





greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Zealandia Halo Site: Rodent Monitoring Report

February 2020



Report prepared by:	Roger Uys	Senior Terrestrial Ecologist, Land Ecology and Climate	
Report reviewed by:	Philippa Crisp	Team Leader, Land Ecology and Climate	
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Summary

This report presents the results of the rodent monitoring conducted in the Halo area around Zealandia in February 2020.

Key results of the rodent monitoring were:

- Rats tracked within the target range at 6 percent, suggesting that control measures are maintaining the population at a low level.
- Mice were tracked at a low 7 percent in line with their tracking rate which has been lower over the last decade than the period up until then from when monitoring began in 2003.

1. Introduction

The “Halo” area adjacent to the Zealandia ecosanctuary is maintained as a pest buffer area to the ecosanctuary. Monitoring is carried out in this area to determine the effectiveness of pest control in the Halo.

The purpose of this monitoring is to:

- Identify changes in populations of small mammals over time
- Provide a trigger for management responses to changes in small mammal populations
- Report on the effectiveness of the current small mammal control regimes in forest ecosystems in relation to small mammal population levels

2. Methods

Monitoring is conducted in February and August each year using seven lines of ten tracking tunnels each. Lines are spread across three Halo sites: the Bargh’s (n = 2), Long Gully (n = 2) and Wright’s Hill (n = 3). Monitoring follows the standard Department of Conservation (DOC) [Gillies & Williams (2013)¹] protocol, with one adaption: the peanut butter used for rodent monitoring is placed in the centre of the tracking cards rather than at each end as specified in the DOC protocol.

Rodent monitoring takes place over one dry night. The rodent tracking tunnel index (TTI) for each area is calculated as the percentage of tunnels that rats or mice are tracked at along each line of tracking tunnels. This is averaged across the lines monitored across each site to give a TTI for the site.

Note that this method only provides a coarse index of the relative abundance of rodents and is not a direct measure of their population density. The method is best suited to comparing gross changes in the relative abundance in the same area over time.

¹ Gillies CA and Williams D. 2013. *DOC tracking tunnel guide v2.5.2: Using tracking tunnels to monitor rodents and mustelids*. Department of Conservation, Science & Capability Group, Hamilton, New Zealand (<http://www.doc.govt.nz/Documents/science-and-technical/inventory-monitoring/im-toolbox-animal-pests-using-tracking-tunnels-to-monitor-rodents-and-mustelids.pdf>).

3. Results

Rodent monitoring			
Date of monitor: February 2020			
Species	Tracking rate (%TTI)		
	Bargh's	Long Gully	Wright's Hill
Rats	5	10	3
Mice	5	7	10

4. Analysis and comments

The average rat tracking rate across all three sites was 6 percent, well within the 10 percent tracking target (Figure 1). Long Gully again returned the highest tracking rate (10 percent), although this was also within the target.

Mice tracked at 7 percent on average across all three sites (Figure 2). Although the mice tracking rates continue to fluctuate between years, the high tracking years are not as high as when monitoring started at Wright's hill in 2003. Through until 2010 the mice tracking rates frequently exceeded 30 percent at individual sites. Since 2010, the tracking rate has only exceeded 30 percent at some sites - in August 2011, 2012 and 2017.

Hedgehog were tracked on three tunnels on one line in Bargh's, and no mustelids or possums were recorded from any of the lines.

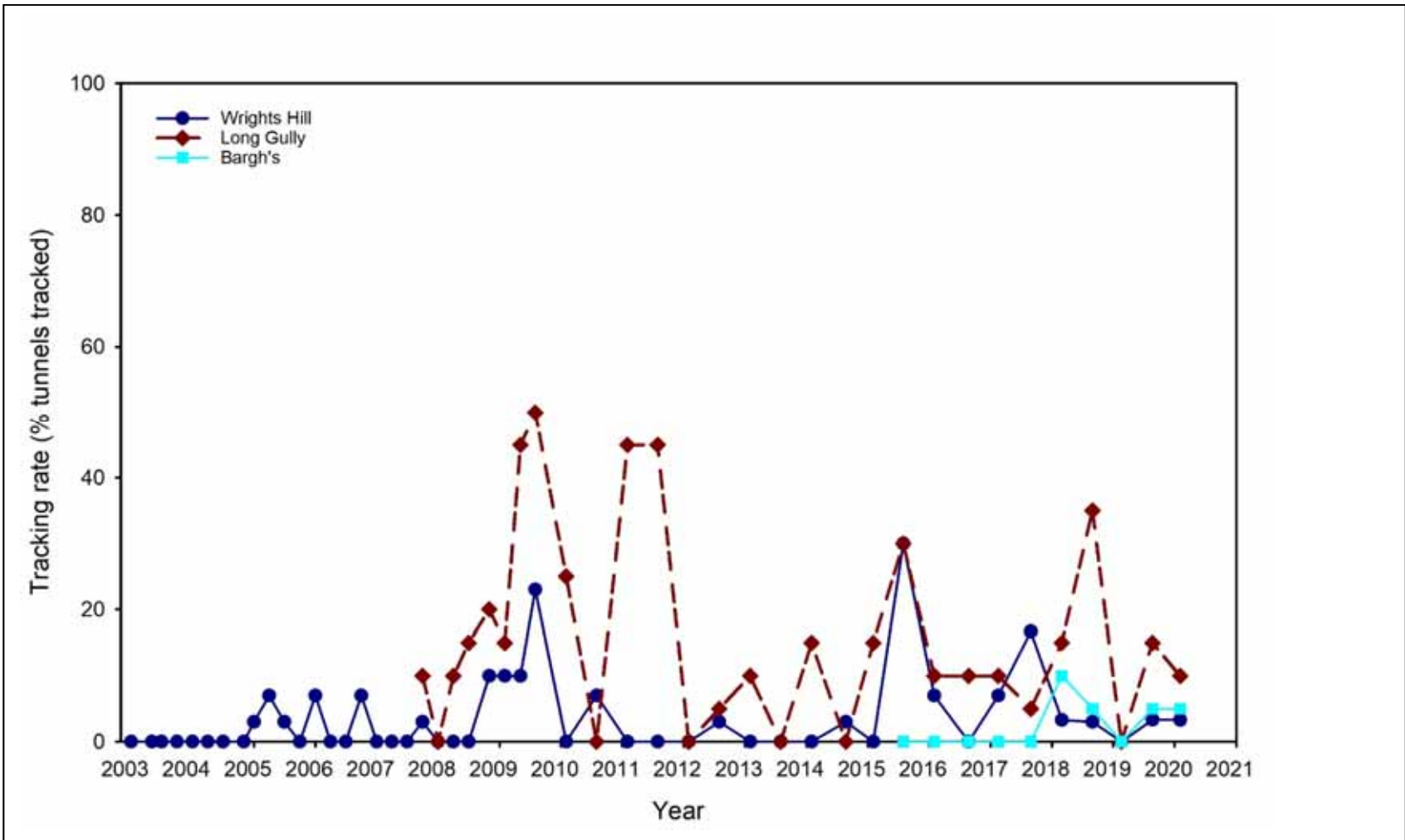


Figure 1: Rat tracking rates in the three Halo sites

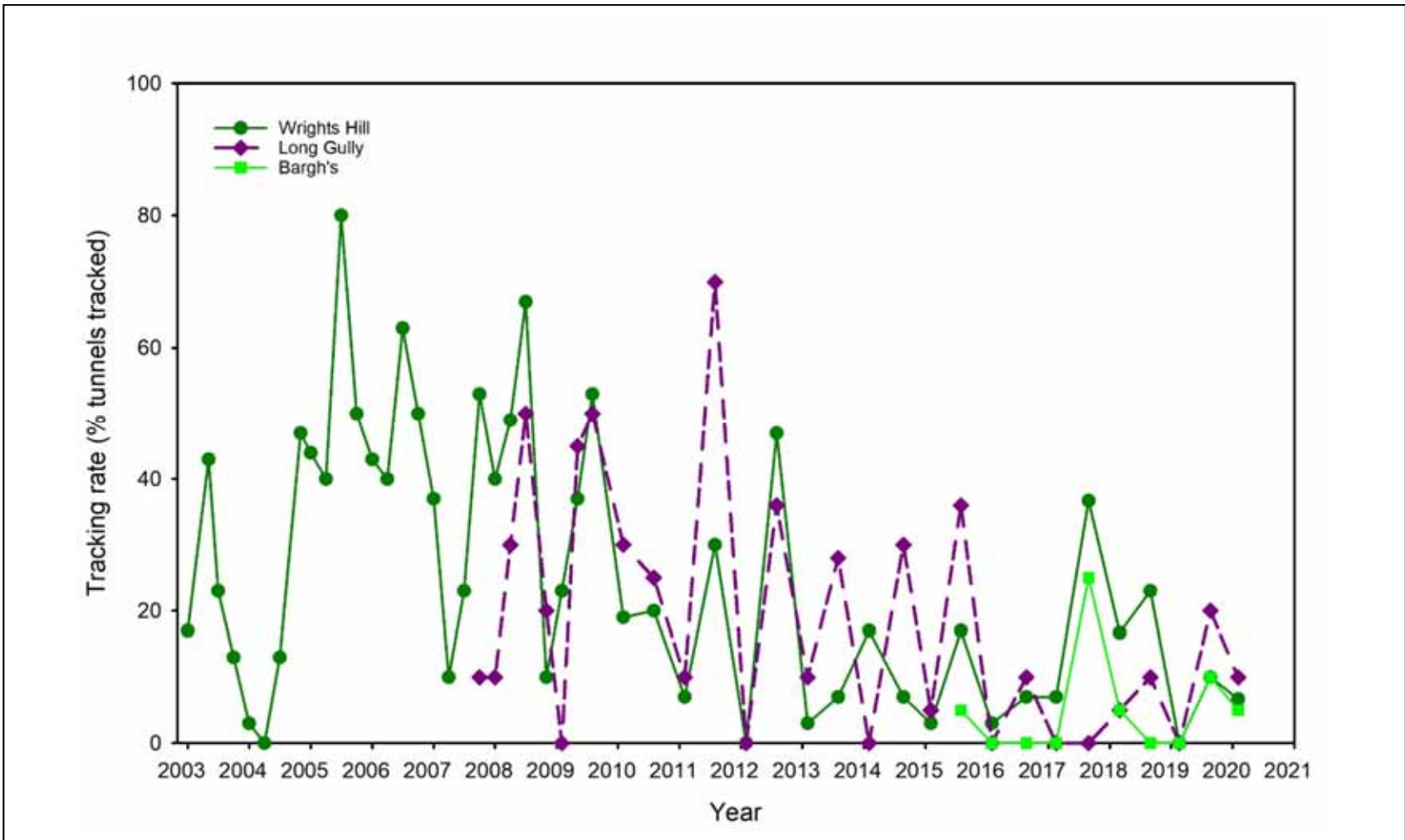


Figure 2: Mice tracking rates in the three Halo sites

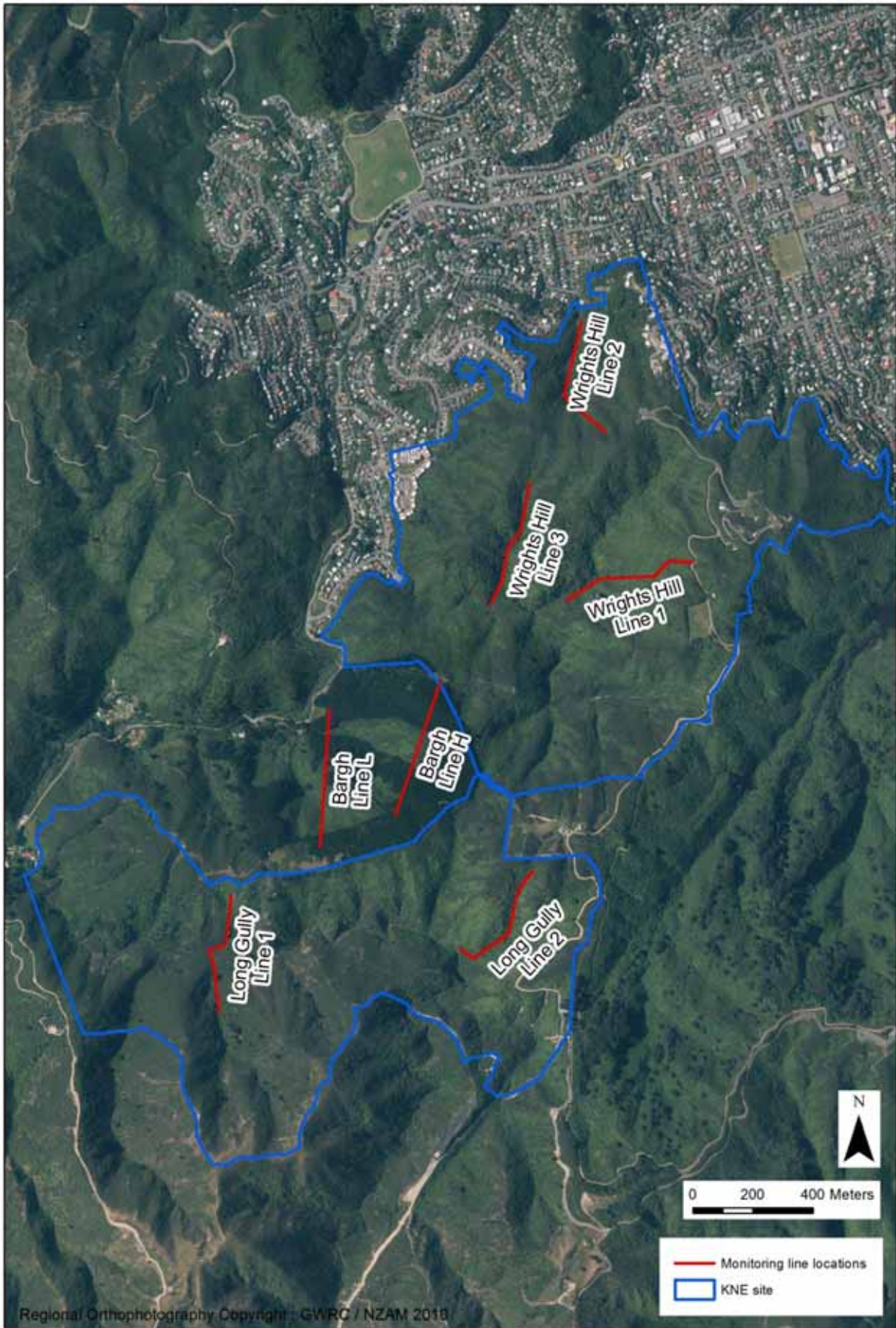


Figure 3: Map of the Halo tracking tunnel line locations