Tiritiri Matangi Island Ruru Call Survey: 2018 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 call 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 aim of the survey is 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 third 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 2018 survey took place on the nights of the 11th, 13th, 14th and 15th 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 2018

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 the last two years.

Site	11th Mar	13th Mar	14th Mar	15th Mar	Totals	Average
1	1			2	3	0.75
2	2	6	2		10	2.5
3		2		12	14	3.5
4	1	6	4	18	29	7.25
5	3	9		6	18	4.5
6		2	2	11	15	3.75
7				10	10	2.5
8		19	16	4	39	9.75
9		9	3	6	18	4.5
10			2		2	0.5
Totals	7	53	29	69	158	39.5

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

Site	2016 Totals	2017 Totals	2018 Totals
1	15	14	3
2	33	13	10
3	31	10	14
4	28	26	29
5	20	29	18
6	7	13	15
7	17	8	10
8	26	31	39
9	59	14	18
10	27	20	2
Totals	**263**	**178**	**158**

Table 2 – Total counts at each observation site for 2016, 2017 and 2018

Discussion

Over the four nights of the survey 158 calls were recorded (7, 53, 29 and 69). The average number of calls per night at each observation station varied from 0.5 at station 10 (East Coast Track opposite Fisherman's Bay) to 9.75 at station 8 (East Coast Track near Pōhutukawa Cove). Ruru were recorded at all 10 stations with a maximum of 19 calls in one night at station 8 and a minimum of zero calls at least one night at every station except station 4.

This survey was more affected by adverse weather than the previous two years. No count was possible on the 12th March.

A comparison with previous years' results (see Table 2) shows that total counts over the four nights were down 40% from 2016 and 11% from last year.

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, it is not possible to determine how many individual birds were involved.

Using the records from this survey together with information on locations of nests (see report on ruru nesting survey: Stewart, 2018) and casual records collected from other field workers it is possible to estimate the number of territories (or breeding pairs). Some of the call survey records are at locations where birds had not been located by other means. At these locations a territory was assumed to exist when there were multiple calls over more than one night.

I estimate there were 27 breeding pairs of ruru for 2017-18. This is a slightly higher estimate than those for the previous two years. Although this year's call survey had fewer records than previous years, the number of pairs found by other means was higher than before.

Pairs were located at the following sites:

NE Bay near diving petrel site
Silvester wetlands
West coast at Ngati Paoa Track
Bush 23
Sonya's Valley
Du Pont sign
Kawerau Tk near Tuatara sign
Cable Road/Kawerau Tk junction

Bush 3 gully
Hobb's Track/Bush 4
Bush 5/Landing Road Track
Wattle Valley/Graham's Road
Little Wattle Valley
Shortcut
Bush 6
Bunkhouse
Fisherman's Bay/Emergency Landing
Lighthouse Valley
Cable Track triangle
Cable Track near hihi feeder
Apple Bush
East Coast Track/Stagnant dam
Bush 21 (2 pairs)
Bush 22 (3 pairs)

A nest monitoring study carried out in 2016-17 (Busbridge, 2017) found an average of one fledgling per pair from ten nests. At this success rate 27 fledglings were added into the population - some will replace breeding birds which die during the year, some will die of starvation, injury or disease, some may form a new pair at a new location, some may become non-breeding residents and possibly some will fly off to other sites. Future work is planned to discover more about the population dynamics and potential impacts on prey species.

Participants

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References

Busbridge, S. 2017. A preliminary study on the diet and breeding success of ruru (Ninox novaeseelandiae) on Tiritiri Matangi Island. Unpublished Report. The Supporters of Tiritiri Matangi, Auckland.

Stewart, J. R. 2018. Tiritiri Matangi Island Ruru Nesting Survey: 2018 Report. Unpublished Report. The Supporters of Tiritiri Matangi, Auckland.