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Abstract

This study examines the avifauna of Rekohu / Wharekauri / Chatham Islands, a remote island group harbouring a diverse range of endemic, indigenous and introduced bird species. Here we report the avifauna observations from a Unitec visit to Rekohu (8–17 February 2024). During the ten-day trip, avifauna were recorded from 33 locations. Species diversity was compared between species using the Shannon diversity index and species evenness. Forty avian species were encountered, most commonly in open farmland and coastal environments. The common starling (Sturnus vulgaris vulgaris) and black swan (Cygnus atratus) were the most frequently observed. Species diversity in 2024 was lower than in the avian survey conducted by Unitec in 2023 (H=2.35 vs. H=2.67), likely due to a few species dominating overall counts (E=0.64 vs. E=0.73). There were six times more black swans (n=871) and three times more starlings (n=971) than in the 2023 survey, likely due to favourable weather conditions and increased observer effort in 2024. In contrast, we noted a significant decrease (70.4%, n=50) in white-fronted terns (Sterna striata) in 2024 in comparison to 2023. Motuhinahina Island had lower species diversity in 2024 than in 2023 (H=1.07 vs. H=1.73), although we had new recordings of white-faced herons (Egretta novaehollandiae) and silvereye (Zosterops lateralis lateralis), the latter identified from a nest seen on the island. Counts of Pitt Island shag (Phalacrocorax featherstoni) and Chatham Island shag (Leucocarbo onslowi) on Motuhinahina and Shag Rock were consistent with 2023 survey counts. Kopī Bush exhibited higher avian diversity than the smaller Motuhinahina (H=1.75 vs. H=1.07). Throughout Rekohu, uncommon species, such as feral greylag geese (Anser anser), feral chickens (Gallus gallus gallus), kingfisher (Todiramphus sanctus vagans), and yellowhammer (Emberiza citronella), were recorded in low numbers. Emu (Dromaius novaehollandiae) were also encountered, confirming their continued presence on the island. Our findings highlight the importance of continued monitoring to understand changes in Rekohu's avifauna and provide valuable baseline data for future research and conservation efforts.

Keywords

Bird survey, Aotearoa / New Zealand birds, Rēkohu / Wharekauri / Chatham Island, Motuhinahina, Shag Rock

OBSERVATIONS OF AVIFAUNA ON RĒKOHU / WHAREKAURI / CHATHAM ISLAND, CHATHAM ISLANDS GROUP, IN FEBRUARY 2024

Introduction

The Chatham Islands (Figure 1) are an isolated group of volcanic islands that preserve a diverse range of endemic flora and fauna (Consoli & Stilwell 2011, de Lange et al. 2011, Wiltshier & Cardow 2006). Positioned approximately 800 km east of Aotearoa / New Zealand, the Chatham Islands group comprises 18 islands and islets located on the Chatham Rise's eastern end (Aikman et al. 2001, Consoli & Stilwell 2011, Miskelly 2008, Miskelly et al. 2006, Wiltshier & Cardow 2006). Rēkohu / Wharekauri / Chatham Island (henceforth Rēkohu) is the group's largest island, being 920 km2 (92,000 ha), and is low lying, reaching a maximum elevation of 229 metres above sea level (Aikman et al. 2001, Consoli & Stilwell 2011, Miskelly et al. 2006). The island was once covered in forests, myriad wetlands and peat bogs, and still supports a diversity of freshwater and brackish lakes as well as Te Whanga Lagoon (dominating 20% of the total land area) and vast coastal



Figure 1. Map of Rēkohu / Wharekauri / Chatham Island within the Chatham Island Group, with locations used for bird survey in February 2024. Image: A. Marshall, July 2024.

environments (Fleming 1939, Meredith & Croucher 2007, Miskelly 2008). Rekohu hosts the most human inhabitants of the islands within the archipelago; as a result, the natural vegetation cover on the island has been extensively cleared and converted into pasture for agricultural purposes (Miskelly et al. 2006, Wiltshier & Cardow 2006). Despite being heavily modified, some natural vegetation portions of the southern tablelands and various scenic and conservation areas have been preserved (de Lange et al. 2008). Natural vegetation throughout these areas reflects the island's isolation, drainage and underlying geology. It is comprised of c. 875 taxa of indigenous vascular plants, 41 (5%) of which are endemic to the Chatham Islands group, providing essential environmental resources for c. 170 taxa of avifauna (Baling et al. 2023, de Lange et al. 2011, de Lange et al. 2013, Urlich & Brown 2005) found on the island.

Rēkohu's avifauna includes two monotypic endemic genera, three endemics, approximately 120 indigenous and 20 introduced species (Aikman et al. 2001, Baling et al. 2023, Checklist Committee OSNZ 2022). Furthermore, 21 species of exotic birds are considered naturalised or semi-wild on the island (Baling et al. 2023, Aikman & Miskelly 2004, Checklist Committee OSNZ 2022). Many endemic and indigenous bird species are considered threatened on Rekohu due to habitat loss and the introduction of predators such as rats (Rattus exulans (Peale, 1848), R. norvegicus (Berkenhaut, 1769) and R. rattus (Linnaeus, 1758)) and feral cats (Felis catus Linnaeus, 1758) (Lawrence et al. 2008, Miskelly et al. 2006). Consequentially, many bird species, such as the tāiko (Pterodroma magenta),¹ are uncommon to encounter on the island during day-to-day activities (Aikman et al. 2001, Aikman & Miskelly 2004, Lawrence et al. 2008).

In 2023, a group from Unitec, Tāmaki Makaurau / Auckland, Aotearoa / New Zealand, completed a survey of avifauna observed on Rēkohu during an eight-day excursion to the island. Baling et al. (2023) reported identifying 38 bird taxa from the c. 170 species found on the Chatham Islands. The authors also reported three exotic bird species, emu (*Dromaius novaehollandiae*1) (Figure 2A), feral chicken (*Gallus gallus gallus*) and wild turkey (*Meleagris gallopavo*), that have either managed to or are in the process of creating self-sustaining populations. In 2024, a second group of 12 persons from Unitec conducted a ten-day field trip on Rēkohu.



Figure 2A. Emu (Dromaius novaehollandiae), Te Mātārae Road, Rēkohu, one of two birds seen at some distance from the road;
B. Buff weka (Gallirallus australis hectori) on Motuhinahina Island, Te Whanga Lagoon, Rēkohu. Photos: S. Mae, February 2024.

While on the island, we repeated protocols from Baling et al. (2023) and completed a second observational survey of avifauna encountered, aiming to identify the most commonly sighted birds on the island. Here, we present our observations from a range of locations across Rēkohu. These locations included an avifauna survey on Motuhinahina and Shag Rock, two karst islands in Te Whanga Lagoon, and at Kōpī Bush. We also compared our observations to those of Baling et al. (2023) as a continued study of typical and unusual avifauna observed on Rēkohu.

Methods

Twelve persons from Unitec, Tāmaki Makaurau / Auckland, Aotearoa / New Zealand, travelled to Rēkohu, Chatham Islands. We conducted the avifauna survey over ten days (8–17 February 2024). Bird observations were carried out in 33 locations on Rēkohu, including sightings made during the travel to and from each location (Figure 1).

While on the island, we recorded bird sightings and identified species based on calls and/or visual encounters. When possible, we also counted the number of individuals. To reduce the double counting of birds when the team was split into two groups, we regularly checked sightings via two-way radio to confirm whether birds seen flying overhead had been missed or double counted.

^{1.} Authorities for avifauna are provided in Table 1.

On 10 February 2024, we visited Motuhinahina and Shag Rock (Figure 1), the two largest karst islands in Te Whanga Lagoon. Because Shag Rock is a critical nesting ground for the threatened Chatham Island shag (*Leucocarbo onslowi*), only three persons from our group were approved to land on Shag Rock, while the rest of the group surveyed at Motuhinahina. We visited Kōpī Bush on 12 February 2024, and the group was split into two teams to cover different sites in the area.

We tabulated all birds counted according to locations and species seen or heard daily. We also compared species diversity between data collected from the Rēkohu bird survey (Baling et al., 2023) and Motuhinahina in 2023 and our survey data, using the Shannon diversity index (H) and species evenness (E) (Pielou 1996, Shannon 1948). Species evenness reflects relative abundance per species, calculated as E=H/In(k), where k is the number of species at the location. Evenness provides a value between 0 and 1, where species evenness (and therefore species diversity) is highest closer to 1. Similarly, we calculated the diversity index and species evenness for Kōpī Bush.

Results and Discussion

From 8-17 February 2024, 40 species of birds were identified on our trip to Rekohu. The most frequently counted bird taxa were recorded in open farmland or coastal environments, consistent with reporting in Baling et al. (2023). The most common birds we sighted were common starling (Sturnus vulgaris vulgaris) and black swan (Cygnus atratus), followed by Eurasian skylark (Alauda arvensis), southern black-backed gull (Larus dominicanus) and red-billed gull (Chroicocephalus novaehollandiae scopulinus) (Table 1). Our records for white-fronted tern (Sterna striata) were notably lower than in Baling et al. (2023), where they recorded a high number of encounters (n=169), resulting in the white-fronted tern being the second-highest species observed during their trip. Although a common sighting in our survey, we noted a 70.4% decrease (n=50) in white-fronted terns in 2024 in comparison to the 2023 avifauna survey.

The species diversity index for our survey was H=2.35, which is a slight decrease from the observations of Baling et al. (2023) (H=2.67). This may be because some species had high counts in 2024 (species evenness, E=0.64) compared to 2023 (E=0.73), such as the black swan and common starling. For example, when

counted in 2024, these two species represented 43.4% of the individual counts, and 35.9% in 2023.

The common starling is an exotic species introduced to the Chatham Islands by humans in the late 1800s (Aikman & Miskelly 2004). They have since become competitors for resources with endemic avian species on the island (Aikman & Miskelly 2004). We noted that the birds were often in large flocks (20 or more individuals), consistent with reported descriptions of this species' behaviour (Flux 2013). Many of these flocks were frequently seen over farmland surrounding Te Whanga Lagoon area and were often counted during our travels to and from locations. Baling et al. (2023) reported the common starling as the most frequently observed bird species (n=290), whereas our survey recorded an even higher number of sightings (n=971). A possible cause of the increase in observations could be attributable to our party having more time out in the field due to favourable weather conditions, and more observers with an ornithological interest. Furthermore, during the island visit by Baling et al. in 2023, they encountered Cyclone Gabrielle. The inclement weather associated with the cyclone likely impacted bird observations by affecting their ability to conduct observations, potentially leading to an underreporting of species and reduced numbers of bird sightings.

Black swans, the second most abundant species, were in large flocks (100+) in pasture bordering Te Whanga Lagoon or on the lagoon itself. Unlike the common starling, black swans are naturalised in the Aotearoa biogeographical region (Rawlence et al. 2017). Baling et al. (2023) reported seeing 134 black swans, whereas our group reported seeing 871 individuals during our visit. The higher numbers could be due to counting errors, with the possibility of some swans being counted on more than one occasion, observers noting the flocks sitting in relatively unchanged areas around the lagoon. However, a previous estimate approximated the population of black swans to be 3,000 birds in 1981 (Aikman & Miskelly 2004). Nevertheless, while we perceived black swans as abundant on Rekohu, consistent with the previous findings, our count does not represent a complete count or census of this species on the island.

At Motuhinahina, we did not observe as many species and counts (Table 2) as the previous survey (Baling et al. 2023), with the diversity index being lower in 2024 (H=1.07, E=0.77) compared to 2023 (H=1.73, E=0.75). However, we observed three white-faced heron (*Egretta novaehollandiae*), a new addition to the bird sightings

OBSERVATIONS OF AVIFAUNA ON RĒKOHU / WHAREKAURI / CHATHAM ISLAND, CHATHAM ISLANDS GROUP, IN FEBRUARY 2024

Table 1. List of avifauna species sighted or heard at Rekohu / Wharekauri / Chatham Island on 8–17 February 2024.

Species name	Common name	Moriori name	Māori name
Seabirds			
Diomedea sanfordi Murphy, 1917	Northern royal albatross	-	Toroa
Macronectes halli Mathews, 1912	Northern giant petrel	_	Pāngurunguru
Coastal birds			
Egretta novaehollandiae novaehollandiae (Latham, 1790)	White-faced heron	-	Matuku moana
Haematopus chathamensis Hartert, 1927	Chatham Island oystercatcher	Tōrea tai	Tōrea
Phalacrocorax featherstoni Buller, 1873	Pitt Island shag	Kawau o Rangihaute	-
Larus dominicanus Lichtenstein, 1823	Southern black-backed gull	-	-
Leucocarbo onslowi (Forbes, 1893)	Chatham Island shag	Papua	Kawau
Sterna striata Gmelin, 1789	White-fronted tern	_	Tara
Freshwater birds			
Anas platyrhynchos Linnaeus, 1758	Mallard	_	Rakiraki
Anas superciliosa Gmelin, 1789	Grey duck	_	Pārera
Anser anser (Linnaeus, 1758)	Greylag goose, feral	_	Kuihi
Branta canadensis (Linnaeus, 1758)	Canada goose	_	Kuihi
Chroicocephalus novaehollandiae scopulinus (Forster, 1843)	Red-billed gull	_	Tarāpunga
Cygnus atratus (Latham, 1790)	Black swan	-	Kakīānau
Himantopus himantopus leucocephalus (Gould, 1837)	Pied stilt	_	Poaka
Phalacrocorax carbo novaehollandiae Stephens, 1826	Black shag	_	Māpunga
Todiramphus sanctus vagans (Lesson, 1828)	New Zealand kingfisher	_	Kōtare
Terrestrial birds			
Alauda arvensis Linnaeus, 1758	Eurasian skylark	_	Kairaka
Anthus novaeseelandiae chathamensis Lorenz-Liburnau, 1902	Chatham Island pipit	_	Pīhoihoi
Carduelis carduelis (Linnaeus, 1758)	European goldfinch	-	Kōurarini
Circus approximans Peale, 1848	Swamp harrier	-	Kāhu
Cyanoramphus novaezelandiae chathamensis Oliver, 1930	Chatham Island red-crowned parakeet	Henga	Kākāriki
Dromaius novaehollandiae (Latham, 1790)	Emu	-	-
Emberiza citronella Linnaeus, 1758	Yellowhammer	_	Hurukōwhai
Fringilla coelebs Linnaeus, 1758	Chaffinch	_	Pahirini
Gallirallus australis hectori (Hutton, 1873)	Buff weka	_	Weka
Gallus gallus gallus (Linnaeus, 1758)	Chicken, feral	_	Heihei
Gerygone albofrontata G.R. Gray, 1845	Chatham Island warbler	-	-
Hemiphaga chathamensis (Rothschild, 1891)	Chatham Island pigeon	Parea	-
Hirundo neoxena neoxena Gould, 1842	Welcome swallow	_	Warou

Passer domesticus domesticus (Linnaeus, 1758)	House sparrow	-	Tiu
Porphyrio melanotus melanotus Temminck, 1820	Pūkeko	_	Pūkeko
Prosthemadera novaeseelandiae chathamensis Hartert, 1928	Chatham Island tūī	_	Τūτ
Prunella modularis (Linnaeus, 1758)	Dunnock	_	-
Rhipidura fuliginosa penita Bangs, 1911	Chatham Island fantail	Tchitake	Pīwakawaka
Sturnus vulgaris vulgaris Linnaeus, 1758	Common starling	_	Tāringi
Turdus merula merula Linnaeus, 1758	Eurasian blackbird	_	Manu pango
Turdus philomelos Hartert, 1909	Song thrush	-	Manu-kai- hua-rakau
Vanellus miles novaehollandiae Stephens, 1819	Spur-winged plover	_	-
Zosterops lateralis lateralis (Latham, 1802)	Silvereye	-	Tauhou

recorded by Baling et al. (2023). Furthermore, we found a bird's nest on the island. The size, structure and attachment style suggest it is that of a small passerine species, which is consistent with that of silvereve (Zosterops lateralis lateralis). Apart from records from Baling et al. (2023), only two shag species – Chatham Island shag (Phalacrocorax featherstoni) and Pitt Island shag (Leucocarbo onslowi) - had been recorded at Motuhinahina (Bell & Bell 2000, Debski et al. 2012). Their observations also included avian taxa such as buff weka (Gallirallus australis hectori) (Figure 2B). Whilst native to the Aotearoa region, buff weka were introduced to Rekohu in 1901 (Aikman & Miskelly 2004) and are considered a pest species on the island (Aikman et al. 2001, Aikman & Miskelly 2004, Schmechel & Paterson 2005). Conversations with local Rekohu residents revealed that buff weka had once been eradicated from Motuhinahina. However, locals witnessed these birds swimming back to the island only days later (Jocelyn Powell, personal communication, February 2024).

On both Motuhinahina and Shag Rock, counts of both Pitt Island shag (Figure 3A) and Chatham Island shag (Figure 3B) were consistent with Baling et al. (2023) in having the most abundant species in one location (n=42 and n=60, respectively) (Table 2). Furthermore, we observed two differing abandoned nests on Shag Rock and assumed one was likely made by a Pitt Island shag (Figure 4A) and the other by a Chatham Island shag (Figure 4B). The placement of these differing nests helped form our assumptions of which species made these nests. One type of nest was placed higher on the rocks than the other, supporting earlier observations that these two species occupy different niches for nesting (Bell & Bell 2000). This suggests that these shag species can



Figure 3A. Pitt Island shag (*Phalacrocorax feathertsoni*) on Rangimata / Shag Rock, Te Whanga Lagoon, Rēkohu; **B.** Chatham Island shag (*Leucocarbo onslowi*) on Shag Rock, Te Whanga Lagoon, Rēkohu. Photos: P. J. de Lange, April 2023.

occupy the same area during their nesting season.

Kōpī Bush also had a higher avian diversity (H=1.750, E=0.73) than Motuhinahina (H=1.07, E=0.77) in 2024, with eleven avian species identified at Kōpī Bush. This is not unexpected as Motuhinahina is 0.435 ha, with limited habitats. By comparison, Kōpī Bush is 5.0 ha (Bridget and John Preece, personal communication, 12 Feb 2024) and comprises a diverse array of habitat and vegetation associations. The most common species were silvereye (Figure 5A) and Chatham Island fantail (*Rhipidura fuliginosa penita*) (Figure 5B) (n=38 and n=21, respectively) (Table 2).

We also recorded additional observations of other uncommon avian species (Aikman & Miskelly 2004) throughout Rēkohu. Feral greylag geese (Anser anser) were noted in several locations across the island, including twelve birds seen on the shore of Te Whanga Lagoon, west of Lake Koomutu, six on the side of Te

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Table 2.

Common name	08/02	09/02	10/02	11/02	12/02	13/02	14/02	15/02	16/02	17/02	Total	Locations
Seabirds												
Northern royal albatross	0	0	0	0	0	-	0	0	0	0	-	Point Munning
Northern giant petrel	0	0	0	0	0	Ŷ	0	0	0	0	Ŷ	Point Munning
Coastal birds												
White-faced heron	0	7	с	7	0	Ŷ	0	0	0	0	13	North Road, Kaingaroa Road, Te Whakaru, Te Mātārae, Motuhinahina
Chatham Island oystercatcher	0	4	0	0	2	2	0	0	ო	0	Ε	Kaingaroa, Wharekauri, North Road, Te Whanga Lagoon, Kaingaroa Road, Cattle Point (south end) (Te Whanga)
Pitt Island shag	0	0	42	0	-	14	0	0	21	0	87	Kaingaroa, Shag Rock, Motuhinhina, Waitangi Wharf, Ouenga / Owenga Road, North Road, Kaingaroa Road, Te Whakaru, Point Munning, Manukau Point
Southern black-backed gull	41	116	53	52	5	148	67	Ś	125	0	631	Air Base Road, Waitangi, North Road, Manauea / Ocean Mail Scenic Reserve, Kaingaroa, Wharekauri Road, Wharekauri, Port Hutt Road, Basalt Columns, Ohuru, Shag Rock, Motuhinahina, Te Mātārae, Waitangi Wharf, Ouenga, Kõpī Bush, Kaingaroa Road, Te Whakaru, Point Munning, Taia-Hāpūpū Road, Taia, Waitangi-Tuku Road, Tuku Nature Reserve, Manukau Point, Ouenga, Point Durham
Chatham Island shag	0	0	62	0	-	0	0	0	4	0	67	Shag Rock, Ohuru, Waitangi Wharf, Ouenga, Manukau Point
White-fronted tern	0	21	0	0	m	10	10	0	Ŷ	0	50	Manauea, Kaingaroa Road, Kaingarora, Basalt Columns, Waitangi Wharf, Ouenga, Te Whakaru, Point Munning, North Road, Taia- Hāpūpū Road, Cattle Point (south end), Manukau Point
Freshwater birds												
Mallard	0	17	0	0	0	Ŷ	0	0	0	0	23	Port Hutt Road, North Road, Kaingaroa Road
Grey duck	0	0	0	0	0	0	71	0	0	0	71	North Road, Taia-Hāpūpū Road

Greylag goose, feral	2	0	0	9	0	0	0	12	0	0	20	North Road, Rapanui Road, Waitangi-Tuku Road
Canada goose	0	2	0	0	0	0	0	0	0	0	2	North Road
Red-billed gull	-	31	ω	0	80	14	2]	-	12	0	168	North Road, Kaingaroa Road, Wharekauri Road, Wharekauri, Port Hutt Road, Shag Rock, Waitangi Wharf, Ouenga, Te Whakaru, Point Munning, Taia-Hāpūpū Road, Taia, Waitangi- Tuku Road, Manukau Point, Point Durham
Black swan	Ε	63	0	14	109	237	390	0	47	0	871	North Road, Wharekauri Road, Port Hutt Road, Te Whanga Lagoon, Waitangi Wharf, Ouenga, Kaingaroa Road, Taia-Hāpūpū Road, Taia, Cattle Point (south end), Manukau Point
Pied stilt	0	0	0	0	0	2	4	0	0	0	9	North Road, Kaingaroa Road, Taia-Hāpūpū Road
Black shag	2	26	0	0	5	0	16	0	4	0	53	North Road, Blind Jim's Beach, Waitangi Wharf, Ouenga, Taia-Hāpūpū Road, Manukau Point
Sacred kingfisher	0	0	0	0	0	0	0	0	-	0	-	Cattle Point (south end)
Terrestrial birds												
Eurasian skylark	24	6	-	88	29	107	196	06	32	0	657	North Road, Kaingaroa Road, Wharekauri Road, Wharekauri, Port Hutt Road, Ohuru, Rapanui Road, Te Mãtārae , Waitangi Wharf, Ouenga, Kõpī Bush, Point Munning, Taia-Hãpūpũ Road, Taia, Waitangi-Tuku Road, Tuku Nature Reserve, Cattle Point (south end), Manukau Point
Chatham Island pipit	m	1	0	Ŷ	0	Ŷ	\$	0	5	ო	47	Airport, Manauea, Kaingaroa, Wharekauri Road, Wharekauri, Basalt Columns, North Road, Rapanui Road, Taia-Hāpūpū Road, Taia, Taia Historic Bush Reserve, Cattle Point (south end), Waitangi Wharf, Ouenga
European goldfinch	0	0	0	4	0	0	0	0	0	0	4	Te Mätärae
Swamp harrier	-	0	-	2	N	13	2	м	10	0	73	North Road, Kaingaroa Road, Wharekauri Road, Port Hutt Road, Ohuru, Te Mātārae, Waitangi Wharf, Ouenga, Kōpī Bush, Taia- Hāpūpū Road, Taia, Waitangi-Tuku Road, Cattle Point (south end), Manukau Point
Chatham Island red- crowned parakeet	0	0	0	0	0	0	0	0	-	0	-	Tuku Nature Reserve
Emu	0	0	0	-	2	0	0	0	0	0	ო	Te Mätärae
Yellowhammer	0	-	0	0	-	0	-	0	-	0	4	North Road, Kõpī Bush, Cattle Point (south end)

Chaffinch	0	-	0	0	0	0	0	-	0	0	2	Port Hutt Road, Waitangi-Tuku Road
Buff weka	-	=	0	15	0	36	=	0	-	7	8	Air Base Road, Whareweka, Kaingaroa, Port Hutt Road, Basalt Columns, North Road, Motuhinahina, Te Mätärae Road, Nīkau Bush, Waitangi Wharf, Ouenga, Te Whakaru, Point Munning, Taia-Hāpūpū Road, Taia, Cattle Point (south end)
Chicken, feral	2	0	0	ო			0	0	0	0	19	North Road, Waitangi Wharf, Ouenga, Kōpī Bush
Chatham Island warbler	0	0	0	0	2	0	0	12	4	0	18	Kõpī Bush, Tuku Nature Reserve, Point Durham
Parea	0	0	0	0	0	0	0	ო	0	0	ო	Tuku Nature Reserve
Welcome swallow	ω	29	0	N	7	ω	24	0	44	0	122	Air Base Road, North Road, Manauea , Wharekauri Road, Wharekauri, Nīkau Bush, Waitangi Wharf, Ouenga, Te Mātārae, Taia- Hāpūpū Road, Taia, Cattle Point (south end), Waitangi-Tuku Road, Point Durham
House sparrow	-	0	0	-	12	0	0	0	0	0	14	Air Base Road, Te Mātārae, Kõpī Bush
Pūkeko	0	3	0	0	0	0	-	0	7	0	5	Kaingaroa Road, Port Hutt Road, North Road, Cattle Point (south end)
Chatham Island tūī	0	0	0	-	-	0	0	0	ო	0	2	Waitangi Wharf, Ouenga, Kōpī Bush, Point Durham
Dunnock	0	0	0	ო	0	0	0	0	0	0	0	Nīkau Bush, North Road
Chatham Island fantail	7	4	0	7	21	7	-	19	0	0	51	North Road, Whareweka, Nīkau Bush, Kõpī Bush, Taia, Tuku Nature Reserve
Common starling	0	297	2	8	113	209	131	55	76	0	الاو	North Road, Blind Jim's, Kaingaroa Road, Wharekauri Road, Wharekauri, Port Hutt Road, Ohuru, Rapanui Road, Te Mātārae, Waitangi Wharf, Ouenga, Kaingaroa Road, Taia-Hāpūpū Road, Waitangi-Tuku Road
Eurasian blackbird	0	2	0	-	0	-	0	2	0	0	9	North Road, Te Mātārae
Song thrush	0	0	0	-	0	0	0	0	0	0	0	Waitangi Wharf, Ouenga,
Spur-winged plover	-		0	-	47	0	4	0	0	0	60	North Road, Port Hutt Road, Waitangi Wharf, Ouenga, Te Mātārae
Silvereye	41	116	23	52	54	148	67	S.	125	0	631	Whareweka, Manauea, Nīkau Bush, Kõpī Bush, Taia-Hāpūpū Road, Taia, Tuku Nature Reserve
Total	81	764	144	316	539	835	926	212	399	5	4,240	



Figure 4A. (a) Pitt Island shag (*Phalacrocorax feathertsoni*) nest built on limestone flags on side of rock tor, Rangimata / Shag Rock, Te Whanga Lagoon, Rēkohu; **B.** Chatham Island shag (*Leucocarbo onslowi*) nests built on top of limestone tor, Shag Rock, Te Whanga Lagoon, Rēkohu. Photos: P. J. de Lange, February 2024.



Figure 5A. Silvereye (*Zosterops lateralis lateralis*) Kōpī Bush, Rēkohu; **B.** Chatham Island fantail (*Rhipidura fuliginosa penita*), Nīkau Bush. Photos: S. Mae, February 2024.

Mātārae Road, and two on paddocks between Lake Huro and North Road (near Whareweka). Greylag geese were introduced into the Aotearoa / New Zealand Archipelago for farming, with feral populations first reported from the Chatham Islands by Aikman & Miskelly (2004) and Miskelly et al. (2006). We also noted feral chickens (n=19) from mostly roadside locations across the island's main roads during travel to and from Kōpī Bush and Nīkau Reserve. Populations of feral chickens are reportedly derived from escapees from landowners. They are still considered to be transitioning from runaways to a self-sustaining population (Peter J. de Lange, personal observation, December 2020). A pair of Canada geese (*Branta canadensis*) was seen along Te Whanga Lagoon during our travel to Manauea / Ocean Mail Scenic Reserve (9 February 2024) and is consistent with previous sightings of the species on the island (Miskelly et al. 2006). We also encountered two emu (Figure 2A). Since six emu were released to the wild 30 years ago (Baling et al. 2023), multiple reports (including observations posted on iNaturalist NZ, https://inaturalist.nz/taxa/20504-Dromaius-novaehollandiae) have been made of a feral, unmanaged population on the island, located around Rapanui Road. Te Mātārae Road and Lake Huro, with occasional observations of birds as far north as the airport road. Emu are not currently listed on the official bird list of the Chatham Islands. However, Baling et al. (2023) asserted that emu should be accepted into the current avifauna listings for both the Chatham Islands and the greater New Zealand Archipelago of which the Chatham Islands are part (Aikman et al. 2001, Aikman & Miskelly 2004, Miskelly et al. 2006). Two other birds observed during our visit that we consider noteworthy are the kingfisher (Todiramphus sanctus vagans) and vellowhammer (Emberiza citronella). The kingfisher was treated as a 'straggler' to the Chatham Islands by Miskelly et al. (2006) and Miskelly et al. (2019). During our visit, we observed one bird at the southern end of Cattle Point, Te Whanga.

Regarding yellowhammer, this species was considered uncommon on the islands by Aikman & Miskelly (2004) and Miskelly et al. (2006), and Angus (2013) considered their status on the Chathams unclear, and that they were uncommon and "possibly vagrant" there. We have heard reports that yellowhammers are locally present on the pasturelands of the southern tablelands (Dave Boyle, personal communication, March 2024), and Baling et al. (2023) reported a single bird twice (possibly the same individual) on two different days from Nīkau Bush. During the 2024 visit, we recorded this species from Kōpī Bush and on the roadside near Pana / Blind Jim's. Local people have reported nesting birds near Kaingaroa (Levi Lanauze, personal communication, December 2023). However, it remains unclear whether there is a long-term population or whether this reflects attempted colonisation of the island. More research into this species is needed.

To conclude, while we set out to identify the most commonly sighted birds on Rēkohu, our group recorded some important and uncommon observations, such as that of emu, kingfisher and yellowhammer. However, the survey also identified avian species that appear in high abundance, such as the black swan. Further research could include a more systematic study and conclude accurate estimates of the uncommon or common avifauna on the island.

Data accessibility statement

No additional database.

Author Contributions

Rachel R. Klein: Investigation (equal); writing – original draft (lead); writing – review and editing (equal); validation (equal); data curation (supporting).

Hannah Coyle: Investigation (equal); formal analysis (lead); writing – review and editing (equal).

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Saryu Mae: Investigation (equal); visualisation (equal); writing – review and editing (equal).

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Peter J. de Lange: Conceptualisation (supporting); investigation (equal); project administration (lead); resources (lead); supervision (equal); visualisation (equal); writing – review & editing (equal).

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

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