Pacific Island Bird Conservation and Research Fund 2024

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Final project report for:

Assessing the birdlife and identifying restoration opportunities for one of the largest and unmapped atolls in Southern Polynesia: Manuae, Cook Islands

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Background and objectives

Atolls can be hotspots for tropical seabirds and harbour endemic endangered land bird taxa. At the same time, many atolls have been severely ecologically degraded due to the widespread presence of invasive species and the conversion of formerly broadleaf atoll forests into monocrop coconut plantations for copra production. However, given their remoteness, small land areas, simple terrains, and oftentimes human abandonment, atolls are also among the most suitable oceanic island systems for ecological restoration with a high return-on-investment. To this day, many atolls remain entirely unmapped for their island biodiversity and restoration potential, which constitutes a problematic knowledge gap for Pacific bird conservation and management planning. Without a comprehensive understanding of bird occurrence, any decision-making and prioritisation schemes risk overlooking potentially relevant sites for bird conservation, such as rat eradication or IBA designation.

In the Cook Islands, one such unmapped atoll is Manuae (19.268°S, 158.943°W). In 2022, Manuae atoll was returned to its Indigenous landowners, who are today represented by the Manuae Enua Conservation Trust (MECT; https://www.manuae.org/) and envision to ecologically restore the atoll. To support this ambition, this PIBCRF grant funded a joint expedition between University of Auckland researchers and the conservation trust to Manuae atoll to collect critical baseline information on bird occurrence and assess restoration needs and opportunities.

Outcomes

The intended expedition to Manuae atoll was planned as a two-week expedition in October 2024. Due to prevailing strong easterly winds, the crossing from Aitutaki to Manuae atoll was delayed such that the expedition to Manuae was reduced to just a four-day visit (two full days, three nights). While being stuck on Aitutaki for two weeks the fieldwork team leveraged this opportunity and conducted extensive seabird- and invasive species surveys across Aitutaki atoll, thus creating an additional unanticipated output from the funding while still completing the work on Manuae atoll.

1. Aitutaki surveys

Aitutaki is an almost-atoll, consisting of one main volcanic island and 16 reef islands along its lagoon rim. While the main island is permanently inhabited and developed, many of the reef islands remain largely undeveloped except for tourist activities and coconut harvest. The bird surveys identified 22 resident and migratory bird species across Aitutaki. Three islands at the southern and south-western end of the lagoon were identified as regionally important nesting sites for different seabird species, including a colony of 100 – 200 pairs of White Tern (*Gygis alba*), a colony of 50 – 100 pairs of Red-Tailed Tropicbirds (*Phaethon rubricauda*), and a colony of 354 – 390 pairs of Red-Footed Boobies (*Sula sula*). Additionally, a wedge-tailed shearwater (*Ardenna pacifica*) colony with *ca.* 50 burrows was identified on one island, rendering it the first documentation of this species since its

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last record in the early 1980s. These findings reveal that – despite permanent habitation and tourism use of Aitutaki – its outer reef islands are regionally important nesting sites for tropical seabird species.

2. Manuae surveys

Even though substantially shorter than originally planned, the expedition to Manuae atoll in October 2024 generated critical baseline information on the atoll's avifauna. We identified 15 bird species on the atoll, all of which are native to tropical Polynesia. Four seabird species are nesting on the atoll in the 10s to 100s of breeding pairs, immediately rendering Manuae atoll a regionally important nesting site in the Southern Cook Islands. Furthermore, at least 100 migratory bristle-thighed curlews were found overwintering on the atoll, which constitutes about 1% of this species' global population. Comparing our findings with historical and incidental data suggests that the birdlife on Manuae atoll is on a trajectory of recovery since the abandonment of the copra plantation station in the 1970s. Nevertheless, we also found the widespread, exclusive presence of Pacific rat (*Rattus exulans*) on the atoll, along with a deep legacy of the copra plantation which still dominates over 86% of the atoll's interior forest.

The generated biodiversity data from Manuae provide critical empirical baseline data that can motivate and support future rat eradication operations and the removal of the copra plantation, which will dramatically increase the ecological value of the atoll for Pacific bird conservation. Given the large number of overwintering bristle-thighed curlew, the atoll likely qualifies already as a KBA or IBA, and initial discussions with BirdLife International to obtain this status have already commenced following this expedition.

References

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