Tiritiri Matangi Island Ruru Nesting Survey: 2020 Report

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Introduction

Ruru/morepork (*Ninox novaeseelandiae*), New Zealand's only surviving native owl, is known to be a common predator on Tiritiri Matangi Island and could be limiting the population sizes of some of their prey species. This is of particular interest to those involved in hihi monitoring and research on the Island. In order to gain knowledge as a basis for more detailed research, and to follow the recommendation of the *Tiritiri Matangi Island Biodiversity Plan 2013* (SoTM 2013), which identifies population monitoring as a management requirement for virtually all bird species, The Supporters of Tiritiri Matangi (SoTM) are collecting information on the Island's ruru population.

This ruru nesting survey is authorised under a general permit (39910-Res) for non-invasive research and monitoring issued to SoTM by the Department of Conservation (DOC) in December 2014. The goals of the survey were to:

a) to find, map and monitor the breeding success of as many breeding pairs of ruru as possible using non-invasive methods,

b) to collect evidence of their prey items.

Methods

As ruru tend to re-use existing nest sites, regular checks were made on all known previous sites. In addition, all field workers on the Island were requested to note and report any sightings of ruru. Where repeated daytime sightings of roosting adults were made, extra effort was put in to try to locate nests. Nest sites on Tiritiri Matangi are commonly found on the ground among exposed tree roots or inside a partly rotten cabbage tree. Holes in cabbage tree (and other tree species) are also commonly used.

Nests are sometimes located by accidentally flushing adults where they have nested close to an access track through the bush. Chicks in a nest make a 'clicking' alarm

noise when they detect someone passing nearby and this can help to locate nests though they are usually found earlier at the egg stage.

Once located, nests were checked at approximately seven day intervals. Females sitting on eggs were not disturbed to count or check the clutch. Checking continued at each nest until a few days after fledging was first recorded.

Results

Twelve pairs were found and monitored this season. One pair succeeded but their nest was not discovered and no evidence of nesting was found for another pair. Of the ten nests found and monitored, three failed to produce fledged chicks. One pair did not lay eggs, another lost the eggs which had rolled out of a nest made on a steep slope and the third failed within a few days of hatching a single chick.

Nine chicks fledged from the remaining seven nests (Table 1)..

Site	*Eggs*	*Chicks*
Apple Bush	2	2
Bush 22, near Ro5	1	1*
Lighthouse Valley	2	2
Bush 6	0	0
Bush 5	2	1*
Bush 21	2	0
Bush 22 – Hihi20	2	1
Bush 22 – near hihi 14/7	2	1
East Coast Tk	?	1
Inner Coastal Walk	2	2

Table 1 – Locations and outcomes of nests found in 2019/20
*(* These chicks failed to fledge)*

Ruru were also recorded in most of the wooded gullies around the Island, usually in the more mature areas where potential nest sites were available. All sightings were followed up on repeat visits and it was often possible to re-find the birds.

Sites suspected of holding a breeding pair were searched for nests. Four new nest sites were found this year, two in Bush 22, one in Bush 21 and one on the East Coast Track.

The other six pairs were all in the same locations as last year although the nest in Apple Bush was about 30 metres from the previous year's site.

Discussion

Breeding success was 0.9 fledglings per pair from 10 nests which is lower than the previous three years (1.4, 1.6 and 1.0 fledglings per pair). A long dry spring and summer may have led to reduced breeding success and lower populations of some of the Island's resident bird, reptile and invertebrate species, but it is not clear whether this would have contributed to a lower ruru breeding success. With only four years of ruru breeding data it is too soon to speculate on what might be an expected success rate.

There are likely to be a further 20 to 30 breeding pairs of ruru on the Island but it has proved difficult to find their nests. Near the beginning of the breeding season ten nest boxes were erected at sites where pairs are frequently observed but nests have not been found. It is hoped that some of the pairs will use a box and so become available for monitoring.

As this season's call survey was cancelled due to adverse weather conditions it is not possible to make an estimate of the whole Island breeding population.