Tiritiri Matangi Island Ruru Call Survey: 2017 Preliminary 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. A more detailed study of the interactions between hihi and ruru to examine the inter-relationships and the possible impacts on hihi is under way. 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) have begun to collect information on the Island's ruru population.

This ruru call survey was 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 aim of the survey was to record the locations of ruru calling during the two hours after sunset, as a preliminary to mapping territories and planning further survey work to establish population size and dynamics, and impacts on prey. This is the second year that ruru calls have been recorded in this way.

Methods

An annual kiwi call survey has been carried out for several years. The survey requires that surveyors, located at ten observation points spaced across the Island, record the time, compass direction and distance of all kiwi calls heard during a two-hour period starting shortly after dusk. Participants also recorded weather conditions at each observation point. The 2017 survey took place over the nights of the 19th to 22nd March, and participants were asked to extend their recording to include ruru calls, collecting exactly the same information as for kiwi calls. The

counters changed position each night so that no-one counted more than once at the same observation point. All counters were familiar with a range of ruru calls.

Map of Tiritiri Matangi Island showing approximate positions of observation points used in the survey.

June 2017

Results

Table 1 shows the number of ruru calls recorded at each of the ten sites for the four nights of the survey. Table 2 shows the totals recorded for this year and last year.

Site	19th Mar	20th Mar	21st Mar	22nd Mar	Totals	Average
1	8	4	0	2	14	3.5
2	7	1	0	5	13	3.25
3	6	1	1	2	10	2.5
4	10	5	0	11	26	6.5
5	23	1	1	4	29	7.25
6	3	2	1	7	13	3.25
7	4	0	0	4	8	2.0
8	5	7	2	17	31	7.75
9	4	2	2	6	14	3.5
10	2	7	3	8	20	5.0
Totals	72	30	10	66	178	4.45

Table 1 – Number of ruru calls recorded at 10 sites over the four survey nights

Site	2016 Totals	2017 Totals
1	15	14
2	33	13
3	31	10
4	28	26
5	20	29
6	7	13
7	17	8
8	26	31
9	59	14
10	27	20
Totals	**263**	**178**

Table 2 – Total counts at each observation site for 2016 and 2017

Discussion

Over the four nights of the survey a total of 178 calls were recorded (72, 30, 10 and 66). The average number of calls per night at each observation station varied from 2 at station 7 (North-east Bay) to 7.75 at station 8 (East Coast Track). Ruru were recorded at all 10 stations with a maximum of 23 calls in one night at station 5 (Du Pont Sign on Ridge Road) and a minimum of zero calls at stations 1, 2, 4 and 7 (all on the western side of the Island).

There was a notable variation in the number of calls recorded at each site on different nights and in the totals recorded on each of the four nights. Counts per night ranged from a low of 10 on the 21st March to a high of 72 on the 19th. Site 5 (at the Du Pont sign) had 23 records on the 19th but only one on the 20th and 21st. Although conditions varied from night to night there was no rain during the count periods. Wind direction and strength varied, which impacts on the detectability of calls, as did cloud cover, and hence brightness, which may impact on ruru activity patterns.

A comparison with last year's results (see Table 2) shows that total counts over the four nights were down 32%. As with last year, there was much variability in the counts on different nights and between different stations. Stations 6 and 7 at the north end of the Island, where the vegetation is less well developed and is dominated by flax and low sparse scrub, again had low counts, but there is much variation in year to year counts at other stations.

Many of the records at any one site will have been of the same bird calling from the same or a different location. Also, some calls will have been detected and recorded from more than one site. That being the case, we cannot determine how many individual birds were involved.

During a separate study on ruru nesting success, 45 individuals were identified. The call survey, while it could not determine precise numbers, detected six individuals in areas where ruru had not been detected, either in the study of nesting success or in other observations. We can therefore say that the minimum population on the Island was approximately 51.

Participants

Simon Fordham, Beth Gibbs, Angela Smith, Kay Milton, Carol Wildermoth, John Stewart, Noel Ward, Sophie Journee, Sophie Kynman-Cole, Trish Wells, Roger Bray and Karli Thomas.