Forbes, 1892), three endemic species and c.120 indigenous and 20 introduced species (Appendix 1) (Millner 1991; Imber 1994; Aikman & Miskelly 2004; Cooper & Tennyson 2008; Mitchell et al. 2014; Wood et al. 2014; Cole et al. 2019; Miskelly 2022; OSNZ Checklist Committee 2022; Shepherd et al. 2022). A further 21 exotic birds are accepted as naturalised (n = 19) or semi-wild to the island (n = 2) (Appendix 1) (Aikman & Miskelly 2004).

The indigenous avifauna of Rēkohu has been and continues to be negatively affected by anthropogenic effects, mainly introduced predators, changes in the landscape, and wild harvests (West 1988; Aikman et al. 2001). Currently, 13 birds have been extirpated from Rēkohu (two of these, *Anas chathamica* (Oliver, 1955), and *Mergus milleneri* Williams & Tennyson, 2014, appear to have been endemic to Rēkohu) (Appendix 1). To prevent further losses there are now conservation restoration programmes and management for important endemic birds such as taiko / tchaik (*Pterodroma magentae* (Giglioli & Salvadori, 1869)), torea tai / Chatham Island oystercatcher (*Haematopus chathamensis* Hartert, 1927), Chatham Island tūi (*Prothemadera novaeseelandiae chathamensis* Hartert, 1928), and parea (*Hemiphaga chathamensis* (Rothschild, 1891)) on Rēkohu (Dilks & Kearvell 1996; Dilks et al. 1998; Ulrich & Brown 2005; Moore 2008; Moore & Reid 2009; Taylor et al. 2012; Miskelly & Powesland 2013; Taylor 2013 [updated 2022]; Moore 2014).

Rēkohu has a variety of introduced species, including kiore (*Rattus exulans* (Peale, 1848)), mice (*Mus musculus* Linnaeus, 1758), brown and ship rats (*R. norvegicus* (Berkenhout, 1769), *R. rattus* (Linnaeus, 1758)), common brush-tailed possums (*Trichosurus vulpecula* (Kerr, 1792)), European hedgehog (*Erinaceus europaeus* Linnaeus, 1758), feral pigs (*Sus scrofa* Linnaeus, 1758), feral ungulates (*Bos taurus* Linnaeus, 1758, and *Ovis aries* Linnaeus, 1758), feral cats (*Felis catus* Linnaeus, 1758), and buff weka (*Gallirallus australis hectori* (Hutton, 1873)) (Miskelly et al. 2006). Weka were introduced to Rēkohu in 1905 (Aikman & Miskelly 2004) and are now commonly seen throughout the island.

Here, we present a list of the birds we encountered during an eight-day undergraduate field trip to Rēkohu in February 2023. We also discuss three new bird

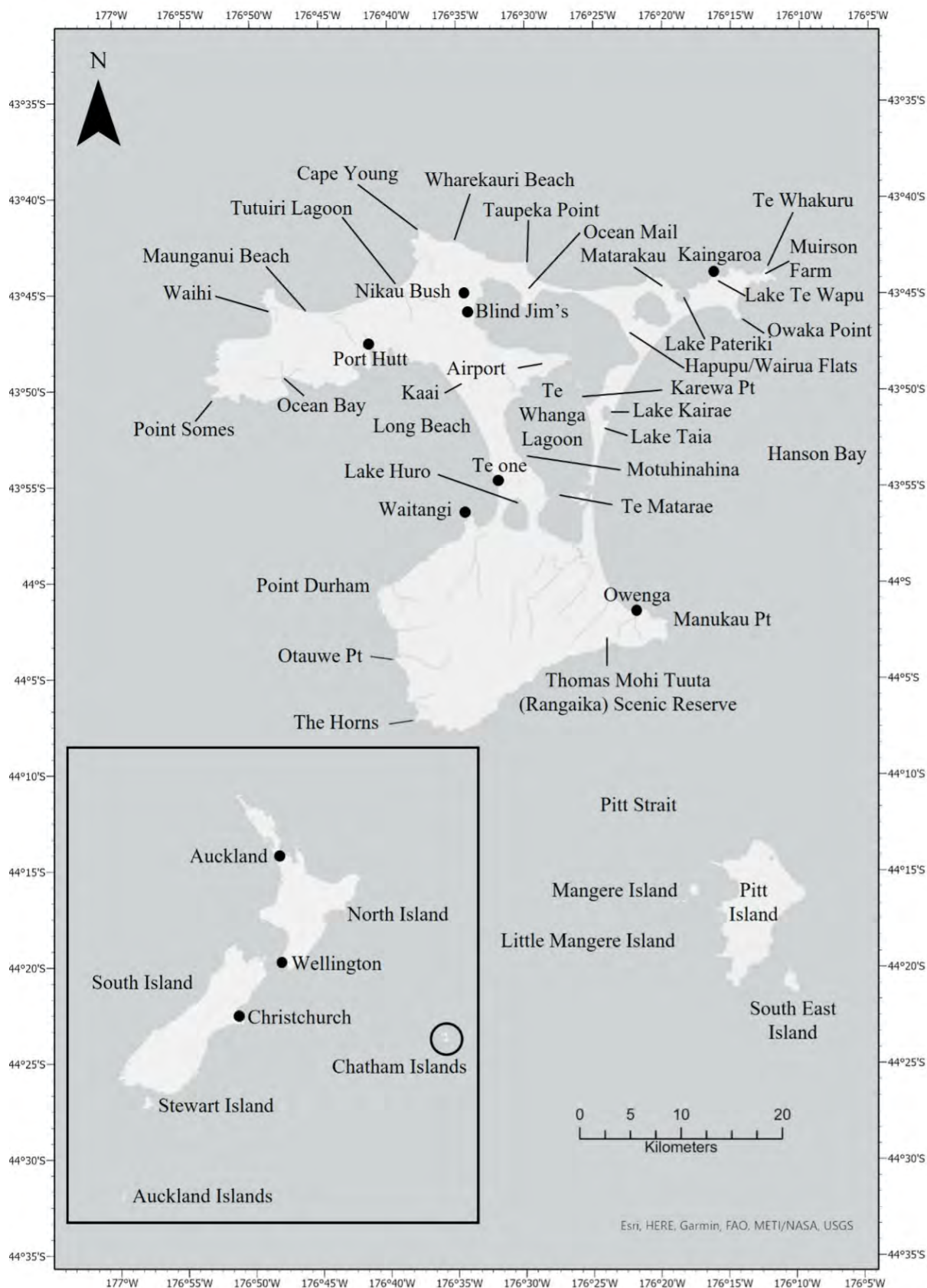


Figure 1. Map of Rēkohu / Wharekauri / Chatham Island within the Chatham Island Group.

species for Rēkohu, emu (*Dromaius novaehollandiae* (Latham, 1790), which is considered fully naturalised, feral chicken (*Gallus gallus gallus* (Linnaeus, 1758)) and turkey (*Meleagris gallopavo* Linnaeus, 1758), which are treated as ‘semi-feral’.

Methods

Five persons conducted anecdotal sightings and identified bird species based on visual encounters or via calls heard while travelling to and from, and visiting 13 locations at Rēkohu (Figure 1). We also counted (where possible) individuals encountered. On 14–15 February 2023, Cyclone Gabrielle arrived at the island, so we visited only few locations during those two days.

We travelled to Motuhinahina and a limestone rock stack known locally as ‘Shag Rock’ in Te Whanga Lagoon on 12 February 2023, via boat from 10:00 am–1:40 pm. We spent three hours on the island. We travelled to Shag Rock via boat and circled the rock stack within 15 minutes. We did not land on Shag Rock. Six persons conducted anecdotal sightings and identified bird species on that day.

Results and Discussion

A total of 38 bird species was identified during our survey on 10–15 February 2023 (Table 1) at Rēkohu. The most common species sighted were common starlings (*Sturnus vulgaris vulgaris* Linnaeus, 1758), followed by white-fronted terns (*Sterna striata* Gmelin, 1789) and black swans (*Cygnus atratus* (Latham, 1790)) (Table 2). Most of these birds were seen on paddocks, lakes or Te Whanga Lagoon, and along the coasts. The most commonly seen shag species was the papua / Chatham Island shag (*Leucocarbo onslowi* (Forbes, 1893)), where the highest number sighted in one day was on Te Whanga Lagoon at Shag Rock (n = 50) and at Manukau (n = 47). The second most frequent shag species seen was the kawau o Rangihau / Pitt Island shag (*Phalacrocorax featherstoni* Buller, 1873), with the highest numbers observed at Motuhinahina and Shag Rock, Te Whanga Lagoon (n = 39) (Table 2). Locations of sightings for these two species concur with the census conducted in 1997/98 (Bell & Bell 2000).

A notable record during this trip includes a call of a Chatham Island tūi heard in Nīkau Bush Reserve. We did not expect to hear a tūi at Nīkau Bush because the majority of the island’s population is on the southern

part of Rēkohu (c.35 km south of this station), where a population has been successfully translocated to the Awatotara Valley, South Chatham (Fleming 1939; Aikman & Miskelly 2004; Bell et al. 2013). However, tūi on the mainland can travel up to 30 km within a day (Bergquist 1985), therefore Nīkau Bush from Awatotara would be within the distance limit for a typical tūi. We also sighted five northern giant petrels (*Macronectes halli* Mathews, 1912) and two northern royal albatrosses (*Diomedea sanfordi* Murphy, 1917) flying just offshore of Te Wakaru Island (Table 2). Northern giant petrel and the northern royal albatross are commonly seen on most islands in the Chatham Islands group (Imber 1994; Aikman & Miskelly 2004; Miskelly et al. 2006).

We also present the first formally published listing of bird species for Motuhinahina and Shag Rock, Te Whanga Lagoon (Table 2, 12 February 2023). Previously, only shags had been recorded from these locations (Debski et al. 2012). Here we recorded the presence of buff weka with chicks, kororā / New Zealand little penguin (*Eudyptula minor minor* (J.R. Forster, 1781)) sheltering within limestone rubble and outcrops along the coastline of Motuhinahina, and abundant southern black-backed gull (*Larus dominicanus* Lichtenstein, 1823). There were both Chatham Island and Pitt Island shags present at the location. The central portion of Motuhinahina supports a wind-shorn ‘forest’ of 2–3 m tall taupata (*Coprosma repens* A.Rich.), inihina, kawakawa (*Piper excelsum* G.Forst. subsp. *excelsum*), kopi (*Corynocarpus laevigatus* J.R.Forst. et G.Forst.) and *Muehlenbeckia* aff. *australis* (G.Forst.) Meisn. vineland. The ground cover, understorey vegetation, lower foliage and trunks of the canopy species were spattered with faecal matter and feathers indicative of the island being used as an evening roost by common starlings. We also found feathers (including wing feathers) in deep limestone overhangs and caves on the southern side of the island, which belong to a seabird, most likely māpunga / black shag (*Phalacrocorax carbo novaehollandiae* Stephens, 1826) (G. Taylor, J. Galbraith & M. Galbraith, pers. comm. to M. Baling, April 2023).

One species we observed that was not on the current bird list for the Chatham Islands is emu (*Dromaius novaehollandiae* Latham, 1790) (Table 2) (Aikman et al. 2001; Aikman & Miskelly 2004; Miskelly et al. 2006). Whilst we have been unable to obtain exact dates, we are aware that six emu were imported to Rēkohu at least 30 years ago to form the basis for a tourist industry centred on selling emu eggs carved with Māori and Moriori motifs (D. Goomes, pers. comm. to P. J. de

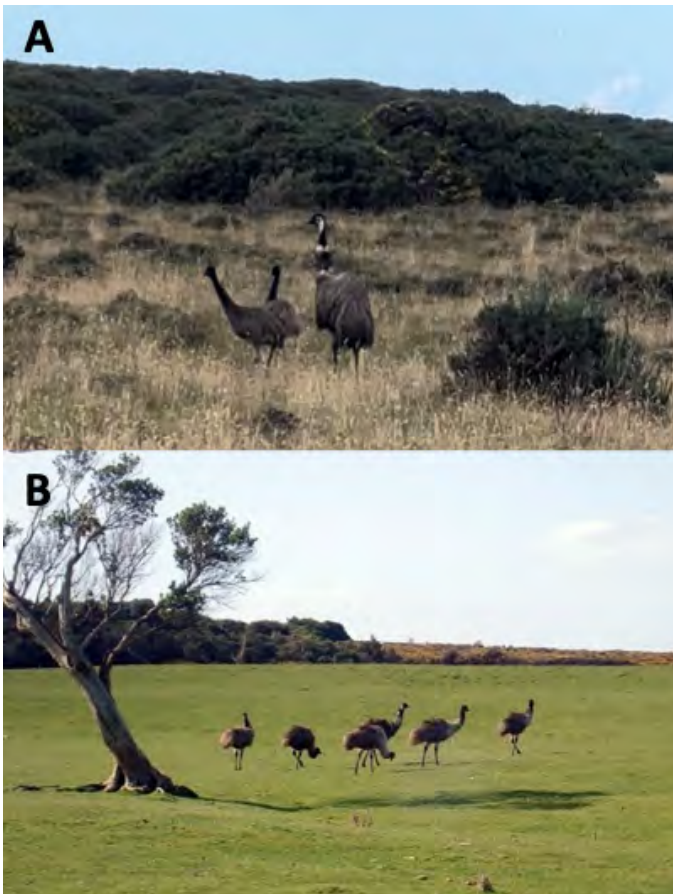


Figure 2. (A) An adult and two juvenile emu (*Dromaius novaehollandiae*) at Te Matarae. Photo: D. J. M. McKenzie, February 2023. (B) Six emu, part of a larger flock of 20 seen on Rapanui Road. Photo: P. de Lange, September 2019.

Lange, August 2021; T. Gregory-Hunt to P. J. de Lange, September 2023). One bird died in an accident with a vehicle on Rapanui Road, while the other five, after some time in captivity, failed to lay eggs and so were turned loose on the farmland bordered by Rapanui and Te Matarae Roads and Lake Huro. Ironically, these birds promptly bred and there is now a feral, unmanaged, self-sustaining population located over multiple properties, within dense gorse shrubland, rough pasture and indigenous forest. Locals estimate between 60–200 birds on the island (see also observations from the Chatham Islands posted on iNaturalist NZ, <https://inaturalist.nz>). Those observations reported flocks of ≥ 20 individuals, and on one occasion up to 50 individuals (P. J. de Lange, pers. obs., see <https://inaturalist.nz/observations/75587059>), including chicks and fledglings. This species is currently not listed as a pest on the island (Chathams Islands Council & Environment Canterbury Regional Council 2011). A full census is required to determine the extent and size of

this population. The observation of a self-sustaining feral population of emu on Rēkohu is not only an addition to the accepted avifauna listings for the island (Aikman et al. 2001; Aikman & Miskelly 2004; Miskelly et al. 2006) but also, it would seem, to the avifauna of the wider New Zealand Archipelago (see www.birdsnz.org.nz/society-publications/checklist/).

Two other species, feral chicken and turkey, though not seen by us on this visit, have been recorded as ‘semi-wild’ by P. J. de Lange during past visits to the island. Feral chickens have been observed by islanders and one of us (P. J. de Lange) across Rēkohu; notably at Te Matarae, along North Road, near Kaingaroa (J. Kamo, K. Silbery, and the late Mana Cracknell, pers. comm. to the author, 2018–2021), in shrubland bordering North Road (P. J. de Lange, pers. obs., 2020), near Pana / Jim’s Blind (P. J. de Lange, pers. obs., 2021), Nīkau Bush Conservation Area (P. J. de Lange, pers. obs., 2021), and Waitangi West (P. J. de Lange, pers. obs., 2022). These birds, undoubtedly escapees from those held by landowners, are believed to be in the process of self-establishing. In Waitangi West, adults, subadults and chicks have been observed near Point Somes (P. J. de Lange, pers. obs., December 2020).

Wild turkeys were seen once in May 2019 inhabiting rough pasture and partially drained restiad bog below Matakītaki Hill near Rototangoio, Waitangi West (P. J. de Lange, pers. obs., <https://inaturalist.nz/observations/24865397>). These birds were descended from turkey that escaped from a captive free-ranging flock near the houses of Waitangi West Farm (G. Roper, pers. comm., 2019). As with feral chickens, adult turkey, subadults and chicks have been observed. Both feral chicken and turkey we still consider ‘semi-wild’ as their ranges are still limited (mostly within the confines of managed lands), and evidence of sustained breeding is minimal. These observations contrast with the breeding status of emu, where there is now a sizeable (at least 50 birds), self-sustaining population that has established itself within a large area of unmanaged gorse shrubland, rough pasture and indigenous forest.

Data accessibility statement

No additional database.

Author Contributions

Marleen Baling: Conceptualisation (lead); data curation (lead); investigation (equal); methodology (lead); supervision (supporting); validation (equal); visualisation (lead); writing – original draft (equal); writing – review and editing (equal).

Dayna J. D McKenzie: Investigation (equal); validation (equal); visualisation; writing – review and editing (equal).

Rowan K. Scott: Investigation (equal); validation (equal); writing – review and editing.

Leon H. van Vugt: Investigation (equal); writing – review and editing.

Hamish Tuanui Chisholm: Investigation (equal); resources; validation (equal); writing – review & editing.

Peter J. de Lange: Conceptualisation (supporting); investigation (equal); project administration (lead); resources (lead); supervision (lead); data curation; validation (equal); writing – original draft preparation (equal); writing – review and editing (equal).

Acknowledgements

This survey was conducted during an undergraduate course fieldtrip (NSCI7108, Bachelor of Applied Science, School of Environmental and Animal Sciences, Unitec | Te Pūkenga). We thank the owners of Whareweka / Science House, David Johnston and Jocelyn Powell, for using their facilities at Te One. Jonathan Reriti, Tony Anderson, Jim and Sally Muirson, Vinnie Tuuta, Maui Solomon, Susan Thorpe, Levi Lanauze, Elizabeth and Bruce Tuanui, and Eileen and Gary Cameron granted access across their lands and / or permission to visit locations around Rēkohu. Peter de Lange wishes to acknowledge comments made by Debra Goomes about the attempted emu egg-farming on Rēkohu, and comments and observations from Judy Kamo, Gary Roper and Kaai Silbery about feral chickens and turkeys. The authors thank Colin Miskelly, Dave Boyle and Alan Tennyson for comments on Chatham Islands birds and their review of an earlier draft of this paper, and Josie Galbraith and Mel Galbraith for offering an identification of feathers collected from Motuhinahina. We also thank the two anonymous reviewers for their feedback on the manuscript.

References

- Aikman, H., Davis, A., Miskelly, C., O'Connor, S., Taylor, G. (2001). *Chatham Islands threatened birds: Recovery and management plans*. Wellington: Department of Conservation. 20 pp.
- Aikman, H., Miskelly, C. (2004). *Birds of the Chatham Islands*. Wellington: Department of Conservation. 129 pp.
- Bell, M., Bell, D. (2000). Census of the three shag species in the Chatham Islands. *Notornis*, 47: 148–153.
- Bell, M., Tuanui, E. A., Tuanui, B. M. (2013). Returning Chatham Islands tui (*Prosthemadera novaeseelandiae chathamensis*) to Chatham Island. *Notornis*, 60: 49–54.
- Bergquist, C. A. L. (1985). Movements of groups of tui (*Prosthemadera novaeseelandiae*) in winter and settlement of juvenile tui in summer. *New Zealand Journal of Zoology*, 12(4): 569–571. <http://www.doi.org/10.1080/03014223.1985.10428305>
- Chathams Islands Council & Environment Canterbury Regional Council (2011). *Chatham Islands biosecurity: A snapshot 2011–2017*. Chatham Islands: Chathams Islands Council. 92 pp.
- Cole, T. L., Ksepka, D. T., Mitchell, K. J., Tennyson, A. J. D., Thomas, D. B., Pan, H., Zhang, G., Rawlence, N. J., Wood, J. R., Bover, P., Bouzat, J. L., Cooper, A., Fiddaman, S. R., Hart, T., Miller, G., Ryan, P. G., Shepherd, L. D., Wilmshurst, J. M., Waters, J. M. (2019). Mitogenomes uncover extinct penguin taxa and reveal island formation as a key driver of speciation. *Molecular Biology and Evolution*, 36(4): 784–797. <http://www.doi.org/10.1093/molbev/msz017>
- Cooper, J. H., Tennyson, A. S. J. D. (2008). Wrecks and residents: The fossil gadfly petrels (*Pterodroma* spp.) of the Chatham Islands, New Zealand. *Oryctos*, 7: 227–248.
- de Lange, P. J., Heenan, P. B., Rolfe, J. R. (2011). *Checklist of vascular plants recorded from the Chatham Islands*. Wellington: Department of Conservation. 63 pp.
- de Lange, P. J., Heenan, P. B., Sawyer, J. (2008). Flora. In: Miskelly, C. (ed), *Chatham Islands: Heritage and Conservation*. Christchurch: University Canterbury Press, pp. 97–115.
- Debski, I., Bell, M., Palmer, D. (2012). *Chatham Island and Pitt Island shag census 2011: MCSPOP2010-02 Final Report*. Department of Conservation. 21 pp.
- Dilks, P., Onley, D., Kemp, J. (1998). *Ecology and breeding of Chatham Island tui*. Wellington: Department of Conservation. 38 pp.
- Dilks, P. J., Kearvell, J. (1996). *Preliminary studies of Chatham Island tui: January 1996 population status and aspects of ecology*. Wellington: Department of Conservation. 26 pp.
- Fleming, C. A. (1939). Birds of the Chatham Islands. *Emu – Austral Ornithology*, 38: 495–509.
- Freeman, A. N. D. (1994). Landbirds recorded at the Chatham Islands, 1940 to December 1993. *Notornis*, 41: 127–141.
- Greene, T. (1989). Forbes' parakeet on Chatham Island. *Notornis*, 36(4): 82–83.
- Imber, M. J. (1994). Seabirds recorded at the Chatham Islands, 1960 to May 1993. *Notornis*, 41: 97–108.
- Millner, P. R. (1991). The Quaternary avifauna of New Zealand. In: Vickers-Rich, P., Monaghan, J. M., Baird, R. F. & Rich, T. H. (eds), *Vertebrate palaeontology of Australasia*. Melbourne: Pioneer Design Studio in co-operation with the Monash University Publications Committee, pp. 1317–1344.
- Miskelly, C. (2008). *Chatham Islands: Heritage and conservation*. Christchurch: Canterbury University Press. 205 pp.
- Miskelly, C. M. (2022). *New Zealand birds online, 2022*. Available online: nzbirdsonline.org.nz [Accessed 2023].
- Miskelly, C. M., Bell, M. (2004). An unusual influx of Snares crested penguins (*Eudyptes robustus*) on the Chatham Islands, with a review of other crested penguin records from the islands. *Notornis*, 51: 235–237.
- Miskelly, C. M., Bester, A. J., Bell, M. (2006). Additions to the Chatham Islands' bird list, with further records of vagrant and colonising bird species. *Notornis*, 53(2): 215–230.

OBSERVATIONS OF AVIFAUNA ON RĒKOHU (FEBRUARY 2023)

- Miskelly, C. M., Powesland, R. G. (2013). Conservation translocations of New Zealand birds, 1863–2012. *Notornis*, 60: 3–28.
- Mitchell, K. J., Wood, J. R., Scofield, R. P., Llamas, B., Cooper, A. (2014). Ancient mitochondrial genome reveals unsuspected taxonomic affinity of the extinct Chatham duck (*Pachyanas chathamica*) and resolves divergence times for New Zealand and sub-Antarctic brown teals. *Molecular Phylogenetics and Evolution*, 70: 420–428. <https://www.doi.org/10.1016/j.ympev.2013.08.017>
- Moore, P. J. (2008). The recovering population of the Chatham Island oystercatcher. *Notornis*, 55: 20–31.
- Moore, P. J. (2014). Conservation assessment of the Chatham Island oystercatcher *Haematopus chathamensis*. *International Wader Studies*, 20: 23–32.
- Moore, P. J., Reid, C. (2009). Effectiveness of management on the breeding success of Chatham Island oystercatchers (*Haematopus chathamensis*). *New Zealand Journal of Zoology*, 36(4): 431–446. <http://www.doi.org/10.1080/03014223.2009.9651476>
- OSNZ Checklist Committee (2022). *Checklist of the birds of New Zealand*, 5th edition. Wellington: Ornithological Society of New Zealand. 336 pp.
- Powesland, R. G., Crockett, D. (1989). A glossy ibis on the Chatham Islands. *Notornis*, 33(4): 232.
- Shepherd, L. D., Miskelly, C. M., Bulgarella, M., Tennyson, A. J. D. (2022). Genomic analyses of fairy and fulmar prions (Procellariidae: *Pachyptila* spp.) reveals parallel evolution of bill morphology, and multiple species. *PLoS ONE*, 17(9): e0275102. <http://www.doi.org/10.1371/journal.pone.0275102>
- Taylor, G., Cockburn, S., Palmer, D., Liddy, P. (2012). Breeding activity of Chatham Island taiko (*Pterodroma magentae*) monitored using PIT tag recorders. *New Zealand Journal of Ecology*, 36(3): 425–432.
- Taylor, G. A. (2013 [updated 2022]). *Chatham Island taiko | tāiko*. Available online: www.nzbirdsonline.org.nz [Accessed 2023].
- Urlich, S. C., Brown, K. P. (2005). *Monitoring the effects of animal pests on Chatham Islands vegetation: A plan for 2004–2013*. Wellington: Department of Conservation. 36 pp.
- West, J. A. (1988). Bird counts on the Chatham Islands. *Notornis*, 53: 159–161.
- Wood, J. R., Mitchell, K. J., Scofield, R. P., Tennyson, A. J. D., Fidler, A. E., Wilmshurst, J. M., Llamas, B., Cooper, A. (2014). An extinct nestorid parrot (Aves, Psittaciformes, Nestoridae) from the Chatham Islands, New Zealand. *Zoological Journal of the Linnean Society*, 172(1): 185–199. <http://www.doi.org/10.1111/zoj.12164>

Tables

Table 1. List of avifauna species sighted or heard at Rēkohu / Wharekauri / Chatham Island on 10–15 February 2023.

| Species name | Common name | Mori name | Māori name |
|-------------------------------------------------------------------|-------------------------------------|------------------|--------------|
| Seabirds | | | |
| <i>Diomedea sanfordi</i> Murphy, 1917 | northern royal albatross | - | toroa |
| <i>Chroicocephalus novaehollandiae scopulinus</i> (Forster, 1843) | red-billed gull | - | tarāpunga |
| <i>Macronectes halli</i> Mathews, 1912 | northern giant petrel | - | pāngurunguru |
| Coastal birds | | | |
| <i>Egretta novaehollandiae novaehollandiae</i> (Latham, 1790) | white-faced heron | - | matuku moana |
| <i>Egretta sacra</i> (Gmelin, 1789) | reef heron | - | matuku moana |
| <i>Eudyptula minor minor</i> (J.R. Forst, 1781) | New Zealand little penguin | - | kororā |
| <i>Haematopus chathamensis</i> Hartert, 1927 | Chatham Island oystercatcher | tōrea tai | tōrea |
| <i>Phalacrocorax featherstonii</i> Buller, 1873 | Pitt Island shag | kawau o Rangihau | - |
| <i>Larus dominicanus</i> Lichtenstein, 1823 | southern black-backed gull | - | karoro |
| <i>Leucocarbo onslowi</i> (Forbes, 1893) | Chatham Island shag | papua | kawau |
| <i>Sterna striata</i> Gmelin, 1789 | white-fronted tern | - | tara |
| Freshwater birds | | | |
| <i>Anas platyrhynchos</i> Linnaeus, 1758 | mallard | - | rakiraki |
| <i>Anas superciliosa</i> Gmelin, 1789 | grey duck | - | pārera |
| <i>Cygnus atratus</i> (Latham, 1790) | black swan | - | kakāānu |
| <i>Himantopus himantopus leucocephalus</i> (Gould, 1837) | piebald stilt | - | poaka |
| <i>Phalacrocorax carbo</i> (Linnaeus, 1758) | black shag | - | māpunga |
| Terrestrial birds | | | |
| <i>Alauda arvensis</i> Linnaeus, 1758 | Eurasian skylark | - | kairaka |
| <i>Anthus novaeseelandiae chathamensis</i> Lorenz-Liburnau, 1902 | Chatham Island pipit | - | pīhoihoi |
| <i>Circus approximans</i> Peale, 1848 | swamp harrier | - | kāhu |
| <i>Chrysococcyx lucidus</i> (Gmelin, 1788) | shining cuckoo | - | pīpīwharau |
| <i>Cyanoramphus novaezealandiae chathamensis</i> Oliver, 1930 | Chatham Island red-crowned parakeet | henga | kākāriki |
| <i>Dromaius novaehollandiae</i> (Latham, 1790) | emu | - | - |
| <i>Emberiza citronella</i> Linnaeus, 1758 | yellowhammer | - | hurukōwhai |
| <i>Fringilla coelebs</i> Linnaeus, 1758 | chaffinch | - | pahirini |
| <i>Gallirallus australis hectori</i> (Hutton, 1873) | buff weka | - | weka |
| <i>Gerygone albofrontata</i> G.R. Gray, 1845 | Chatham Island warbler | - | - |
| <i>Hemiphaga chathamensis</i> (Rothschild, 1891) | parea | parea | - |
| <i>Hirundo neoxena neoxena</i> Gould, 1842 | welcome swallow | - | warou |
| <i>Passer domesticus</i> (Linnaeus, 1758) | house sparrow | - | tiu |

OBSERVATIONS OF AVIFAUNA ON RĒKOHU (FEBRUARY 2023)

| | | | |
|-----------------------------------------------------------------|------------------------|----------|--------------------|
| <i>Porphyrio melanotus melanotus</i> Temminck, 1820 | pūkeko | - | pūkeko |
| <i>Prosthemadera novaeseelandiae chathamensis</i> Hartert, 1928 | Chatham Island tūī | - | tūī |
| <i>Prunella modularis</i> (Linnaeus, 1758) | dunnock | - | - |
| <i>Rhipidura fuliginosa penita</i> Bangs, 1911 | Chatham Island fantail | tchitake | pīwakawaka |
| <i>Sturnus vulgaris vulgaris</i> Linnaeus, 1758 | common starling | - | tāringi |
| <i>Turdus merula</i> Linnaeus, 1758 | Eurasian blackbird | - | manu pango |
| <i>Turdus philomelos clarkei</i> Hartret, 1909 | song thrush | - | manu-kai-hua-rakau |
| <i>Vanellus miles novaehollandiae</i> Stephens, 1819 | spur-winged plover | - | - |
| <i>Zosterops lateralis lateralis</i> (Latham, 1802) | silvereve | - | tauhou |

Table 2. The number and location of avifauna species sighted or heard at Rēkohu / Wharekauri / Chatham Island on 10–15 February 2023.

| Common name | Number of sightings in February 2023 (Date/Month) | | | | | | | Locations |
|-------------------------------|---------------------------------------------------|-------|-------|-------|-------|-------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 10/02 | 11/02 | 12/02 | 13/02 | 14/02 | 15/02 | Total | |
| Seabirds | | | | | | | | |
| northern royal albatross | 0 | 0 | 0 | 2 | 0 | 0 | 2 | Te Wakaru Island |
| northern giant petrel | 0 | 0 | 0 | 5 | 0 | 0 | 5 | Te Wakaru Island |
| Coastal birds | | | | | | | | |
| white-faced heron | 1 | 2 | 0 | 2 | 0 | 0 | 5 | Pana/Jim's Blind, Muirson Farm, Te Wakaru Island (+colony >100), Te Whanga Lagoon (near Nīkau Bush) |
| reef heron | 1 | 0 | 0 | 0 | 0 | 0 | 1 | Korako, Pana/Jim's Blind. |
| Chatham Island little penguin | 1 | 0 | 3 | 0 | 0 | 0 | 4 | Motuhinahina, Pana/Jim's Blind, Wharekauri (nests seen) |
| Chatham Island oystercatcher | 7 | 0 | 0 | 0 | 0 | 2 | 9 | Kaingarua, Manukau, Wharekauri |
| Pitt Island shag | 7 | 1 | 39 | 3 | 0 | 9 | 59 | Kaingarua, Limestone Rock Stack, Manukau, Motuhinahina, Te Whanga Lagoon, Te Wakaru Island |
| southern black-backed gull | 4 | 1 | 25 | 41 | 10 | 44 | 125 | Cape Young, Kaai, Kaingarua, Limestone Rock Stack, Makara River/Te Awa Inanga, Manukau, Motuhinahina, Muirson Farm, Ocean Mail, Ohuru, Owenga, Pana/Jim's Blind, Pt Durham, Taupeka, Te Matarae, Te One, Te Wakaru Island, Te Whanga Lagoon, Te Whanga Lagoon (near Nīkau Bush), Waitangi |
| Chatham Island shag | 0 | 0 | 50 | 0 | 0 | 47 | 97 | Limestone Rock Stack, Manukau, Motuhinahina |
| white-fronted tern | 6 | 0 | 0 | 160 | 0 | 3 | 169 | Kaingarua, Pana/Jim's Blind, Manukau |

OBSERVATIONS OF AVIFAUNA ON RĒKOHU (FEBRUARY 2023)

Freshwater birds

| | | | | | | | | |
|-----------------|----|----|---|----|----|----|-----|---------------------------------------------------------------------------------------------------------------------------|
| mallard | 0 | 0 | 0 | 1 | 0 | 0 | 1 | Pana/Jim's Blind |
| grey duck | 0 | 0 | 0 | 2 | 0 | 0 | 2 | Pana/Jim's Blind |
| red-billed gull | 5 | 0 | 2 | 10 | 15 | 0 | 32 | Kaingarua, Limestone Rock Stack, Te One, Te Wakaru Island, Te Whanga Lagoon, Te Whanga Lagoon (near Nīkau Bush), Waitangi |
| black swan | 15 | 20 | 9 | 40 | 0 | 50 | 134 | Lake Huro, Lake Koomutu, Lake Te Wapu, Limestone Rock Stack, Ohuru, Pana/Jim's Blind, Te One, Te Whanga Lagoon |
| pied stilt | 1 | 0 | 0 | 0 | 0 | 0 | 1 | Ocean Mail |
| black shag | 1 | 0 | 2 | 10 | 0 | 0 | 13 | Lake Te Wapu, Limestone Rock Stack, Motuhinahina, Pana/Jim's Blind, Te Whanga Lagoon (near Nīkau Bush) |

Terrestrial birds

| | | | | | | | | |
|-------------------------------------|---|---|---|----|----|----|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eurasian skylark | 4 | 0 | 0 | 14 | 2 | 13 | 33 | Awatotara, Cape Young, Koromaunga, North Road, North Road (Lake Pateriki), Makara River/Te Awa Inanga, Manukau, Matarakau, Muirson Farm, Te Wakaru Island (including calls), Owenga, Waitangi |
| Chatham Island pipit | 5 | 0 | 3 | 33 | 6 | 14 | 61 | Airport, Awatotara, Kaai, Kaingaroa, close to Koromaunga, Makara River/Te Awa Inanga, Manukau, Muirson Farm, Ocean Mail, Ohira Bay, Ohuru, Owenga, Pana/Jim's Blind, Pt Durham, Taupeka, Te One, Te Wakaru Island, Waitangi, Wharekauri |
| swamp harrier | 5 | 4 | 0 | 17 | 2 | 4 | 32 | Awatotara (including calls), Kaai, Lake Pateriki, Muirson Farm, North Road (Lake Pateriki), Owenga, Pana/Jim's Blind, Te One, Waitangi |
| shining cuckoo | 0 | 1 | 0 | 0 | 0 | 0 | 1 | Nīkau Bush |
| Chatham Island red-crowned parakeet | 0 | 0 | 0 | 0 | 1 | 0 | 1 | Awatotara |
| emu | 0 | 4 | 0 | 0 | 0 | 0 | 4 | Te Matarae |
| yellowhammer | 0 | 1 | 0 | 0 | 0 | 0 | 1 | Nīkau Bush |
| chaffinch | 0 | 1 | 0 | 0 | 15 | 1 | 17 | Awatotara (including calls), Nīkau Bush, Owenga |
| buff weka | 3 | 9 | 8 | 21 | 1 | 1 | 43 | Awatotara, Matarakau, Motuhinahina (+egg), Muirson Farm, Nīkau Bush, Ohuru, Owenga, Pana/Jim's Blind, Port Hut, Te One, Te Wakaru Island |
| Chatham Island warbler | 0 | 0 | 0 | 0 | 3 | 0 | 3 | Awatotara (including calls) |
| parea | 0 | 0 | 0 | 0 | 4 | 0 | 4 | Awatotara (including calls) |
| welcome swallow | 1 | 0 | 5 | 4 | 0 | 1 | 11 | Limestone Rock Stack, Manukau, Motuhinahina, Muirson Farm, Ohuru, Pana/Jim's Blind, Taupeka |

OBSERVATIONS OF AVIFAUNA ON RĒKOHU (FEBRUARY 2023)

| | | | | | | | | |
|------------------------|-----------|-----------|------------|------------|------------|------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| house sparrow | 0 | 0 | 0 | 0 | 0 | 9 | 9 | Owenga |
| pūkeko | 4 | 0 | 0 | 2 | 0 | 0 | 6 | Korako, Pana/Jim's Blind, Taupeka, Wharekauri |
| Chatham Island tūī | 0 | 1 | 0 | 0 | 4 | 0 | 5 | Awatotara (including calls), Nīkau Bush |
| dunnoek | 0 | 0 | 1 | 4 | 0 | 0 | 5 | Motuhinahina, Muirson Farm, Taupeka |
| Chatham Island fantail | 5 | 2 | 0 | 0 | 11 | 0 | 18 | Awatotara (including calls), Manukau (old nest), Nīkau, Pana/Jim's Blind |
| common starling | 0 | 0 | 0 | 106 | 89 | 95 | 290 | Awatotara, Kaai, Kaire, Makara River/Te Awa Inanga, Manukau, Muirson Farm (including calls), Ocean Mail, Owenga, Pt Durham, Taupeka, Te One, Te Whanga Lagoon (near Nīkau Bush), Waitangi |
| Eurasian blackbird | 0 | 1 | 1 | 0 | 0 | 0 | 2 | Nīkau Bush, Ohuru |
| song thrush | 1 | 0 | 0 | 0 | 0 | 0 | 1 | Te One |
| spur-winged plover | 8 | 4 | 6 | 6 | 4 | 3 | 31 | Ohuru, Te One, Te Whanga Lagoon (near Nīkau Bush), Waitangi, Wharekauri |
| silveryeye | 0 | 14 | 3 | 0 | 19 | 3 | 39 | Awatotara (including calls), Manukau, Nīkau, Ohuru. |
| Total | 85 | 66 | 157 | 483 | 186 | 299 | 1,276 | |

Appendix 1. Avifauna of Rēkohu / Wharekauri / Chatham Island

List of avifauna recorded on Rēkohu / Wharekauri / Chatham Island, compiled from the literature (Greene 1989; Powlesland & Crockett 1989; Millner 1991; Freeman 1994; Imber 1994; Aikman & Miskelly 2004; Miskelly & Bell 2004; Miskelly et al. 2006; Miskelly 2022; OSNZ Checklist Committee 2022) and new additions from our survey. Names and nomenclature are based on the OSNZ checklist Committee 2022.

Abbreviations

- λ Endemic to the Chatham Islands (34 taxa)
- § Endemic to Rēkohu (4 taxa)
- * Vagrant (71 taxa)
- γ Migrant (2 taxa)
- * Naturalised (19 taxa)
- ‡ Semi-wild – breeding out of sites of captivity and starting to naturalise (2 taxa)
- † Extinct (19 taxa)
- ξ Extirpated from the Chatham Islands but still extant on Aotearoa / New Zealand (20 taxa)
- ψ Extirpated from Rēkohu but still extant on the other Chatham Islands (13 taxa)

Class Aves

Subclass: Palaeognathae

Parvclass: Ratitae

Order: Casuariiformes

Family: Casuariidae

- | | | |
|---|------------------------------------------------|-----|
| * | <i>Dromaius novaehollandiae</i> (Latham, 1790) | emu |
|---|------------------------------------------------|-----|

Subclass: Neognathae

Order: Galliformes

Family: Phasianidae

Subfamily: Odontophorinae

- | | | |
|----|------------------------------------------------------------|-----------------------------|
| *ξ | <i>Callipepla californica brunnescens</i> (Ridgeway, 1884) | California quail / tikaokao |
|----|------------------------------------------------------------|-----------------------------|

Subfamily: Phasianinae

- | | | |
|---|----------------------------------------------|---------------|
| ‡ | <i>Gallus gallus gallus</i> (Linnaeus, 1758) | feral chicken |
|---|----------------------------------------------|---------------|

Subfamily: Meleagridinae

- | | | |
|---|-------------------------------------------|-------------|
| ‡ | <i>Meleagris gallopavo</i> Linnaeus, 1758 | wild turkey |
|---|-------------------------------------------|-------------|

Order: Anseriformes

Suborder: Anseres**Family: Anatidae****Subfamily: Anatinae****Tribe: Anatini**

| | | |
|-----|----------------------------------------------------|------------------------------------|
| †λ§ | <i>Anas chathamica</i> (Oliver, 1955) | Chatham Island duck |
| ξ | <i>Anas chlorotis</i> G.R. Gray, 1845 | brown teal / pāteke |
| * | <i>Anas gracilis</i> Buller, 1869 | grey teal / tētē-moroiti |
| * | <i>Anas platyrhynchos</i> Linnaeus, 1758 | mallard/ rakiraki |
| | <i>Anas superciliosa superciliosa</i> Gmelin, 1789 | grey duck / pārerā |
| ξ | <i>Aythya novaeseelandiae</i> (Gmelin, 1789) | New Zealand scaup / pāpango |
| * | <i>Spatula rhynchotis</i> (Latham, 1802) | Australasian shoveler / kuruwhengi |

Subfamily: Anserinae**Tribe: Anserini**

| | | |
|---|-------------------------------------------|-----------------------|
| * | <i>Anser anser</i> (Linnaeus, 1758) | greylag goose / kuihi |
| * | <i>Branta canadensis</i> (Linnaeus, 1758) | Canada goose / kuihi |

Tribe: Cygnini

| | | |
|----|----------------------------------------------------|-----------------------------|
| * | <i>Cygnus atratus</i> (Latham, 1790) | black swan / kakīānau |
| †λ | <i>Cygnus sumnerensis chathamicus</i> Oliver, 1955 | Chatham Island swan / poūwa |

Subfamily: Dendrocygnae

| | | |
|---|-----------------------------------------|-----------------------|
| * | <i>Dendrocygna eytoni</i> (Eyton, 1838) | plumed whistling-duck |
|---|-----------------------------------------|-----------------------|

Subfamily: Merginae

| | | |
|-----|---------------------------------------------------|--------------------------|
| †λ§ | <i>Mergus milleneri</i> Williams & Tennyson, 2014 | Chatham Island merganser |
|-----|---------------------------------------------------|--------------------------|

Subfamily: Oxyurinae**Tribe: Oxyurini**

| | | |
|---|---------------------------------------------|-----------------|
| † | <i>Malacorhynchus scarletti</i> Olson, 1977 | Scarlett's duck |
|---|---------------------------------------------|-----------------|

Subfamily: Tadorninae**Tribe: Tadornini**

| | | |
|----|------------------------------------------------|----------------------------------|
| * | <i>Tadorna variegata</i> (Gmelin, 1789) | paradise shelduck / pūtangitangi |
| †λ | <i>Tadorna</i> sp. (Tennyson & Millener, 1994) | Chatham Islands shelduck |

Order: Spenisciformes

Family: Spheniscidae

| | | |
|----|----------------------------------------------------------------------------------------|----------------------------------------|
| * | <i>Aptenodytes patagonicus</i> J.F. Miller, 1778 | king penguin / tokoraki |
| * | <i>Eudyptes chrysolophus schlegeli</i> Finsch, 1876 | royal penguin |
| * | <i>Eudyptes robustus</i> Oliver, 1953 | Snares crested penguin / pokotiwha |
| * | <i>Eudyptes sclateri</i> Buller, 1888 | erect-crested penguin / tawaki nana hi |
| †λ | <i>Eudyptes warhami</i> Cole, Tennyson, Ksepka & Thomas, 2019 | Chatham Island crested penguin |
| | <i>Eudyptula minor minor</i> (J.R. Forster, 1781) | New Zealand little penguin / kororā |
| † | <i>Kupoupou stilwelli</i> Blokland, Reid, T. Worthy, Tennyson, Clarke & Scofield, 2019 | Stilwell's penguin |
| †λ | <i>Megadyptes antipodes richdalei</i> Tennyson & Cole, 2019 | Chatham Island yellow-eyed penguin |

Order: Procellariiformes**Family: Diomedidae**

| | | |
|----|--------------------------------------------------------------------|----------------------------------------------------------|
| ψ* | <i>Diomedea antipodensis antipodensis</i> Robertson & Warham, 1992 | Antipodean albatross / toroa |
| | <i>Diomedea epomophora</i> Lesson, 1825 | southern royal albatross / toroa |
| γ | <i>Diomedea exulans</i> Linnaeus, 1758 | wandering (snowy) albatross / toroa |
| | <i>Diomedea sanfordi</i> Murphy, 1917 | northern royal albatross / toroa |
| * | <i>Phoebastria palpebrata</i> (J.R. Forster, 1785) | light-mantled sooty albatross ¹ / toroa pango |
| | <i>Thalassarche bulleri platei</i> (Reichenow, 1898) | northern Buller's albatross / toroa |
| | <i>Thalassarche cauta steadi</i> Falla, 1933 | New Zealand white-capped albatross / toroa |
| | <i>Thalassarche chrysostoma</i> (J.R. Forster, 1785) | grey-headed albatross / toroa |

Family: Procellariidae

| | | |
|----|-----------------------------------------------------------------|-----------------------------------------------|
| ‡ψ | <i>Ardenna bulleri</i> (Salvin, 1888) | Buller's shearwater / rako |
| ‡ψ | <i>Ardenna carneipes</i> (Gould, 1844) | flesh-footed shearwater / toanui |
| | <i>Ardenna grisea</i> (Gmelin, 1789) | sooty shearwater / tīī |
| ‡ξ | <i>Ardenna tenuirostris</i> (Temminck, 1836) | short-tailed shearwater |
| | <i>Daption capense australe</i> Mathews, 1913 | Snares cape petrel / karetai hurukoko |
| ξ | <i>Fregetta tropica</i> (Gould, 1844) | black-bellied storm petrel / takahikare-rangi |
| * | <i>Fulmarus glacialisoides</i> (A. Smith, 1840) | Antarctic fulmar |
| ψ | <i>Garrodia nereis</i> (Gould, 1841) | grey-backed storm petrel / reoreo |
| * | <i>Halobaena caerulea</i> (Gmelin, 1789) | blue petrel |
| * | <i>Lugensa brevirostris</i> (Lesson, 1833) | Kerguelen petrel |
| * | <i>Macronectes giganteus</i> (Gmelin, 1789) | southern giant petrel / pangurunguru |
| | <i>Macronectes halli</i> Mathews, 1912 | northern giant petrel / pāngurunguru |
| λ | <i>Pachyptila crassirostris pyramidalis</i> C. A. Flaming, 1939 | Chatham fulmar prion |
| * | <i>Pachyptila desolata</i> (Gmelin, 1789) | Antarctic prion / totoro |

OBSERVATIONS OF AVIFAUNA ON RĒKOHU (FEBRUARY 2023)

| | | |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| * | <i>Pachyptila salvini</i> (Mathews, 1912) | Salvin's prion |
| ‡ξ | <i>Pachyptila turtur</i> (Kuhl, 1820) | fairy prion / tīfī wainui |
| | <i>Pachyptila vittata</i> (G. Forster, 1777) | broad-billed prion / pararā |
| ψ | <i>Pelagodroma marina maoriana</i> Mathews, 1912 | New Zealand white-faced storm petrel / takahikare |
| ‡ψ | <i>Pelecanoides urinatrix chathamensis</i> Murphy & Harper, 1916 | southern diving petrel / kuaka |
| ‡ξ | <i>Pelecanoides urinatrix urinatrix</i> (Gmelin, 1789) | northern diving petrel / kuaka |
| ξ | <i>Pelecanoides georgicus whenuahouensis</i> Fischer, Debski, Miskelly, Bost, Fromant, Tennyson, Tessler, Cole, Hiscock, Taylor & Wittmer, 2018 | South Georgian diving petrel |
| ‡ξ | <i>Procellaria aequinoctialis</i> Linnaeus, 1758 | white-chinned petrel / karetai kauae mā |
| ‡ξ | <i>Procellaria cinerea</i> Gmelin, 1789 | grey petrel / kuia |
| ‡ξ | <i>Procellaria parkinsoni</i> G.R. Gray, 1862 | black petrel / tāiko |
| ‡ξ | <i>Procellaria westlandica</i> Falla, 1946 | Westland petrel / tāiko |
| λ | <i>Pterodroma axillaris</i> (Salvin, 1893) | Chatham petrel / ranguru |
| | <i>Pterodroma externa</i> (Salvin, 1875) | Juan-Fernandez petrel |
| ‡ξ | <i>Pterodroma inexpectata</i> (J.R. Forster, 1844) | mottled petrel ¹ / kōrure |
| †λ | <i>Pterodroma imberi</i> Tennyson, Cooper & Shepherd, 2015 | Imber's petrel |
| ‡ξ | <i>Pterodroma gouldi</i> (Hutton, 1869) | grey-faced petrel / ōi ¹ |
| * | <i>Pterodroma lessoni</i> (Garnot, 1826) | white-headed petrel |
| λ§ | <i>Pterodroma magentae</i> (Giglioli & Salvadori, 1869) | Chatham Island taiko / tāiko / tchaik |
| | <i>Pterodroma mollis</i> Gould, 1844 | soft-plumaged petrel |
| ≡ | <i>Pterodroma neglecta neglecta</i> (Schegel, 1863) | Kermadec petrel / pia koia |
| ‡ψ | <i>Pterodroma nigripennis</i> (Rothschild, 1893) | black-winged petrel ¹ / karetai kapa mangu |
| ‡ξ | <i>Puffinus elegans</i> Giglioli & Salvadori, 1869 | Subantarctic little shearwater |
| * | <i>Thalassoica antarctica</i> (Gmelin, 1789) | Antarctic petrel |

Order: Pelecaniformes

Family: Fregatidae

| | | |
|---|--------------------------------------------|--------------------|
| * | <i>Fregata ariel ariel</i> G.R. Gray, 1845 | lesser frigatebird |
|---|--------------------------------------------|--------------------|

Family: Phalacrocoracidae

| | | |
|---|-----------------------------------------------------------|-------------------------------------|
| λ | <i>Leucocarbo onslowi</i> (Forbes, 1893) | Chatham Island shag / papua |
| * | <i>Microcarbo melanoleucos brevirostris</i> (Gould, 1837) | little shag / kawaupaka |
| | <i>Phalacrocorax carbo novaehollandiae</i> Stephens, 1826 | black shag / māpunga |
| λ | <i>Phalacrocorax featherstoni</i> Buller, 1873 | Pitt Island shag / kawau o Rangihau |

Family: Sulidae

| | | |
|---|-----------------------------------------|------------------------------|
| * | <i>Morus serrator</i> (G.R. Gray, 1843) | Australasian gannet / tākapu |
|---|-----------------------------------------|------------------------------|

Order: Ciconiiformes**Suborder: Ardeae****Family: Ardeidae****Subfamily: Ardeinae**

| | | |
|----|---------------------------------------------------------------|--------------------------------------|
| * | <i>Ardea alba modesta</i> (J.E. Gray, 1831) | white heron / kōtuku |
| *ξ | <i>Botaurus poiciloptilus</i> (Wagler, 1827) | Australasian bittern / matuku-hūrepo |
| * | <i>Bubulcus ibis coromandus</i> (Linnaeus, 1758) | eastern cattle egret |
| | <i>Egretta novaehollandiae novaehollandiae</i> (Latham, 1790) | white-faced heron / matuku moana |
| | <i>Egretta sacra sacra</i> (Gmelin, 1789) | reef heron / matuku moana |
| † | <i>Ixobrychus novaezealandiae</i> (Purdie, 1871) | New Zealand little bittern / kaoriki |

Suborder: Threskiornithes**Family: Threskiornithidae****Subfamily: Threskiornithinae**

| | | |
|---|----------------------------------------------|------------------------------------|
| * | <i>Platalea regia</i> Gould, 1838 | royal spoonbill / kōtuku ngutupapa |
| * | <i>Plegadis falcinellus</i> (Linnaeus, 1766) | glossy ibis |

Order: Accipitriformes**Subfamily: Accipitrinae**

| | | |
|--|---------------------------------------|----------------------|
| | <i>Circus approximans</i> Peale, 1848 | Swamp harrier / kāhu |
|--|---------------------------------------|----------------------|

Order: Falconiformes**Family: Falconidae**

| | | |
|---|-------------------------------------------|-------------------|
| ξ | <i>Falco novaeseelandiae</i> Gmelin, 1788 | falcon / kārearea |
|---|-------------------------------------------|-------------------|

Order: Gruiformes**Family: Rallidae****Subfamily: Rallinae**

| | | |
|----|-------------------------------------------------------|-----------------------------------------|
| †λ | <i>Cabalus modestus</i> (Hutton, 1872) | Chatham Island rail / mātirakahu |
| †λ | <i>Diaphorapteryx hawkinsi</i> (Forbes, 1892) | Hawkins' rail / mehonui |
| †λ | <i>Fulica chathamensis</i> Forbes, 1892 | Chatham Island coot |
| * | <i>Gallirallus australis hectori</i> (Hutton, 1873) | buff weka |
| †λ | <i>Gallirallus dieffenbachii</i> (G.R. Gray, 1843) | Dieffenbach's rail / moeriki / mehoriki |
| | <i>Porphyrio melanotus melanotus</i> (Temminck, 1820) | pūkeko |
| | <i>Zapornia pusilla affinis</i> (G.R. Gray, 1845) | marsh crane / kotoreke |

OBSERVATIONS OF AVIFAUNA ON RĒKOHU (FEBRUARY 2023)

ξ *Zapornia tabuensis tabuensis* (Gmelin, 1789) spotless crane / puweto

Order: Charadriiformes

Family: Charadriidae

Subfamily Charadriinae

* *Anarhynchus frontalis* Quoy & Gaimard, 1830 wrybill / ngutu pare
Charadrius bicinctus bicinctus Jardine & Selby, 1827 banded dotterel / pohowera
* *Charadrius mongolus* Pallas, 1776 lesser sand plover
* *Charadrius veredus* Gould, 1848 oriental dotterel
* *Pluvialis fulva* (Gmelin, 1789) Pacific golden plover / kuriri
* *Pluvialis squatarola* (Linnaeus, 1758) grey plover
ψ *Thinornis novaeseelandiae* (Gmelin, 1789) shore plover / tuturuatu / tchūriwat'
Vanellus miles novaehollandiae Stephens, 1819 spur-winged plover

Family: Haematopodidae

λ *Haematopus chathamensis* Hartert, 1927 Chatham Island oystercatcher / tōrea tai
* *Haematopus finschi* Martens, 1897 South Island pied oystercatcher / tōrea

Family: Recurvirostridae

Subfamily: Recurvirostrinae

Himantopus himantopus leucocephalus Gould, 1837 pied stilt / poaka

Family: Scolopacidae

Subfamily: Arenariinae

Arenaria interpres interpres (Linnaeus, 1758) ruddy turnstone

Subfamily: Calidrinae

* *Calidris acuminata* (Horsfield, 1821) sharp-tailed sandpiper / kohutapu
* *Calidris alba* (Pallas, 1764) sanderling
Calidris canutus (Linnaeus, 1758) red knot / huahou
* *Calidris ferruginea* (Pontoppidan, 1763) curlew sandpiper
* *Calidris ruficollis* (Pallas, 1776) red-necked stint
* *Calidris melanotos* (Vieillot, 1819) pectoral sandpiper

Subfamily: Gallinaginae

†λ *Coenocorypha chathamica* (Forbes, 1893) Forbes's snipe
‡ψλ *Coenocorypha pusilla* (Buller, 1869) Chatham Island snipe

Subfamily: Tringinae

| | | |
|---|-----------------------------------------------------|-----------------------------------|
| * | <i>Limosa haemastica</i> (Linnaeus, 1758) | Hudsonian godwit |
| γ | <i>Limosa lapponica baueri</i> Naumann, 1836 | eastern bar-tailed godwit / kuaka |
| * | <i>Limosa limosa melanuroides</i> Gould, 1846 | Asiatic black-tailed godwit |
| * | <i>Numenius hudsonicus</i> Latham, 1790 | American whimbrel |
| * | <i>Numenius madagascariensis</i> (Linnaeus, 1766) | eastern curlew |
| * | <i>Numenius phaeopus variegatus</i> (Scopoli, 1786) | Asiatic whimbrel |
| * | <i>Tringa brevipes</i> (Vieillot, 1816) | grey-tailed tattler |
| * | <i>Tringa flavipes</i> (Gmelin, 1789) | lesser yellowlegs |
| * | <i>Tringa incana</i> (Gmelin, 1789) | wandering tattler |
| * | <i>Tringa nebularia</i> (Gunnerus, 1767) | common greenshank |

Suborder: Lari**Family: Laridae**

| | | |
|--|------------------------------------------------------------------------|-------------------------------------|
| | <i>Chroicocephalus novaehollandiae scopulinus</i> (J.R. Forster, 1843) | red-billed gull / tarāpunga |
| | <i>Larus dominicanus dominicanus</i> Lichtenstein, 1823 | southern black-backed gull / karoro |

Family: Stercoraridae

| | | |
|--|-----------------------------------------------------------|-------------------------------|
| | <i>Stercorarius antarcticus lonnbergi</i> (Mathews, 1912) | Subantarctica skua / hākoakoa |
| | <i>Stercorarius longicaudus</i> Vieillot, 1819 | Long-tailed skua |
| | <i>Stercorarius parasiticus</i> (Linnaeus, 1758) | Arctic skua |

Family: Sternidae

| | | |
|----|---------------------------------------------------|---------------------------------|
| ξ | <i>Chlidonias albobristatus</i> (G.R. Gray, 1845) | black-fronted tern / tarapirohe |
| * | <i>Hydroprogne caspia</i> (Pallas, 1770) | Caspian tern / taranui |
| * | <i>Sternula albifrons sinensis</i> (Gmelin, 1789) | eastern little tern / tara teo |
| * | <i>Sterna paradisaea</i> Pontoppidan, 1763 | Arctic tern |
| | <i>Sterna striata</i> Gmelin, 1789 | white-fronted tern / tara |
| *ξ | <i>Sterna vittata bethunei</i> Travers, 1896 | New Zealand Antarctic tern |

Order: Columbiformes**Suborder: Columbae****Family: Columbidae**

| | | |
|---|--------------------------------------------------|-------------------------------|
| * | <i>Columba livia</i> Gmelin, 1789 | rock pigeon/ kererū aropari |
| λ | <i>Hemiphaga chathamensis</i> (Rothschild, 1891) | Chatham Island pigeon / parea |

Order: Psittaciformes

Family: Psittacidae**Subfamily: Platycercinae**

- ψλ *Cyanoramphus forbesi* Rothschild, 1893 Forbes' parakeet
- λ *Cyanoramphus novaezelandiae chathamensis* Oliver, 1930 Chatham Island red-crowned parakeet / kākārīki

Family: Strigopidae**Subfamily: Nestorinae**

- †λ *Nestor chathamensis* Wood, Mitchell, Scofield & Tennyson, 2014 Chatham Island kaka

Order: Cuculiformes

Suborder: Cuculi**Family: Cuculidae****Subfamily: Cuculinae**

- * *Chrysococcyx lucidus lucidus* (Gmelin, 1788) shining cuckoo / pīpīwharau
- * *Eudynamis taitensis* (Sparrman, 1787) long-tailed cuckoo / koekoeā

Order: Apodiformes

Suborder: Apodi**Family: Apodidae****Subfamily: Apodinae****Tribe: Chaeturini**

- * *Hirundapus caudacutus caudacutus* (Latham, 1801) white-throated needletail

Order: Coraciiformes

Suborder: Alcedines**Family: Halctonidae**

- * *Todiramphus sanctus vagans* (Lesson, 1828) New Zealand kingfisher / kōtare

Order: Passeriformes

Suborder: Passeres**Family: Acanthizidae**

- λ *Gerygone albofrontata* G.R. Gray, 1845 Chatham Island warbler

Family: Alaudidae

- * *Alauda arvensis* Linnaeus, 1758 Eurasian skylark / kairaka

OBSERVATIONS OF AVIFAUNA ON RĒKOHU (FEBRUARY 2023)

Subfamily: Carduelinae

- * *Acanthis flammea* (Linnaeus, 1758) common redpoll
- * *Carduelis carduelis britannica* (Hartert, 1903) European goldfinch/ kōurarini
- * *Chloris chloris* (Linnaeus, 1758) European greenfinch

Family: Corvidae

- ** *Corvus frugilegus* Linnaeus, 1758 rook
- †λ *Corvus moriorum moriorum* Forbes 1892 Chatham Island raven

Family: Fringillidae

Subfamily: Fringillidae

- * *Fringilla coelebs* Linnaeus, 1758 chaffinch / pahirini

Family: Hirundinidae

- Hirundo neoxena neoxena* Gould, 1842 welcome swallow / warou
- * *Petrochelidon nigricans nigricans* (Vieillot, 1817) tree martin

Family: Locustellidae

- †λ *Poodytes rufescens* (Buller, 1869) Chatham Island fernbird

Family: Meliphagidae

- †λ *Anthornis melanocephala* G.R. Gray, 1843 Chatham Island bellbird
- λ *Prothemadera novaeseelandiae chathamensis* Hartert, 1928 Chatham Island tūt / kōkō

Family: Motacillidae

- λ *Anthus novaeseelandiae chathamensis* Lorenz-Liburnau, 1902 Chatham Island pipit

Family: Passeridae

- * *Passer domesticus domesticus* Linnaeus, 1758 house sparrow / tiu

Family: Petroicidae

- λψ *Petroica macrocephala chathamensis* C.A. Fleming, 1950 Chatham Island tomtit / miromiro
- λψ *Petroica traversi* (Buller, 1872) black robin / kakaruia / karure

Family: Prunellidae

- * *Prunella modularis* (Linnaeus, 1758) dunnock

Family: Rhipiduridae

OBSERVATIONS OF AVIFAUNA ON RĒKOHU (FEBRUARY 2023)

| | | |
|-----------------------------|-----------------------------------------------------|------------------------------------------------|
| λ | <i>Rhipidura fuliginosa penita</i> Bangs, 1911 | Chatham island fantail / pīwakawaka / tchitake |
| Family: Sturnidae | | |
| * | <i>Sturnus vulgaris vulgaris</i> Linnaeus, 1758 | common starling / tāringi |
| Family: Turdidae | | |
| * | <i>Turdus merula merula</i> Linnaeus, 1758 | Eurasian blackbird / manu pango |
| * | <i>Turdus philomelos clarkei</i> Hartert, 1909 | song thrush / manu-kai-hua-rakau |
| Family: Zosteropidae | | |
| | <i>Zosterops lateralis lateralis</i> (Latham, 1801) | silveryeye / tauhou |

- 1 Reported from the island from middens and sub fossils (Cooper & Tennyson 2008) and also recorded as beach-cast specimens or as stragglers (Millner 1991; Imber 1994; Miskelly 2022).

Authors

Marleen Baling is a senior lecturer at the School of Environmental Sciences, Unitec | Te Pūkenga. Marleen is a wildlife ecologist who publishes articles and books mainly on reptile and bird ecology. She co-authored the book *Reptiles and Amphibians of New Zealand: A Field Guide* published by Auckland University Press, Bloomsbury Press and Princeton University Press. She is a member of the IUCN Reintroduction Specialist Group, IUCN Skink Specialist Group and a Fellow of the Linnean Society. m.baling@gmail.com

Dayna J. M. McKenzie is a third-year student currently completing the Bachelor of Applied Science, majoring in Biodiversity Management, at the School of Environmental Sciences, Unitec | Te Pūkenga. She currently works in the native nursery of BirdCare Aotearoa, Green Bay, Auckland, a bird rehabilitation centre caring for both sick and injured native and non-native species. Dayna has interests in botany and conservation. mckend23@myunitec.ac.nz

Rowan K. Scott is a current undergraduate student in the Bachelor of Applied Science at the School of Applied and Environmental Sciences, Northtec | Te Pūkenga. She is a graduate of the University of Auckland with a Bachelor of Science (BSc) majoring in Psychology with a focus on learning and behaviour. She currently works at Northland Regional Council as a land management advisor. Her role focuses on working with the community around stabilising erosion-prone soils, reducing sediment entering waterways, and riparian restoration. Rowan is interested in behavioural ecology, conservation and natural resource management. rowanqu@gmail.com

Leon H. van Vugt is a third-year student in the Bachelor of Applied Science at Unitec | Te Pūkenga, majoring in Biodiversity Management. Leon's main interests include conservation, restoration, and New Zealand plants, lichen and fungi. Leon_NZ@hotmail.co.nz

Hamish Tuanui Chisholm has completed a Bachelor of Arts and Bachelor of Law at the University of Canterbury. He has worked in the ecology field for over ten years, both nationally and internationally. Hamish is a sixth-generation Chatham Islander and moved home to accept the role of Project Co-ordinator for Predator Free Chathams two years ago. Passionate about all things Chatham Islands, Hamish is also an elected trustee on the Chatham Island Enterprise Trust and wants to ensure their unique wildlife and way of life are preserved for generations to come. h.t.chisholm@gmail.com

Peter J. de Lange is a professor teaching at the School of Environmental and Animal Sciences, Unitec | Te Pūkenga. A biosystematist, Peter publishes on plant taxonomy, conservation, threat listing, and the flora of South Pacific and outlying Aotearoa / New Zealand islands. A recipient of the New Zealand Botanical Society Allan Mere Award (2006) and Loder Cup (2017), Peter is a Fellow of the Linnean Society and a lifetime member of the New Zealand Plant Conservation Network. pdelange@unitec.ac.nz