

## Report on Kākerōri banding, Rarotonga, August-September 2023

Between 13 August and 5 September 2023, a total of 51 new Kākerōri (*Pomarea dimidiata*) were caught and individually colour-banded within and near the Takitumu Conservation Area (TCA) on Rarotonga, Cook Islands. A further 12 banded birds were recaptured and at least seven birds were seen that were missed during the August-September 2022 census. These additional birds brought the 2022 population tally up to a minimum of 618 birds, a 29% increase on the 478 birds known to be alive in 2022, and a 21-fold increase on the population of 29 birds in 1989.

During the years between the normal 3-yearly censuses, we attempt to mist-net and individually colour-band as many Kākerōri as possible, especially juveniles. This makes the “roll-call” census more accurate and quicker to carry out. During these banding trips, Hugh Robertson works with Ian Karika (TCA manager) and with other keen locals from the Taporoporo Ipukarea Society and the National Environment Service, and with mainly other DOC or ex-DOC volunteers to catch and resight as many Kākerōri as possible. This fieldwork provides an opportunity for participants to improve their mist-netting, colour banding and bird measurement skills.

The 51 new birds banded in 2023 comprised 29 yearlings (18 females, 11 males), five 2-year-olds (5 males), seven 3-year-olds (3 females, 4 males), and ten birds aged 4+ years (4 females, 6 males). The total of 45 yearlings seen in and near the TCA was much lower than we have detected in recent years (e.g., in 2022, there were at least 118 yearlings and 110 2-year-olds in the area covered for territory mapping purposes) but the rat poisoning was carried out to a high standard in 2022 and so there is no reason to be concerned. During a banding trip, such as that in 2023, there are many valleys that we did not visit, but there have also been an increased number of sightings of young Kākerōri that have dispersed well outside the normal areas covered during our banding trips and searched during our censuses. Recent (2022) records have come from the Papua Valley side of the Cross-Island Walk (Brennan Panzarella and Ana Tiraa, pers. comm.), Lower Avana Valley (Lynda Nia, pers. comm.), and in the Turangi Valley (Brennan Panzarella, pers. comm.). This suggests that the population pressure in the TCA may be leading to greater dispersal of youngsters from the source population in the TCA.

Three of the seven birds missed during the 2022 census were in a valley (Totokoitu 6) that was not visited during the census. Conservatively, the three unbanded 3-year-olds seen in the valley on the same day were assumed to have been seen in 2022 on a nearby spur (To1/6) rather than missed in 2022.

The banding tally was close to normal despite having to hold off banding at some accessible sites for over a week because a film crew from Magnetic Pictures wanted to film Devon Nicholls from Auckland Zoo mist-netting and banding Kākerōri as part of their *Wild Heroes* programme. This documentary will highlight the success of Kākerōri Recovery Programme and the Takitumu Conservation Area Project, and the recent support given to the project by the Auckland Zoo Conservation Fund.

I would like to thank Jaz Hamilton, Annemieke Hendriks, Mura Herman, Devon Nicholls, Kelvin Passfield, Greg Sherley, Lydia Sijp, Kaz Silk, Cinzia Vestena and Megan Willans for their good company and valuable field assistance during the 2023 banding trip. Ian Karika, Brennan Panzarella and Anna Tiraa all made us very welcome at the TCA and cottage.

Hugh Robertson

## Section 5 – Project Activities and Achievements

Please add more rows and/or expand boxes as required.

Project Aim/Objective (as stated in original funding application)	Project Activity or Method	Summary of Result/Achievement	How was Success Demonstrated?
<i>Monitor kakerori through census every three years (triennially), with capture/banding fieldwork in intervening years. (from proposal)</i>	Annual mist-netting/banding operation of approximately two weeks duration for juvenile and sub-adult kakerori to enable meaningful roll-call census data to be gathered. ACHIEVED	A total of 320 new birds have been banded since the last census in 2017 which helped us complete the 2022 roll-call census	Very close to 50% of the birds counted in 2022 were individually colour-banded.
<i>Monitor kakerori through census every three years (triennially), with capture/banding fieldwork in intervening years. (from proposal)</i>	Roll-call census and approximate territory mapping in spring when Kakerori are starting to get strongly territorial.	Censuses planned for 2020 (then deferred to 2021) were not able to be done due to Covid-19 related international travel restrictions, but finally the census was completed in 2022, with a minimum total of 612 kakerori counted.	We were finally able to conduct the long-overdue population census in August-September 2022. The 612 birds found was a 28% increase on the 2017 census result of 477 birds. This equates to a 5.1% growth rate per year.

## Section 6 – Future Activities

Please summarise what the next steps for the project/initiative will be. Highlight any potential areas which you feel might be suitable for further Auckland Zoo support

In the longer-term, we propose to continue to colour-band young kakerori annually in winter and aim to do the census on Rarotonga every 3 years in early spring. Because Auckland Zoo staff were unable to join us in 2022, we are welcoming Devon Nicholls to the 2023 banding team, along with the “Wild Heroes” film crew.

We aim to undertake a census of the Kakerori population on Atiu in the next couple of years (the last, brief and incomplete, survey was done in 2018). In line with recommendations from geneticists to maintain the genetic diversity of the Atiu population, we propose to translocate 5-10 new birds from Rarotonga in 2024, thus bringing the number of founders up to 45-50 birds. We would welcome the opportunity to bid for funding for an Atiu census and/or translocation of further founders in 2024.

A 45-minute documentary about the Kakerori Recovery Programme and Takitumu Conservation Area Project is being produced by two Cook Islanders for international release in 2023 – the big goal in the story was to crack the target of 500 birds, which was easily surpassed.

We plan to write up a scientific paper describing the long-term management and resultant spectacular population growth of Kakerori once the 2022 census is completed, and perhaps once we have updated population estimates from Atiu.

## Section 7 – Other Information

Please include here anything else that you feel that it is important for us to know.

We welcome any input from Auckland Zoo staff during future colour-banding or census trips; it is a good opportunity to learn mist-netting, bird handling and colour-banding skills with an endearing bird, and to see a very successful South Pacific conservation project in action.